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1978 年航海人員訓練發證及當 值標準國際公約 2010 年修正案 (中譯本)



交通部運輸研究所

中華民國 100 年 6 月

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摘要： 國際海事組織於 2010 年 6 月 21~25 日在馬尼拉集會，修訂 STCW 國際公約，修正案中重要之項目如次： (1)防止偽造船員適任證書之改進措施及加強評估程式(符合公約要求之監督)。 (2)修正船員工作、休息時數及健康標準，並新訂防止藥物及濫用酒類之要求。 (3)新訂幹練水手及機匠之適任性標準及發證事宜。 (4)新訂有關新進技術，諸如電子海圖顯示及資訊系統(ECDIS)之訓練。 (5)新訂海洋污染防治性訓練及領導與團隊工作訓練。 (6)新訂電機員(Electro-technical Officers)、電匠之適任性標準及發證。 (7)更新特殊型式船舶人員包括液貨船(Tankers)及客船之適任性要求。 (8)新增保全意識訓練之要求，以防範海盜之攻擊。 (9)新增新型訓練方式,包括遠程教學(Distance Learning)及網路學習(Web-based Learning)。 (10)新訂極地海域(Polar Water)航海人員訓練準則。 (11)新訂機動定位系統(Dynamic Positioning Systems)人員訓練準則。 前項 STCW 公約 2010 年修正案將於 2012 年(民國 101 年)1 月 1 日生效，其之中文翻譯本，可作為增修訂現行船員訓練及發證之要求標準及相關規定依據，俾使船員適任標準符合國際標準。 本報告係 STCW 公約 2010 年修正案中譯本，採中英文對照翻譯，中譯部分若有不完整或未盡妥善之處，仍應以英文為辦理依據。報告之修正案修正條文以底線標示，而本所網站上公告之電腦檔案則以底線及紅色字體標示，以利識別 2010 年新修正部分。			
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備註：本研究之結論與建議不代表交通部之意見。			

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目 錄

	頁碼
本會議工作小組所提薦事文件及任何文書、決議案與建議案之採納	
會議決議案一.....	1
ADOPTION OF THE FINAL ACT AND ANY INSTRUMENTS, RESOLUTIONS AND RECOMMENDATIONS RESULTING FROM THE WORK OF THE CONFERENCE	
DRAFT RESOLUTION 1	
1978 年航海人員訓練、發證及當值標準國際公約附錄修正案之採納.....	1
ADOPTION OF AMENDMENTS TO THE ANNEX TO THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS (STCW), 1978	
附錄 1978 年航海人員訓練、發證及當值標準國際公約附錄修正案.....	3
ANNEX DRAFT AMENDMENTS TO THE ANNEX TO THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978	
第一章 總則.....	3
CHAPTER I General provisions	
第二章 船長及艙面部門.....	31
CHAPTER II Master and deck department	
第三章 輪機部門.....	41
CHAPTER III Engine department	
第四章 無線電通信及無線電操作員.....	51
CHAPTER IV Radiocommunication and radio operators	
第五章 對特定型式船舶人員之特殊訓練要求之標準.....	53
CHAPTER V Standards regarding special training requirements for personnel on certain types of ships	
第六章 應急、職業安全、保全、醫護及求生專長.....	61
CHAPTER VI Emergency, occupational safety, security, medical care and survival function	
第七章 另一發證方式.....	67
CHAPTER VII Alternative certification	
第八章 當值.....	71
CHAPTER VIII Watchkeeping	

本會議工作小組所提載事文件及任何文書、決議案與建議案之採納	
會議決議案二.....	75
ADOPTION OF THE FINAL ACT AND ANY INSTRUMENTS, RESOLUTIONS AND RECOMMENDATIONS RESULTING FROM THE WORK OF THE CONFERENCE	
DRAFT RESOLUTION 2	
航海人員訓練、發證及當值標準國際公約附錄修正案之採納.....	75
ADOPTION OF AMENDMENT TO THE SEAFARERS' TRAINING, CERTIFICATION AND WATCHKEEPING (STCW) CODE	
附錄一 航海人員訓練、發證及當值(STCW)章程修正案.....	79
ANNEX 1 DRAFT AMENDMENTS TO THE SEAFARERS' TRAINING, CERTIFICATION AND WATCHKEEPING (STCW) CODE	
A 篇 STCW 公約附錄所規定之強制性標準.....	79
“PART A Mandatory standards regarding provisions of the annex to the STCW Convention	
第一章 關於總則之標準.....	83
CHAPTER I Standard regarding general provisions	
第二章 船長及艙面部門之標準.....	129
CHAPTER II Standards regarding the master and deck department	
第三章 輪機部門之標準.....	195
CHAPTER III Standards regarding engine department	
第四章 無線電操作員之標準.....	257
CHAPTER IV Standards regarding radio operators	
第五章 對特定型式船舶人員之特殊訓練要求之標準.....	261
CHAPTER V Standards regarding special training requirements for personnel on certain types of ships	
第六章 應急、職業安全、保全、醫護及求生專長之標準.....	309
CHAPTER VI Standards regarding emergency, occupational safety, security, medical care and survival functions	
第七章 另一發證方式之標準.....	359
CHAPTER VII Standards regarding alternative certification	
第八章 當值標準.....	365
CHAPTER VIII Standards regarding watchkeeping	

	頁碼
附錄二 航海人員訓練、發證及當值(STCW)章程修正案.....	407
ANNEX 2 DRAFT AMENDMENTS TO THE SEAFARERS' TRAINING, CERTIFICATION AND WATCHKEEPING (STCW) CODE	
B 篇 有關 STCW 公約及其附錄之建議準則.....	407
“PART A Recommended guidance regarding provisions of the STCW Convention and its annex	
有關公約條款之準則.....	408
GUIDANCE REGARDING PROVISIONS OF THE ARTICLES	
第一章 有關總則之準則.....	415
CHAPTER I Guidance regarding general provisions s	
第二章 有關船長及艙面部門之準則.....	501
CHAPTER II Guidance regarding the master and the deck department	
第三章 有關輪機部門之準則.....	515
CHAPTER III Guidance regarding the engine department	
第四章 有關無線電通信及無線電操作員之準則.....	519
CHAPTER IV Guidance regarding radiocommunication and radio operators	
第五章 對特定型式船舶人員之特殊訓練之要求準則.....	543
CHAPTER V Guidance regarding special training requirements for personnel on certain types of ships	
第六章 有關應急、職業安全、保全、醫護及求生專長標準.....	579
CHAPTER VI Guidance regarding emergency, occupational safety, security, medical care and survival functions	
第七章 有關另一發證方式之準則.....	589
CHAPTER VII Guidance regarding alternative certification	
第八章 有關當值之準則.....	591
CHAPTER VIII Guidance regarding watchkeeping	
中英文用語及名詞對照表.....	605

	頁碼
附錄一 工作會議紀錄.....	附 1-1
附錄二 期中報告審查意見暨答覆說明.....	附 2-1
附錄三 期末報告審查意見暨答覆說明.....	附 3-1
附錄四 期末簡報.....	附 4-1

1978 年航海人員訓練、發證
及當值標準(STCW)國際公約締約國會議
議程10

CONFERENCE OF PARTIES TO THE
INTERNATIONAL CONVENTION ON
STANDARDS OF TRAINING,
CERTIFICATION AND WATCHKEEPING
FOR SEAFARERS, 1978
Agenda item 10

本會議工作小組所提載事文件及任何文書、決議案與建議案之採納
**ADOPTION OF THE FINAL ACT AND ANY INSTRUMENTS, RESOLUTIONS AND
RECOMMENDATIONS RESULTING FROM THE WORK OF THE CONFERENCE**

**會議決議案一
DRAFT RESOLUTION 1**

**1978 年航海人員訓練、發證及當值標準國際公約(STCW)附錄修正案之採納
ADOPTION OF AMENDMENTS TO THE ANNEX TO THE
INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING,
CERTIFICATION AND WATCHKEEPING FOR SEAFARERS (STCW), 1978**

全文經起草委員會審核認可

Text examined and approved by the Drafting Committee

2010 馬尼拉會議，
THE 2010 MANILA CONFERENCE,

憶及 1978 年航海人員訓練、發證及當值標準國際公約(以下簡稱本公約)第 XII(1)(b)項之規定，有關由締約國會議修正之程式，

RECALLING Article XII(1)(b) of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (hereinafter referred to as “the Convention”), concerning the procedure for amendment by a Conference of Parties,

業已考慮及經提出並經分送予本組織會員國及本公約所有締約國之本公約附錄修正案，以取代本公約附錄現有內容，

HAVING CONSIDERED amendments to the annex to the Convention proposed and circulated

to the Members of the Organization and to all Parties to the Convention,

1. 依據本公約第 XII(1)(b)(ii)目之規定，~~採納~~本公約附錄之修正案，其全文如本決議案之附錄；

1. ADOPTS, in accordance with article XII(1)(b)(ii) of the Convention, amendments to the annex to the Convention, the text of which is set out in the annex to the present resolution;

2. 依據本公約第 XII(1)(a)(vii)2 小目**決定**本公約附錄之修正案，除非在 2011 年 7 月 1 日前，超過三分之一本公約締約國，或合計擁有登記總噸位在 100 以上之商船隊不少於全世界商船總噸位 50%之締約國，業已通知秘書長反對該修正案外，應視同業已接受；

2. DETERMINES, in accordance with article XII(1)(a)(vii) of the Convention, that the amendments annexed hereto shall be deemed to have been accepted on 1 July 2011, unless, prior to that date, more than one third of Parties to the Convention or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant shipping of ships of 100 gross register tons or more have notified the Secretary-General that they object to the amendments;

3. **請求**各締約國注意本公約附錄修正案，依據前述第 2 項一旦視同業已被接受後，依據本公約第 XII(1)(a)(ix)目之規定應於 2012 年 1 月 1 日起生效；

3. INVITES Parties to note that, in accordance with article XII(1)(a)(ix) of the Convention, the amendments annexed hereto shall enter into force on 1 January 2012 upon being deemed to have been accepted in accordance with paragraph 2 above;

4. 要求本組織秘書長將本決議案之複本與附錄所包含之修正案全文傳送予本公約之締約國；

4. REQUESTS the Secretary-General of the Organization, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to the

5. **進而要求**秘書長將本決議案之複本與其附錄傳送予所有非本公約締約國之本組織會員。

5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its annex to all Members of the Organization which are not Parties to the Convention.

附 錄

ANNEX

1978 年航海人員訓練、發證及當值標準國際公約附錄修正案

DRAFT AMENDMENTS TO THE ANNEX TO THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978

1 1978 年航海人員訓練、發證及當值標準國際公約之附錄業由下列附錄所取代：

1 The Annex to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, is replaced by the following:

附 錄

“ANNEX

第一章

總 則

CHAPTER I

General provisions

規則 I/1

定義及釋義

Regulation I/1

Definitions and clarifications

1 除另有明文規定外，就適用本公約而言：

1 For the purpose of the Convention, unless expressly provided otherwise:

.1 「規則」指本公約附錄之規則；

.1 *Regulations* means regulations contained in the annex to the Convention;

.2 「認可」指由締約國依該等規則認可；

.2 *Approved* means *approved* by the Party in accordance with these regulations;

.3 「船長」指指揮全船的人員；

.3 *Master* means the person having command of a ship;

- .4 「甲級船員」指依國家法律或規則所指定，或在無此種指定時，依團體協約或習慣所指定船長以外之船員；
- .4 *Officer* means a member of the crew, other than the master, designated as such by national law or regulations or, in the absence of such designation, by collective agreement or custom;
- .5 「航行員」指依本公約第 II 章規定取得資格之甲級船員；
- .5 *Deck officer* means an officer qualified in accordance with the provisions of chapter II of the Convention;
- .6 「大副」指職位次於船長，於船長不能執行職務時，由其指揮全船之航行員；
- .6 *Chief mate* means the officer next in rank to the master and upon whom the command of the ship will fall in the event of the incapacity of the master;
- .7 「輪機員」指依本公約規則 III/1、III/2 或 III/3 規定取得資格之甲級船員；
- .7 *Engineer officer* means an officer qualified in accordance with the provisions of regulation III/1, III/2 or III/3 of the Convention;
- .8 「輪機長」指負責船舶機械推進及操作與維護機械與電機裝置之資深輪機員；
- .8 *Chief engineer officer* means the senior engineer officer responsible for the mechanical propulsion and the operation and maintenance of the mechanical and electrical installations of the ship;
- .9 「大管輪」指職位次於輪機長，於輪機長不能執行職務時，由其負責船舶機械推進及操作與維護機械與電機裝置之輪機員；
- .9 *Second engineer officer* means the engineer officer next in rank to the chief engineer officer and upon whom the responsibility for the mechanical propulsion and the operation and maintenance of the mechanical and electrical installations of the ship will fall in the event of the incapacity of the chief engineer officer;
- .10 「助理輪機員」指正在受訓練以便將來擔任輪機員職務，並依國家法律或規則指定擔任此職務者；
- .10 *Assistant engineer officer* means a person under training to become an engineer officer and designated as such by national law or regulations;
- .11 「無線電操作員」指持有主管機關依無線電規則規定所簽發或認可適當證書人員；
- .11 *Radio operator* means a person holding an appropriate certificate issued or recognized by the Administration under the provisions of the Radio Regulations;
- .12 「全球海上遇險與安全系統無線電操作員」指依本公約第 IV 章取得資格之人

員；

- .12 *GMDSS radio operator* means a person who is qualified in accordance with the provisions of chapter IV of the Convention;
- .13 「乙級船員」指除船長或甲級船員以外之船員；
- .13 *Rating* means a member of the ship's crew other than the master or an officer;
- .14 「近岸航程」指在一締約國所界定之該國近岸水域之航程；
- .14 *Near-coastal voyages* means voyages in the vicinity of a Party as defined by that Party;
- .15 「推進動力」指在船舶登記證書或其他法定檔上所載明，以趺計之所有船上主推動機械之合計最大連續額定輸出功率；
- .15 *Propulsion power* means the total maximum continuous rated output power, in kilowatts, of all the ship's main propulsion machinery which appears on the ship's certificate of registry or other official document;
- .16 「無線電職責」指依情況而定，包括依無線電規則、海上人命安全國際公約及由主管機關決定採行之本組織有關建議所為之當值、及技術上之維護與修理；
- .16 *Radio duties* include, as appropriate, watchkeeping and technical maintenance and repairs conducted in accordance with the Radio Regulations, the International Convention for the Safety of Life at Sea and, at the discretion of each Administration, the relevant recommendations of the Organization;
- .17 「油輪」指建造用以載運散裝石油及石油產品之船舶；
- .17 *Oil tanker* means a ship constructed and used for the carriage of petroleum and petroleum products in bulk;
- .18 「化學液體船」指建造或改裝，用以載運「國際散裝化學品章程」第十七章所列散裝液體產品之船舶；
- .18 *Chemical tanker* means a ship constructed or adapted and used for the carriage in bulk of any liquid product listed in chapter 17 of the International Bulk Chemical Code;
- .19 「液化氣體船」指建造或改裝用以載運「國際液化氣體船章程」第十九章所列任何散裝液化氣體或產品之船舶；
- .19 *Liquefied gas tanker* means a ship constructed or adapted and used for the carriage in bulk of any liquefied gas or other product listed in chapter 19 of the International Gas Carrier Code;

- .20 「客船」指經修正 1974 年海上人命安全國際公約所定義之船舶；
- .20 *Passenger ship* means a ship as defined in the International Convention for the Safety of Life at Sea, 1974, as amended;
- .21 「駛上／駛下客船」指經修正之 1974 年海上人命安全國際公約所定義設有駛上／駛下貨物空間或特種空間之客船；
- .21 *Ro-ro passenger ship* means a passenger ship with ro-ro cargo spaces or special category spaces as defined in the International Convention for the Safety of Life at Sea, 1974, as amended;
- .22 「月」係指曆月或不足月之 30 天期間；
- .22 *Month* means a calendar month or 30 days made up of periods of less than one month;
- .23 「STCW 章程」指由 1995 年會議決議案二所採納之航海人員訓練、發證及當值（STCW）章程及其後可能之修正案；
- .23 *STCW Code* means the Seafarers' Training, Certification and Watchkeeping (STCW) Code as adopted by the 1995 Conference resolution 2, as it may be amended;
- .24 「專長」指 STCW 章程所記載為船舶操作、海上人命安全或海洋環境保護所需要之一組任務、職務及責任；
- .24 *Function* means a group of tasks, duties and responsibilities, as specified in the STCW Code, necessary for ship operation, safety of life at sea or protection of the marine environment;
- .25 「公司」指船舶所有人，或其他任何機構或人員，諸如經理人或光船租傭人業已承擔船舶所有人之營運責任，且在承擔此責任時業已同意承擔本規則所賦予該公司之所有職務與責任；
- .25 *Company* means the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the shipowner and who, on assuming such responsibility, has agreed to take over all the duties and responsibilities imposed on the company by these regulations;
- .26 「海勤資歷」指在所簽發證書或其他資格有關之船上工作；
- .26 *Seagoing service* means service on board a ship relevant to the issue or revalidation of a certificate or other qualification;
- .27 「ISPS 章程」指經 1974 年海上人命安全國際公約締約國大會，於 2002 年 12 月 12 日以第二號決議案採納，並得由本組織予以修正之「國際船舶與港口設

施保全章程」；

.27 *ISPS Code* means the International Ship and Port Facility Security (ISPS) Code adopted on 12 December 2002, by resolution 2 of the Conference of Contracting Governments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, as may be amended by the Organization;

.28 「船舶保全人員」指由公司指定向船長負責之船上人員，負責船舶之保全包括船舶保全計畫之實施與維持，及與公司保全員與港口設施保全人員之聯絡；

.28 *Ship security officer* means the person on board the ship, accountable to the master, designated by the Company as responsible for the security of the ship including implementation and maintenance of the ship security plan and liaison with the Company security officer and port facility security officers;

.29 「適任證書」指依本附錄第 II、III、IV 或 VII 章之規定對船長、甲級船員及全球海上遇險與安全系統無線電操作員簽發與簽證之證書，准許合法之持證人員擔任證書所載之責任等級從事有關之職務；

.29 *Certificate of competency* means a certificate issued and endorsed for masters, officers and GMDSS radio operators in accordance with the provisions of chapters II, III, IV or VII of this annex and entitling the lawful holder thereof to serve in the capacity and perform the functions involved at the level of responsibility specified therein;

.30 「專業訓練證書」指除適任證書外，對航海人員所簽發之證書，載明持證人對有關之訓練、適任性或海勤資歷業已符合本公約之規定；

.30 *Certificate of proficiency* means a certificate, other than a certificate of competency issued to a seafarer, stating that the relevant requirements of training, competencies or seagoing service in the Convention have been met;

.31 「保全職責」包括經修正 1974 年海上人命安全國際公約第 XI/2 章與國際船舶與港口設施保全章程所規定之所有保全任務與責任；

.31 *Security duties* include all security tasks and duties on board ships as defined by chapter XI-2 of the International Convention for the Safety of Life at Sea (SOLAS 1974, as amended) and the International Ship and Port Facility Security (ISPS) Code;

.32 「電機員」指依本公約規則 III/6 取得資格之甲級船員；

.32 *Electro-technical officer* means an officer qualified in accordance with the provisions of regulation III/6 of the Convention;

.33 「幹練水手」指依本公約規則 II/5 取得資格之乙級船員；

.33 *Able seafarer deck* means a rating qualified in accordance with the provisions of

regulation II/5 of the Convention;

.34 「幹練機匠」指依本公約規則 III/5 取得資格之乙級船員；

.34 *Able seafarer engine* means a rating qualified in accordance with the provisions of regulation III/5 of the Convention;

.35 「電匠」指依本公約規則 III/7 取得資格之乙級船員；及

.35 *Electro-technical* rating means a rating qualified in accordance with the provisions of regulation III/7 of the Convention; and

.36 「書面證明」指除適任證書或專業訓練證書外，用以證實業已符合本公約相關規定之檔。

.36 *Documentary evidence* means documentation, other than a certificate of competency or certificate of proficiency, used to establish that the relevant requirements of the Convention have been met.

2 本規則以 STCW 章程 A 篇之強制性規定補充之，且：

2 These regulations are supplemented by the mandatory provisions contained in part A of the STCW Code and:

.1 規則中任何附註之要求，亦成為參照 STCW 章程 A 篇對應章節之附註；

.1 any reference to a requirement in a regulation also constitutes a reference to the corresponding section of part A of the STCW Code;

.2 在引用本規則時，應儘量考慮及 STCW 章程 B 篇之相關指導及解釋，以期全球在施行本公約規定時，更能統一；

.2 in applying these regulations, the related guidance and explanatory material contained in part B of the STCW Code should be taken into account to the greatest degree possible in order to achieve a more uniform implementation of the Convention provisions on a global basis;

.3 STCW 章程 A 篇之修正案應依本公約第 XII 條有關適用於附錄修正程式之規定予以採納、生效及實施；及

.3 amendments to part A of the STCW Code shall be adopted, brought into force and take effect in accordance with the provisions of article XII of the Convention concerning the amendment procedure applicable to the annex; and

.4 STCW 章程 B 篇應由海事安全委員會依其議事規則予以修正。

.4 part B of the STCW Code shall be amended by the Maritime Safety Committee in accordance with its rules of procedure.

3 本公約第 VI 條所述之「主管機關」及「發證主管機關」不應解釋為不讓任何締約國

依據本規則規定進行證書之簽發及簽署。

3 The references made in article VI of the Convention to “the Administration” and “the issuing Administration” shall not be construed as preventing any Party from issuing and endorsing certificates under the provisions of these regulations.

規則 I/2

證書及加簽

Regulation I/2

Certificates and endorsements

1 適任證書限由主管機關對任何必要之書面證明予以核實其確實性與有效性後簽發。

1 Certificates of competency shall be issued only by the Administration, following verification of the authenticity and validity of any necessary documentary evidence.

2 依規則 V/1-1 與 V/1-2 規定對船長及甲級船員簽發之證書限由主管機關簽發。

2 Certificates issued in accordance with the provisions of regulations V/1-1 and V/1-2 to masters and officers shall only be issued by an Administration.

3 證書應以發證國之一種或數種法定文字為之。如所用之文字並非英文，則其全文應包括英譯文。

3 Certificates shall be in the official language or languages of the issuing country. If the language used is not English, the text shall include a translation into that language.

4 關於無線電操作員，締約國得：

4 In respect of radio operators, Parties may:

.1 為簽發符合無線電規則之證書而進行之考試中，包括有關規則所要求之附加知識；或

.1 include the additional knowledge required by the relevant regulations in the examination for the issue of a certificate complying with the Radio Regulations; or

.2 簽發一份單獨證書，指明持有人具有有關規則所要求之附加知識。

.2 issue a separate certificate indicating that the holder has the additional knowledge required by the relevant regulations.

5 本公約第 VI 條所要求之加簽係用以證明簽發證書應僅在全部公約要求業已符合後為之。

5 The endorsement required by article VI of the Convention to attest the issue of a certificate shall only be issued if all the requirements of the Convention have been complied with.

6 締約國得自行決定按 STCW 章程第 A-I/2 節之規定將加簽併入所簽發證書之格式中。若併入，則所用之格式應如第 A-I/2 節第 1 項所規定者，若另行簽發，則加簽所用的格式應如該節第 2 項所規定者。

6 At the discretion of a Party, endorsements may be incorporated in the format of the certificates being issued as provided for in section A-I/2 of the STCW Code. If so incorporated, the form used shall be that set forth in section A-I/2, paragraph 1. If issued otherwise, the form of endorsements used shall be that set forth in paragraph 2 of that section.

7 主管機關依規則 I/10 認可：

7 An Administration which recognizes under regulation I/10:

.1 適任證書；或

.1 a certificate of competency; or

.2 依規則 V/1-1 與 V/1-2 規定對船長及甲級船員簽發之專業訓練證書，並應在確認該證書之確實性與有效性後於證書上加簽，以證明其認可。加簽應限於本公約所有之規定均已符合後簽發之。加簽證書所採之格式應如 STCW 章程第 A-I/2 節第 3 項所規定者。

.2 a certificate of proficiency issued to masters and officers in accordance with the provisions of regulations V/1-1 and V/1-2 shall endorse such certificate to attest its recognition only after ensuring the authenticity and validity of the certificate. The endorsement shall only be issued if all requirements of the Convention have been complied with. The form of the endorsement used shall be that set forth in paragraph 3 of section A-I/2 of the STCW Code.

8 第 5、6 及 7 項所述之加簽：

8 The endorsements referred to in paragraphs 5, 6 and 7:

.1 得簽發一份單獨文件；

.1 may be issued as separate documents;

.2 限由主管機關簽發。

.2 shall be issued by the Administration only;

.3 每份加簽應給予獨特之編號，除非該加簽所證明證書之簽發可能與相關證書編相同之編號，而該編號亦為獨特者；

.3 shall each be assigned a unique number, except that endorsements attesting the issue of a certificate may be assigned the same number as the certificate concerned, provided that number is unique; and

.4 加簽時，當加簽之證書逾期或為簽發證書之締約國所撤銷、停用或註銷時應

即失效。且在任何情況不得逾簽發日期之五年後。

- .4 shall expire as soon as the certificate endorsed expires or is withdrawn, suspended or cancelled by the Party which issued it and, in any case, not more than five years after their date of issue.

9 證書持有人核准擔任之職位元應在加簽表格中載明，其用詞應與主管機關適用之安全配額要求中所用者一致。

9 The capacity in which the holder of a certificate is authorized to serve shall be identified in the form of endorsement in terms identical to those used in the applicable safe manning requirements of the Administration.

10 主管機關得使用與 STCW 章程第 A-I/2 節規定不同之格式，但考慮及第 A-I/2 節所准許之變動，所需要之資料至少使用羅馬字母及阿拉伯數字。

10 Administrations may use a format different from the format given in section A-I/2 of the STCW Code, provided that, as a minimum, the required information is provided in Roman characters and Arabic figures, taking into account the variations permitted under section A-I/2.

11 依據規則 I/10 第 5 項之規定，本公約所要求之任何證書正本應置備於證書持有者所服務之船上。

11 Subject to the provisions of regulation I/10, paragraph 5, any certificate required by the Convention must be kept available in its original form on board the ship on which the holder is serving.

12 各締約國應確保證書僅簽發予符合本規則規定之申請人。

12 Each Party shall ensure that certificates are issued only to candidates who comply with the requirements of this regulation.

13 證書申請人應提供下列適當之檔以證明：

13 Candidates for certification shall provide satisfactory proof:

.1 其身分；

.1 of their identity;

.2 其年齡不小於本規則申請有關證書所規定之年齡；

.2 that their age is not less than that prescribed in the regulation relevant to the certificate applied for;

.3 其符合 STCW 章程第 A-I/9 節所規定之健康標準；

.3 that they meet the standards of medical fitness specified in section A-I/9 of the STCW Code;

.4 其已具有申請有關證書規則所規定之完整海勤資歷與任何相關之強制性訓練；及

.4 of having completed the seagoing service and any related compulsory training required by these regulations for the certificate applied for; and

.5 符合本規則在證書加簽時應確認之職務、專長與層級所規定之適任標準。

.5 that they meet the standards of competence prescribed by these regulations for the capacities, functions and levels that are to be identified in the endorsement to the certificate.

14 各締約國承允對船長、甲級船員及適當時之乙級船員所有證書之簽發、失效、再生效、暫停有效、註銷或報失或損毀及特許證之簽發，保持一份或多份之登記。

14 Each Party undertakes to maintain a register or registers of all certificates and endorsements for masters, officers, and, as applicable, ratings which are issued, have expired or have been revalidated, suspended, cancelled or reported lost or destroyed and of dispensations issued.

15 各締約國承允當航海人員依規則 I/10 向其他締約國與公司提送其證書以求獲得認可或受僱上船時，將適任證書、加簽證書與特許證之情況資料提供予需要查核其所簽發證書之確實性與有效性之該等國家與公司。

15 Each Party undertakes to make available information on the status of such certificates of competency, endorsements and dispensations to other Parties and companies which request verification of the authenticity and validity of certificates produced to them by seafarers seeking recognition of their certificates under regulation I/10 or employment on board ship.

16 依本條規則第 15 項需要提供之狀況資料，應在 2017 年 1 月 1 日起以英文經由電子方式提供。

16 As of 1 January 2017, the information on the status of information required to be available in accordance with paragraph 15 of this regulation shall be made available, in the English language, through electronic means.

規則 I/3

近岸航程原則

Regulation I/3

Principles governing near-coastal voyages

1 任一締約國就適用本公約而言，解釋近岸航程之定義時，不應將訓練、經驗或發證之要求強加於有權懸掛他締約國國旗從事該近岸航程船舶上服務之航海人員，致對此等人員之要求較在有權懸掛本國國旗船舶上工作之航海人員更為嚴苛。無論如何，任何締約國亦不應將超過本公約對非從事近岸航程船舶所作之要求強加於在有權懸掛他締約國國旗

船舶上工作之航海人員。

1 Any Party defining near-coastal voyages for the purpose of the Convention shall not impose training, experience or certification requirements on the seafarers serving on board the ships entitled to fly the flag of another Party and engaged on such voyages in a manner resulting in more stringent requirements for such seafarers than for seafarers serving on board ships entitled to fly its own flag. In no case shall any such Party impose requirements in respect of seafarers serving on board ships entitled to fly the flag of another Party in excess of those of the Convention in respect of ships not engaged on near-coastal voyages.

2 為船舶提供本公約有關近岸航程利益之締約國，包括其航程離岸在其他締約國所定義之近岸航程內者，應與有關之締約國就雙方涉及之營運區域及其他相關條件之細節達成協議。

2 A Party that, for ships afforded the benefits of the near-coastal voyage provisions of the Convention, which includes voyages off the coast of other Parties within the limits of their near-coastal definition, shall enter into an undertaking with the Parties concerned specifying the details of both involved trading areas and other relevant conditions.

3 對有權懸掛某一締約國國旗，經常在他締約國海岸附近從事近岸航程之船舶，該有權懸掛其國旗船舶之締約國應就在該船舶上工作之航海人員制定至少相當於此類船舶所航經締約國之訓練、經驗及發證規則，但毋需超過本公約對非從事近岸航程船舶所作之要求。航海人員所服務船舶之航程超出該締約國所界定近岸航程之範圍，進入該界定範圍以外之水域時，應符合本公約適當之適任要求。

3 With respect to ships entitled to fly the flag of a Party regularly engaged on near-coastal voyages off the coast of another Party, the Party whose flag the ship is entitled to fly shall prescribe training, experience and certification requirements for seafarers serving on such ships at least equal to those of the Party off whose coast the ship is engaged, provided that they do not exceed the requirements of the Convention in respect of ships not engaged on near-coastal voyages. Seafarers serving on a ship which extends its voyage beyond what is defined as a near-coastal voyage by a Party and enters waters not covered by that definition shall fulfil the appropriate competency requirements of the Convention.

4 締約國對有權懸掛其國旗之船舶，經常在非締約國海岸附近從事依該締約國所界定近岸航程者，得給予本公約有關近岸航程之利益。

4 A Party may afford a ship which is entitled to fly its flag the benefits of the near-coastal voyage provisions of the Convention when it is regularly engaged off the coast of a non-Party on near-coastal voyages as defined by the Party.

5 由某一締約國為具所定義之近岸航程航海人員所簽發之證書，如已與有關締約國就涉及之營運區域及其他相關條件之細節達成協議，則當其在規定之近岸航程區域航行時，該證書得為其他締約國所接受。

5 The certificates of seafarers issued by a Party for its defined near-coastal voyages limits may be accepted by other Parties for service in their defined near-coastal voyages limits, provided the Parties concerned enter into an undertaking specifying the details of involved trading areas and other relevant conditions thereof.

6 依照本規則界定近岸航程之締約國應：

6 Parties defining near-coastal voyages, in accordance with the requirements of this regulation, shall:

.1 符合第 A-I/3 節所述有關近岸航程之原則；

.1 meet the principles governing near-coastal voyages specified in section A-I/3;

.2 按規則 I/7 之要求將所採行之規定細節通知秘書長；及

.2 communicate to the Secretary-General, in conformity with the requirements of regulation I/7, the details of the provisions adopted; and

.3 在依規則 I/2 第 5、6 或 7 項規定簽發之加簽證書中包含近岸航程之限制。

.3 incorporate the near-coastal voyages limits in the endorsements issued pursuant to regulation I/2, paragraphs 5, 6 or 7.

7 本規則中之任何規定不應以任何方式限制任何國家之管轄權，並不論其是否為本公約締約國。

7 Nothing in this regulation shall, in any way, limit the jurisdiction of any State, whether or not a Party to the Convention.

規則 I/4

管制程式

Regulation I/4

Control procedures

1 經適當授權之管制官員依據本公約第 X 條所為之管制，應限於下列各項：

1 Control exercised by a duly authorized control officer under article X shall be limited to the following:

.1 依據第 X 條第(1)項規定，查證在船上工作之所有航海人員依本公約規定須持證者，是否持有適當證書或有效特許證，或備有已依規則 I/10 第 5 項向主管機關提出申請加簽之證明文件。

.1 verification in accordance with article X(1) that all seafarers serving on board who are required to be certificated in accordance with the Convention hold an appropriate certificate or a valid dispensation, or provide documentary proof that an application for an endorsement has been submitted to the Administration in

accordance with regulation I/10, paragraph 5;

- .2 查證在船上服務航海人員之人數及證書，是否與主管機關可適用之安全配額要求相符；及
 - .2 verification that the numbers and certificates of the seafarers serving on board are in conformity with the applicable safe manning requirements of the Administration; and
 - .3 如因船舶發生下列事故，而認為有明顯理由相信船上之航海人員未能維持本公約所訂之當值與保全標準時，則在適當時依據 STCW 章程第 A-I/4 節之規定對該等人員此項能力予以評估：
 - .3 assessment, in accordance with section A-I/4 of the STCW Code, of the ability of the seafarers of the ship to maintain watchkeeping and security standards, as appropriate, as required by the Convention if there are clear grounds for believing that such standards are not being maintained because any of the following have occurred:
 - .3.1 船舶發生碰撞、擱淺或觸礁；或
 - .3.1 the ship has been involved in a collision, grounding or stranding, or
 - .3.2 當船舶航行中、錨泊或碇泊時，由船上排洩任何違反國際公約規定之物質；或
 - .3.2 there has been a discharge of substances from the ship when under way, at anchor or at berth which is illegal under any international convention, or
 - .3.3 船舶之操縱不正常或不安全，因此船舶未能遵守本組織所採納之航路措施或安全航行方法及程式；或
 - .3.3 the ship has been manoeuvred in an erratic or unsafe manner whereby routing measures adopted by the Organization or safe navigation practices and procedures have not been followed, or
 - .3.4 船舶以其他方式操作致危及人員、財產或環境。
 - .3.4 the ship is otherwise being operated in such a manner as to pose a danger to persons, property, the environment, or a compromise to security.
- 2 被認為危及人員、財產或環境之缺失，包括下列各項：
- 2 Deficiencies which may be deemed to pose a danger to persons, property or the environment include the following:
- .1 需持有證書之航海人員未持有適當證書、有效特許證，或未提供依據規則 I/10 第 5 項向主管機關提出已申請加簽之證明文件；

- .1 failure of seafarers to hold a certificate, to have an appropriate certificate, to have a valid dispensation or to provide documentary proof that an application for an endorsement has been submitted to the Administration in accordance with regulation I/10, paragraph 5;
- .2 未符合主管機關可適用之安全配額要求；
- .2 failure to comply with the applicable safe manning requirements of the Administration;
- .3 航行或輪機當值之安排未符合主管機關為該船所定之要求；
- .3 failure of navigational or engineering watch arrangements to conform to the requirements specified for the ship by the Administration;
- .4 操作與航行安全、安全無線電通信或防止海水污染有重大關係之設備之合格人員未依規定當值；
- .4 absence in a watch of a person qualified to operate equipment essential to safe navigation, safety radiocommunications or the prevention of marine pollution; and
- .5 未能為航程開始第一班及嗣後之接班提供經充分休息並稱職之當值人員；
- .5 inability to provide, for the first watch at the commencement of a voyage and for subsequent relieving watches, persons who are sufficiently rested and otherwise fit for duty.

3 第 2 項所述及之任何缺失未能矯正，致經執行管制之締約國確定該等缺失危及人員、財產或環境，則應構成締約國依據本公約第 X 條得予扣船之唯一理由。

3 Failure to correct any of the deficiencies referred to in paragraph 2, in so far as it has been determined by the Party carrying out the control that they pose a danger to persons, property or the environment, shall be the only grounds under article X on which a Party may detain a ship.

規則 I/5

國家規定

Regulation I/5

National provisions

1 每一締約國應制訂步驟及程式以對由該締約國所簽發證書及加簽持有者執行與其證書有關之職責時，任何之不適任、作為、不作為或減低安全行為所可能構成直接危及生命、財產或海上環境之報告進行公正之調查；及制訂因該等原因撤銷、停用及註銷該等證書，暨防止詐欺行為之步驟及程式。

1 Each Party shall establish processes and procedures for the impartial investigation of any reported incompetency, act, omission or compromise to security that may pose a direct threat to

safety of life or property at sea or to the marine environment by the holders of certificates or endorsements issued by that Party in connection with their performance of duties related to their certificates and for the withdrawal, suspension and cancellation of such certificates for such cause and for the prevention of fraud.

2 各締約國應採取並實施適當之措施，以防止與簽發之證書與加簽有關之詐欺與其他不法行為。

2 Each Party shall take and enforce appropriate measures to prevent fraud and other unlawful practices involving certificates and endorsements issued.

3 每一締約國對有權懸掛其國旗之船舶或由其適當發證之航海人員，在違反實施本公約之國內法，應規定處罰或懲戒辦法。

3 Each Party shall prescribe penalties or disciplinary measures for cases in which the provisions of its national legislation giving effect to the Convention are not complied with in respect of ships entitled to fly its flag or of seafarers duly certificated by that Party.

4 該等處罰或懲戒辦法應特別就下列情況予以規定，並執行之：

4 In particular, such penalties or disciplinary measures shall be prescribed and enforced in cases in which:

- .1 公司或船長業已雇用未持有本公約所要求證書之人員；
- .1 a company or a master has engaged a person not holding a certificate as required by the Convention;
- .2 未持有合規定證書、有效特許證或規則 I/10 第 5 項所要求證明檔之人員經船長允許擔任原應由持有適當證書人員執行本規則所規定之任何專長或職務；
或
- .2 a master has allowed any function or service in any capacity required by these regulations to be performed by a person holding an appropriate certificate to be performed by a person not holding the required certificate, a valid dispensation or having the documentary proof required by regulation I/10, paragraph 5; or
- .3 利用詐欺或偽造證書得到雇用之人員，從事應由持有證書或特許證人員執行或填補本規則中所規定任何專長或職務。
- .3 a person has obtained by fraud or forged documents an engagement to perform any function or serve in any capacity required by these regulations to be performed or filled by a person holding a certificate or dispensation.

5 締約國對其所管轄之任何公司或個人有明顯理由相信，對第 3 項所述任何明顯不符合本公約規定，而應予以負責或確知時，應儘可能與告知將有意在其管轄權內提起訴訟之任何締約國進行所有合作。

5 A Party, within whose jurisdiction there is located any company which, or any person who, is believed on clear grounds to have been responsible for, or to have knowledge of, any apparent non-compliance with the Convention specified in paragraph 4, shall extend all co-operation possible to any Party which advises it of its intention to initiate proceedings under its jurisdiction.

規則 I/6

訓練及評估

Regulation I/6

Training and assessment

各締約國應確保：

Each Party shall ensure that:

- .1 本公約所要求之航海人員訓練與評估係依據 STCW 章程第 A-I/6 節之規定予以執行、管理及監督；及
- .1 the training and assessment of seafarers, as required under the Convention, are administered, supervised and monitored in accordance with the provisions of section A-I/6 of the STCW Code; and
- .2 負責本公約所要求之航海人員訓練與適任性評估之人員，係依據 STCW 章程第 A-I/6 節之規定，按所涉之訓練及評估種類與層級具有適當資格。
- .2 those responsible for the training and assessment of competence of seafarers, as required under the Convention, are appropriately qualified in accordance with the provisions of section A-I/6 of the STCW Code for the type and level of training or assessment involved.

規則 I/7

資料遞送

Regulation I/7

Communication of information

1 除第 IV 條要求遞送之資料外，締約國為使公約全部徹底地實施而可能採取之其他步驟此類的其他資料，在規定時間內，依據 STCW 章程第 A-I/7 節所述之格式提交秘書長。

1 In addition to the information required to be communicated by article IV, each Party shall provide to the Secretary-General, within the time periods prescribed and in the format specified in section A-I/7 of the STCW Code, such other information as may be required by the Code on other steps taken by the Party to give the Convention full and complete effect.

2 當第 VI 條及 STCW 章程第 A-I/7 節中所規定之全部資料業已收到，且該資料確認本

公約規定已全部徹底實施時，秘書長應就此事向海事安全委員會提交一份報告。

2 When complete information as prescribed in article IV and section A-I/7 of the STCW Code has been received and such information confirms that full and complete effect is given to the provisions of the Convention, the Secretary-General shall submit a report to this effect to the Maritime Safety Committee.

3 隨後，海事安全委員會依據該委員會所採納之程式，確認所提交資料證明本公約規定已全部徹底實施：

3 Following subsequent confirmation by the Maritime Safety Committee, in accordance with procedures adopted by the Committee, that the information which has been provided demonstrates that full and complete effect is given to the provisions of the Convention:

.1 海事安全委員會應對該等締約國予以認定；

.1 the Maritime Safety Committee shall identify the Parties so concerned;

.2 檢討已遞送資料之締約國名單，如資料顯示其能充分、完全實施本公約之相關規定，則限此等締約國始保留於該名單內；及

.2 review the list of Parties which communicated information that demonstrated that they give full and complete effect to the relevant provisions of the Convention, to retain in this list only the Parties so concerned; and

.3 其他締約國應有權依據規則 I/4 及 I/10 之規定，原則上接受在第 3.1 項所認定符合本公約之該等締約國所簽發或代表簽發之證書。

.3 other Parties shall be entitled, subject to the provisions of regulations I/4 and I/10, to accept, in principle, that certificates issued by or on behalf of the Parties identified in paragraph 3.1 are in compliance with the Convention.

4 本公約與 STCW 章程之修正案，如其生效日期較依第一款規定遞送資料或將遞送予秘書長之日期為遲，則不受第 A-I/7 節第 1 與 2 項規定之約束。

4 Amendments to the Convention and STCW Code, with dates of entry into force later than the date information has been, or will be, communicated to the Secretary-General in accordance with the provisions of paragraph 1, are not subject to the provisions of section A-I/7, paragraphs 1 and 2.

規則 I/8

品質標準

Regulation I/8

Quality standards

1 各締約國應確保：

1 Each Party shall ensure that:

- .1 依據 STCW 章程第 A-I/8 節之規定，所有由其授權之非政府組織或機構所施行之訓練、適任評估、發證、包括健康證書、加簽及重新生效之作業，係經品質標準制度持續予以監督，以確保達到既定目標；包括講師及評審員之有關資格與經歷；及
- .1 in accordance with the provisions of section A-I/8 of the STCW Code, all training, assessment of competence, certification, including medical certification, endorsement and revalidation activities carried out by non-governmental agencies or entities under its authority are continuously monitored through a quality standards system to ensure achievement of defined objectives, including those concerning the qualifications and experience of instructors and assessors; and
- .2 如政府機關或機關執行該作業，則應有品質標準制度；
- .2 where governmental agencies or entities perform such activities, there shall be a quality standards system.

2 各締約國亦應確保由不參與該項作業之合格人員，依據 STCW 章程第 A-I/8 節之規定，進行定期評審。此項評審應包括所有符合本公約與 STCW 章程修正案對國內規則與程式之變更，其生效之日期遲於資料提交予秘書長之日期。

2 Each Party shall also ensure that an evaluation is periodically undertaken, in accordance with the provisions of section A-I/8 of the STCW Code, by qualified persons who are not themselves involved in the activities concerned. This evaluation shall include all changes to national regulations and procedures in compliance with the amendments to the Convention and STCW Code, with dates of entry into force later than the date information was communicated to the Secretary-General.

3 第 2 項規定包含有評審結果之報告，應依 STCW 章程第 A-I/7 所定之格式提交秘書長。

3 A report containing the results of the evaluation required by paragraph 2 shall be communicated to the Secretary-General in accordance with the format specified in section A-I/7 of the STCW Code

規則 I/9

健康標準—證書之簽發及登記

Regulation I/9

Medical standards

1 各締約國應依本條規則與 STCW 章程第 A-I/9 節之規定制訂航海人員健康標準及簽發健康證書之程式。

1 Each Party shall establish standards of medical fitness for seafarers and procedures for the issue of a medical certificate in accordance with the provisions of this regulation and of section A-I/9 of the STCW Code.

2 各締約國應依 STCW 章程第 A-I/9 節之規定，確使負責航海人員健康之評估係由經該締約國授權之執業醫師就此目的作健康檢查。

2 Each Party shall ensure that those responsible for assessing the medical fitness of seafarers are medical practitioners recognized by the Party for the purpose of seafarer medical examinations, in accordance with the provisions of section A-I/9 of the STCW Code.

3 凡執有依本公約規定簽發證書之航海人員，當其在海上服勤時，應執有依本條規則及 STCW 章程第 A-I/9 節規定簽發之有效健康證書。

3 Every seafarer holding a certificate issued under the provisions of the Convention, who is serving at sea, shall also hold a valid medical certificate issued in accordance with the provisions of this regulation and of section A-I/9 of the STCW Code.

4 凡申請發證者應：

4 Every candidate for certification shall:

.1 年齡滿 16 歲；

.1 be not less than 16 years of age;

.2 提供足以證明其身分之檔；

.2 provide satisfactory proof of his/her identity; and

.3 符合該締約國所制定之可行健康標準。

.3 meet the applicable medical fitness standards established by the Party.

5 健康證書之有效期限最長為 2 年，但當航海人員之年齡未滿 18 歲之情況下，其有效期限最長為 1 年。

5 Medical certificates shall remain valid for a maximum period of two years unless the seafarer is under the age of 18, in which case the maximum period of validity shall be one year.

6 如健康證書之有效期限在航程中失效，則該健康證書當其到達具有經該締約國授權執業醫師之下一停靠港前應繼續有效。但為期不應超過 3 個月。

6 If the period of validity of a medical certificate expires in the course of a voyage, then the medical certificate shall continue in force until the next port of call where a medical practitioner recognized by the Party is available, provided that the period shall not exceed three months.

7 在緊急情況下，主管機關得准許航海人員無有效健康證書而工作至該船到達具有經該締約國授權執業醫師之下一停靠港。但以：

7 In urgent cases the Administration may permit a seafarer to work without a valid medical certificate until the next port of call where a medical practitioner recognized by the Party is available, provided that:

.1 准許之期限並不超過 3 個月；及

- .1 the period of such permission does not exceed three months; and
- .2 該有關之航海人員執有最近失效之健康證書。
- .2 the seafarer concerned is in possession of an expired medical certificate of recent date.

規則 I/10

證書之認可

Regulation I/10

Recognition of certificates

1 各主管機關應確保符合本規則之規定，以依據規則 I/2 第 7 項之加簽認可其他締約國所簽發或授權簽發予船長、甲級船員或無線電操作員之證書，以及：

1 Each Administration shall ensure that the provisions of this regulation are complied with, in order to recognize, by endorsement in accordance with regulation I/2, paragraph 7, a certificate issued by or under the authority of another Party to a master, officer or radio operator and that:

- .1 主管機關透過對該締約國之評估，可包括對設施與程式之檢查，確認本公約有關之適任標準、訓練與證書暨品質標準之規定，均已完全符合；及
- .1 the Administration has confirmed, through an evaluation of that Party, which may include inspection of facilities and procedures, that the requirements of the Convention regarding standards of competence, training and certification and quality standards are fully complied with; and
- .2 與有關締約國取得協議，承允將為符合本公約而提供之訓練與發證安排有任何重大改變時，及時通知；
- .2 an undertaking is agreed with the Party concerned that prompt notification will be given of any significant change in the arrangements for training and certification provided in compliance with the Convention.

2 應採取措施，以確保航海人員提交依規則 II/2，III/2 或 III/3 所簽發之證書，或依規則 VII/1 所簽發 STCW 章程定義之管理級證書，以供認可時，對准許執行其專長之有關主管機關之海事法規具有適當之知識；

2 Measures shall be established to ensure that seafarers who present, for recognition,

certificates issued under the provisions of regulations II/2, III/2 or III/3, or issued under VII/1 at the management level, as defined in the STCW Code, have an appropriate knowledge of the maritime legislation of the Administration relevant to the functions they are permitted to perform.

3 依本規則所提供之資料及同意之措施，應依規則 I/7 之要求，提交予秘書長。

3 Information provided and measures agreed upon under this regulation shall be communicated to the Secretary-General in conformity with the requirements of regulation I/7.

4 非締約國所簽發或授權簽發之證書不應予認可。

4 Certificates issued by or under the authority of a non-Party shall not be recognized.

5 不論規則 I/2 第 7 項之規定如何，如情況需要，主管機關得依第 1 項之規定對航海人員持有他締約國所要求能在該締約國船舶使用簽發及加簽之適當有效的證書。但該證書尚未經加簽使之適用於有權懸掛該主管機關國旗船舶上服務者，得准許其在無線電甲級船員或無線電操作員外之職務上服務，但無線電規則另有規定者不在此限。惟使用期間在有權懸掛其國旗之船舶上不得超過 3 個月。證明文件應隨時備便以證明申請加簽業已提交主管機關。

5 Notwithstanding the requirement of regulation I/2, paragraph 7, an Administration may, if circumstances require, subject to the provisions of paragraph 1, allow a seafarer to serve for a period not exceeding three months on board a ship entitled to fly its flag, while holding an appropriate and valid certificate issued and endorsed as required by another Party for use on board that Party's ships but which has not yet been endorsed so as to render it appropriate for service on board ships entitled to fly the flag of the Administration. Documentary proof shall be readily available that application for an endorsement has been submitted to the Administration.

6 依本規則之規定，由某主管機關為認可或證明認可他締約國所簽發之證書而簽發之證書及加簽，不得供其他主管機關作進一步認可之準據。

6 Certificates and endorsements issued by an Administration under the provisions of this regulation in recognition of, or attesting the recognition of, a certificate issued by another Party shall not be used as the basis for further recognition by another Administration.

規則 I/11

證書重新生效

Regulation I/11

Revalidation of certificates

1 持有依本公約第 VI 章以外任何各章所簽發或認可證書之船長、甲級船員及無線電操作員在海上服務或上岸一段時間後，欲重返海上服務者，為繼續適任於海上服務，應要求其在不過 5 年之間隔內：

1 Every master, officer and radio operator holding a certificate issued or recognized under any chapter of the Convention other than chapter VI, who is serving at sea or intends to return to sea after a period ashore, shall, in order to continue to qualify for seagoing service, be required, at intervals not exceeding five years, to:

- .1 符合規則 I/9 所規定之健康標準；及
- .1 meet the standards of medical fitness prescribed by regulation I/9; and
- .2 依據 STCW 章程第 A-I/11 節，確立持續之專業能力。
- .2 establish continued professional competence in accordance with section A-I/11 of the STCW Code.

2 為繼續在船上從事國際上所議定需經特殊訓練要求之海勤資歷，每位船長、甲級船員及無線電操作員應圓滿地完成認可的有關訓練。

2 Every master, officer and radio operator shall, for continuing seagoing service on board ships for which special training requirements have been internationally agreed upon, successfully complete approved relevant training.

3 凡在液貨船繼續海上服務之船長與甲級船員，應符合本條規則第 1 項之規定，並需在不超過 5 年之期間內，依 STCW 章程第 A-I/11 節第 3 項，確立持續之液貨船專業能力。

3 Every master and officer shall, for continuing seagoing service on board tankers, meet the requirements in paragraph 1 of this regulation and be required, at intervals not exceeding five years, to establish continued professional competence for tankers in accordance with section A-I/11, paragraph 3 of the STCW Code.

4 各締約國應將 2017 年 1 月 1 日以前所簽發證書，對申請者要求之適任標準與 STCW 章程 A 篇對適當證書所規定者予以比較，並應決定要求持有此等證書人員再接受適當之複習及新知訓練或評估之必要性。

4 Each Party shall compare the standards of competence which it required of candidates for certificates issued before 1 January 2017 with those specified for the appropriate certificate in part A of the STCW Code, and shall determine the need for requiring the holders of such certificates to undergo appropriate refresher and updating training or assessment.

5 締約國應與有關方面協商，制訂或促使制訂在 STCW 章程第 A-I/11 節中所規定之複習及新知訓練架構。

5 The Party shall, in consultation with those concerned, formulate or promote the formulation of a structure of refresher and updating courses as provided for in section A-I/11 of the STCW Code.

6 就船長、甲級船員及無線電操作人員新知之目的而言，各主管機關應確保對有權懸掛其國旗之船舶提供有關海上人命安全、保全及海上環境保護之國內與國際規則最新變動

之版本。

6 For the purpose of updating the knowledge of masters, officers and radio operators, each Administration shall ensure that the texts of recent changes in national and international regulations concerning the safety of life at sea, security and the protection of the marine environment are made available to ships entitled to fly its flag.

規則 I/12

模擬設施之使用

Regulation I/12

Use of simulators

1 下列各項應符合 STCW 章程第 A-I/12 節之性能標準及其他規定，及 STCW 章程 A 篇所述為任何有關證書規定之其他要求：

1 The performance standards and other provisions set forth in section A-I/12 and such other requirements as are prescribed in part A of the STCW Code for any certificate concerned shall be complied with in respect of:

- .1 所有強制性利用模擬設施之訓練；
- .1 all mandatory simulator-based training;
- .2 STCW 章程 A 篇所要求，需利用模擬設施進行任何適任性評估；及
- .2 any assessment of competency required by part A of the STCW Code which is
- .3 STCW 章程 A 篇所要求，需利用模擬設施進行任何持續性熟練之證明。
- .3 any demonstration, by means of a simulator, of continued proficiency required by part A of the STCW Code.

規則 I/13

試驗之實施

Regulation I/13

Conduct of trials

1 本規則不應妨礙主管機關授權有權懸掛其國旗之船舶參與試驗。

1 These regulations shall not prevent an Administration from authorizing ships entitled to fly its flag to participate in trials.

2 就適用本規則而言，「試驗」一詞指在一定期限內實施一項或一系列試驗，可能包括自動或整體系統之使用在內，其目的在於評審替代辦法以執行本公約所規定之特定任務或滿足本公約所規定之特定安排。該替代辦法所提供之安全及防止污染程度至少與本規則所提供者相同。

2 For the purposes of this regulation, the term *trial* means an experiment or series of experiments, conducted over a limited period, which may involve the use of automated or integrated systems in order to evaluate alternative methods of performing specific duties or satisfying particular arrangements prescribed by the Convention, which would provide at least the same degree of safety and pollution prevention as provided by these regulations.

3 授權船舶參與試驗之主管機關應確信進行此等試驗所提供之安全及防止污染程度至少與本規則所提供者相同。此等試驗應按照本組織所採納之準則施行。

3 The Administration authorizing ships to participate in trials shall be satisfied that such trials are conducted in a manner that provides at least the same degree of safety and pollution prevention as provided by these regulations. Such trials shall be conducted in accordance with guidelines adopted by the Organization.

4 此等試驗之詳情應儘早向本組織報告，但不應遲於計劃開始試驗之日前 6 個月。本組織應將此等資料通報所有之締約國。

4 Details of such trials shall be reported to the Organization as early as practicable but not less than six months before the date on which the trials are scheduled to commence. The Organization shall circulate such particulars to all Parties.

5 按照第 1 項授權之試驗結果及主管機關對該等結果可能提出之任何建議應報告本組織，本組織應將此等結果及建議通報所有之締約國。

5 The results of trials authorized under paragraph 1, and any recommendations the Administration may have regarding those results, shall be reported to the Organization, which shall circulate such results and recommendations to all Parties.

6 任何締約國如對按本規則授權之特定試驗持有反對意見，應儘早將反對意見通知本組織，本組織應將反對意見之詳情通報所有之締約國。

6 Any Party having any objection to particular trials authorized in accordance with this regulation should communicate such objection to the Organization as early as practicable. The Organization shall circulate details of the objection to all Parties.

7 授權進行試驗之主管機關應尊重所收到他締約國對該項試驗之反對意見，而指示有權懸掛其國旗之船舶航行於向本組織提出反對意見之該沿海國水域時，不進行試驗。

7 An Administration which has authorized a trial shall respect objections received from other Parties relating to such trial by directing ships entitled to fly its flag not to engage in a trial while navigating in the waters of a coastal State which has communicated its objection to the Organization.

8 主管機關根據試驗作出結論：某一特定系統所提供之安全及防止污染程度至少與本規則所提供者相同，得授權有權懸掛其國旗之船舶不定期地繼續使用此等系統營運，但應符合下列要求：

8 An Administration which concludes, on the basis of a trial, that a particular system will provide at least the same degree of safety and pollution prevention as provided by these regulations may authorize ships entitled to fly its flag to continue to operate with such a system indefinitely, subject to the following requirements:

- .1 依據第 5 項提交試驗結果後，主管機關應向本組織提供任何此等授權詳情，包括認定可能獲得該授權之特定船舶，本組織將此等資料通報所有締約國；
- .1 the Administration shall, after results of the trial have been submitted in accordance with paragraph 5, provide details of any such authorization, including identification of the specific ships which may be subject to the authorization, to the Organization, which will circulate this information to all Parties;
- .2 按本項授權之任何操作，應依本組織所制訂之準則為之，並實施至試驗時同等之適用程度；
- .2 any operations authorized under this paragraph shall be conducted in accordance with any guidelines developed by the Organization, to the same extent as they apply during a trial;
- .3 此等操作應依第 7 項尊重所收到他主管機關反對意見，但以此等反對意見尚未撤回為準；及
- .3 such operations shall respect any objections received from other Parties in accordance with paragraph 7, to the extent such objections have not been withdrawn; and
- .4 依本項授權之操作，當視本公約之修正是否適當而定，倘若如此，在該修正案生效前，此等操作是否應暫停或允許繼續操作，限由海事安全委員會作出決定後，始予准許之。
- .4 an operation authorized under this paragraph shall only be permitted pending a determination by the Maritime Safety Committee as to whether an amendment to the Convention would be appropriate, and, if so, whether the operation should be suspended or permitted to continue before the amendment enters into force.

9 經任一締約國之請求，海事安全委員會應訂定日期以審議試驗結果並作適當之決定。

9 At the request of any Party, the Maritime Safety Committee shall establish a date for the consideration of the trial results and for the appropriate determinations.

規則 I/14

公司之責任

Regulation I/14

Responsibilities of companies

1 各主管機關應依 STCW 章程第 A-I/14 節之規定，掌握各公司負責依本公約規定，指派航海人員至其船上服務，並應要求各該公司保證做到：

1 Each Administration shall, in accordance with the provisions of section A-I/14, hold companies responsible for the assignment of seafarers for service in their ships in accordance with the provisions of the present Convention, and shall require every such company to ensure that:

.1 指派至其任何一艘船上服務之每一位航海人員，執有依本公約規定及主管機關所規定之適當證書；

.1 each seafarer assigned to any of its ships holds an appropriate certificate in accordance with the provisions of the Convention and as established by the Administration;

.2 其船舶係按照主管機關可適用之安全配額要求配備船上人員；

.2 its ships are manned in compliance with the applicable safe manning requirements of the Administration;

.3 指派至其任何一艘船上之航海人員，業已接受本公約所要求之知識更新訓練；

.3 seafarers assigned to any of its ships have received refresher and updating training as required by the Convention; maintained and readily accessible, and include, without being limited to,

.4 保持並隨時可查閱其船上所雇用之所有航海人員檔與資料，包括但不限於下述：其經歷、訓練、健康狀況及對所指派職責適任情況等之文件和資料；

.4 documentation and data relevant to all seafarers employed on its ships are documentation and data on their experience, training, medical fitness and competency in assigned duties;

.5 經指派至其任何一艘船上之航海人員，熟悉其特定職責，並熟悉與其例行職責或應急職責有關之船舶佈置、裝置、設備、程式及船舶特性；及

.5 seafarers, on being assigned to any of its ships, are familiarized with their specific duties and with all ship arrangements, installations, equipment, procedures and ship characteristics that are relevant to their routine or emergency duties;

.6 船舶編制在緊急狀態下及執行與安全、保全與防止或減輕污染等至為重要之功能時，能有效地協調其動作。及

.6 the ship's complement can effectively coordinate their activities in an emergency situation and in performing functions vital to safety, security and to the prevention or mitigation of pollution; and

.7 在其船上之任何時刻，應能依海上人命安全國際公約第 V 章規則 14 第 3 與 4

項之規定作有效之口頭溝通。

- .7 at all times on board its ships there shall be effective oral communication in accordance with chapter V, regulation 14, paragraphs 3 and 4 of the SOLAS Convention.

規則 I/15

過渡規定

Regulation I/15

Transitional provisions

1 在2017年1月1日前，締約國得依據本公約2012年1月1日前所適用之規定，對航海人員在2013年7月1日前開始認可之海勤資歷、認可之訓練計畫或認可之訓練課程，繼續簽發、認可及加簽。

1 Until 1 January 2017, a Party may continue to issue, recognize and endorse certificates in accordance with the provisions of the Convention which applied immediately prior to 1 January 2012 in respect of those seafarers who commenced approved seagoing service, an approved education and training programme or an approved training course before 1 July 2013.

2 在2017年1月1日前，締約國得依本公約2012年1月1日前所適用之規定繼續換新證書，使證書重新生效及加簽

2 Until 1 January 2017, a Party may continue to renew and revalidate certificates and endorsements in accordance with the provisions of the Convention which applied immediately prior to 1 January 2012.

第二章 船長及艙面部門

CHAPTER II Master and deck department

規則 II/1

在總噸位 500 以上船舶負責航行當值之甲級船員發證之強制性最低要求

Regulation II/1

Mandatory minimum requirements for certification of officers in charge of a navigational watch on ships of 500 gross tonnage or more

- 1 凡在總噸位 500 以上航行船舶負責航行當值之甲級船員，應持有適任證書。
- 1 Every officer in charge of a navigational watch serving on a seagoing ship of 500 gross tonnage or more shall hold a certificate of competency.
- 2 凡申請發證者應：
- 2 Every candidate for certification shall:
 - .1 年齡滿 18 歲；
 - .1 be not less than 18 years of age;
 - .2 具有至少 12 個月的經認可之海勤資歷，作為符合 STCW 章程第 A-II/1 節所要求包含船上訓練在內經認可訓練計畫之一部分，並在認可的訓練紀錄簿中載明；或具有至少 36 個月的經認可之海勤資歷；
 - .2 have approved seagoing service of not less than 12 months as part of an approved training programme which includes onboard training that meets the requirements of section A-II/1 of the STCW Code and is documented in an approved training record book, or otherwise have approved seagoing service of not less than 36 months;
 - .3 在所要求之海勤資歷期間，在船長或合格甲級船員之監督下執行駕駛台當值職責至少 6 個月；
 - .3 have performed, during the required seagoing service, bridge watchkeeping duties under the supervision of the master or a qualified officer for a period of not less than six months;
 - .4 符合第 IV 章所規定之可適用要求，適當時，執行依無線電規則所指定之無線電職責；且

- .4 meet the applicable requirements of the regulations in chapter IV, as appropriate, for performing designated radio duties in accordance with the Radio Regulations;
- .5 業已完成認可之教育與訓練，符合 STCW 章程第 A-II/1 節所述之適任標準。
及
- .5 have completed approved education and training and meet the standard of competence specified in section A-II/1 of the STCW Code; and
- .6 符合 STCW 章程第 A-VI/1 節第 2 項、第 A-VI/2 節第 1 至 4 項、第 A-VI/3 節第 1 至 4 項、及第 A-VI/4 節第 1 至 3 項規定之適任標準。
- .6 meet the standards of competence specified in section A-VI/1, paragraph 2, section A-VI/2, paragraphs 1 to 4, section A-VI/3, paragraphs 1 to 4 and section A-VI/4, paragraphs 1 to 3 of the STCW Code.

規則 II/2

在總噸位 500 以上船舶之船長及大副發證之強制性最低要求

Regulation II/2

Mandatory minimum requirements for certification of masters and chief mates on ships of 500 gross tonnage or more

在總噸位 3,000 以上船舶之船長及大副

Master and chief mate on ships of 3,000 gross tonnage or more

- 1 凡在總噸位 3,000 以上船舶之船長及大副，應持有適任證書。
- 1 Every master and chief mate on a seagoing ship of 3,000 gross tonnage or more shall hold a certificate of competency.
- 2 凡申請發證者應：
- 2 Every candidate for certification shall:
 - .1 符合在總噸位 500 以上船舶負責航行當值甲級船員之發證要求，並具有該職務經認可之海勤資歷；
 - .1 meet the requirements for certification as an officer in charge of a navigational watch on ships of 500 gross tonnage or more and have approved seagoing service in that capacity:
 - .1.1 申請大副證書者，至少 12 個月；及
 - .1.1 for certification as chief mate, not less than 12 months, and
 - .1.2 申請船長證書者，至少 36 個月；但如已具有至少 12 個月之大副海勤資歷者，則該期間得縮短為至少 24 個月；及

- .1.2 for certification as master, not less than 36 months; however, this period may be reduced to not less than 24 months if not less than 12 months of such seagoing service has been served as chief mate; and
- .2 業已完成認可之教育及訓練，並符合 STCW 章程第 A-II/2 節對總噸位 3,000 以上船舶船長及大副所述之適任標準。
- .2 have completed approved education and training and meet the standard of competence specified in section A-II/2 of the STCW Code for masters and chief mates on ships of 3,000 gross tonnage or more.

在總噸位500至3,000船舶之船長及大副

Master and chief mate on ships of between 500 and 3,000 gross tonnage

- 3 凡在總噸位 500 至 3,000 船舶之船長及大副，應持有適任證書。
- 3 Every master and chief mate on a seagoing ship of between 500 and 3,000 gross tonnage shall hold a certificate of competency.
- 4 凡申請發證者應：
- 4 Every candidate for certification shall:
 - .1 申請大副證書者，符合總噸位 500 以上船舶負責航行當值甲級船員之要求；
 - .1 for certification as chief mate, meet the requirements of an officer in charge of a navigational watch on ships of 500 gross tonnage or more;
 - .2 申請船長證書者，符合總噸位 500 以上船舶負責航行當值甲級船員之要求，並具有該職務至少 36 個月經認可之海勤資歷；但如已具有至少 12 個月之大副海勤資歷者，則該期間得縮短為至少 24 個月；及
 - .2 for certification as master, meet the requirements of an officer in charge of a navigational watch on ships of 500 gross tonnage or more and have approved seagoing service of not less than 36 months in that capacity; however, this period may be reduced to not less than 24 months if not less than 12 months of such seagoing service has been served as chief mate; and
 - .3 業已完成認可之教育及訓練，並符合 STCW 章程第 A-II/2 節對總噸位在 500 至 3,000 間船舶船長及大副所述之適任標準。
 - .3 have completed approved training and meet the standard of competence specified in section A-II/2 of the STCW Code for masters and chief mates on ships of between 500 and 3,000 gross tonnage.

規則 II/3

在總噸位未滿在 500 船舶負責航行當值之甲級船員及船長發證之強制性最低要求

Regulation II/3

Mandatory minimum requirements for certification of officers in charge of a navigational watch and of masters on ships of less than 500 gross tonnage

非從事近岸航程之船舶

Ships not engaged on near-coastal voyages

1 凡在總噸位未滿 500 非從事近岸航程之航行船舶上服務負責航行當值之甲級船員，應持有總噸位 500 以上船舶之適任證書。

1 Every officer in charge of a navigational watch serving on a seagoing ship of less than 500 gross tonnage not engaged on near-coastal voyages shall hold a certificate of competency for ships of 500 gross tonnage or more.

2 凡在總噸位未滿 500 但非從事近岸航程之航行船舶上服務之船長，應持有總噸位 500 至 3,000 船舶船長之適任證書。

2 Every master serving on a seagoing ship of less than 500 gross tonnage not engaged on near-coastal voyages shall hold a certificate of competency for service as master on ships of between 500 and 3,000 gross tonnage.

從事近岸航程船舶

Ships engaged on near-coastal voyages

負責航行當值之甲級船員

Officer in charge of a navigational watch

3 凡在總噸位未滿 500 從事近岸航程之航行船舶上負責航行當值之甲級船員，應持有適任證書。

3 Every officer in charge of a navigational watch on a seagoing ship of less than 500 gross tonnage engaged on near-coastal voyages shall hold a certificate of competency.

4 凡申請簽發在總噸位未滿 500 從事近岸航程之航行船舶上，負責航行當值之甲級船員證書者應：

4 Every candidate for certification as officer in charge of a navigational watch on a seagoing ship of less than 500 gross tonnage engaged on near-coastal voyages shall:

.1 年齡滿 18 歲；

.1 be not less than 18 years of age;

.2 業已完成：

.2 have completed:

- .2.1 特殊訓練，包括主管機關所要求之足夠期間適當之海勤資歷；或
- .2.1 special training, including an adequate period of appropriate seagoing service as required by the Administration, or
- .2.2 至少 36 個月 經認可在艙面部門之海勤資歷；
- .2.2 approved seagoing service in the deck department of not less than 36 months;
- .3 符合第 IV 章所規定之可適用的要求，適當時，執行依無線電規則所指定之無線電職責；且
- .3 meet the applicable requirements of the regulations in chapter IV, as appropriate, for performing designated radio duties in accordance with the Radio Regulations;
- .4 業已完成認可之教育及訓練，並已達到 STCW 章程第 A-II/3 節對總噸位未滿 500 從事近岸航程之船舶上負責航行當值甲級船員所述之適任標準。
- .4 have completed approved education and training and meet the standard of competence specified in section A-II/3 of the STCW Code for officers in charge of a navigational watch on ships of less than 500 gross tonnage engaged on near-coastal voyages; and
- .5 符合 STCW 章程第 A-VI/1 節第 2 項、第 A-VI/2 節第 1 至 4 項、第 A-VI/3 節第 1 至 4 項、及第 A-VI/4 節第 1 至 3 項規定之適任標準。
- .5 meet the standard of competence specified in section A-VI/1, paragraph 2, section A-VI/2, paragraphs 1 to 4, section A-VI/3, paragraphs 1 to 4 and section A-VI/4, paragraphs 1 to 3 of the STCW Code.

船長

Master

- 5 凡在總噸位未滿 500 從事近岸航程之航行船舶上服務之船長，應持有適任證書。
- 5 Every master serving on a seagoing ship of less than 500 gross tonnage engaged on near-coastal voyages shall hold a certificate of competency.
- 6 凡申請簽發在總噸位未滿 500 從事近岸航程之航行船舶上之船長證書者應：
- 6 Every candidate for certification as master on a seagoing ship of less than 500 gross tonnage engaged on near-coastal voyages shall:
 - .1 年齡滿 20 歲；
 - .1 be not less than 20 years of age;
 - .2 具有至少 12 個月負責航行當值甲級船員經認可之海勤資歷；及

- .2 have approved seagoing service of not less than 12 months as officer in charge of a navigational watch;
- .3 業已完成認可之教育及訓練，並已達到 STCW 章程第 A-II/3 節對總噸位未滿 500 從事近岸航程船舶之船長所述之適任標準。
- .3 have completed approved education and training and meet the standard of competence specified in section A-II/3 of the STCW Code for masters on ships of less than 500 gross tonnage engaged on near-coastal voyages; and
- .4 符合 STCW 章程第 A-VI/1 節第 2 項、第 A-VI/2 節第 1 至 4 項、第 A-VI/3 節第 1 至 4 項、及第 A-VI/4 節第 1 至 3 項規定之適任標準。
- .4 meet the standard of competence specified in section A-VI/1, paragraph 2, section A-VI/2, paragraphs 1 to 4, section A-VI/3, paragraphs 1 to 4 and section A-VI/4, paragraphs 1 to 3 of the STCW Code

豁免

Exemptions

7 主管機關如認為某一船舶之大小及其航程條件適用本條及 STCW 章程第 A-II/3 節之全部要求，為不合理或不切實際時，得豁免該船或該類型船舶之船長或負責航行當值之甲級船員某些要求，但應切記可能在同一水域航行所有船舶之安全。

7 The Administration, if it considers that a ship's size and the conditions of its voyage are such as to render the application of the full requirements of this regulation and section A-II/3 of the STCW Code unreasonable or impracticable, may to that extent exempt the master and the officer in charge of a navigational watch on such a ship or class of ships from some of the requirements, bearing in mind the safety of all ships which may be operating in the same waters.

規則 II/4

*在構成航行當值一部分之乙級船員發證之強制性最低要求**

Regulation II/4

*Mandatory minimum requirements for certification of ratings forming part of a navigational watch**

1 凡在總噸位 500 以上航行船舶上構成航行當值一部分之乙級船員，除正在接受訓練之乙級船員及在當值時其職責屬非技術性之乙級船員外，應經適當發證以執行該職責。

1 Every rating forming part of a navigational watch on a seagoing ship of 500 gross tonnage or more, other than ratings under training and ratings whose duties while on watch are

*此等規定並非 ILO 1946 年幹練水手發證公約或嗣後任何公約所述之幹練水手發證規定。

* These requirements are not those for certification of Able Seamen as contained in the ILO Certification of Able Seamen Convention, 1946, or any subsequent convention.

of an unskilled nature, shall be duly certificated to perform such duties.

2 凡申請發證者應：

2 Every candidate for certification shall:

.1 年齡滿 16 歲；

.1 be not less than 16 years of age;

.2 業已完成：

.2 have completed:

.2.1 認可之海勤資歷，包括至少 6 個月之訓練及經歷；或

.2.1 approved seagoing service including not less than six months of training and experience, or

.2.2 上船前或在船上之特殊訓練，包括至少 2 個月經認可之海勤資歷；及

.2.2 special training, either pre-sea or on board ship, including an approved period of seagoing service which shall not be less than two months; and

.3 符合 STCW 章程第 A-II/4 節所述之適任標準。

.3 meet the standard of competence specified in section A-II/4 of the STCW Code.

3 第 2.2.1 及 2.2.2 目所要求之海勤資歷、訓練及經歷，應與航行當值功能相關，並涉及在船長、負責航行當值甲級船員或適格的乙級船員直接監督下所執行之職責。

3 The seagoing service, training and experience required by subparagraphs 2.2.1 and 2.2.2 shall be associated with navigational watchkeeping functions and involve the performance of duties carried out under the direct supervision of the master, the officer in charge of the navigational watch or a qualified rating.

規則 II/5

幹練水手發證之強制性最低要求

Regulation II/5

Mandatory minimum requirements for certification of ratings as able seafarer deck

1 凡在總噸位 500 以上航行船舶上服務之幹練水手，應經適當發證。

1 Every able seafarer deck serving on a seagoing ship of 500 gross tonnage or more shall be duly certificated.

2 凡申請發證者應：

2 Every candidate for certification shall:

.1 年齡滿 18 歲；

- .1 be not less than 18 years of age;
- .2 符合構成航行當值一部分之乙級船員發證之要求；
- .2 meet the requirements for certification as a rating forming part of a navigational watch;
- .3 具有資格擔任構成航行當值一部分之乙級船員之同時，並具有認可之艙面部門海勤資歷；
- .3 while qualified to serve as a rating forming part of a navigational watch, have approved seagoing service in the deck department of:
 - .3.1 至少 18 個月；或
 - .3.1 not less than 18 months, or
 - .3.2 至少 12 個月並已完成認可之訓練；及
 - .3.2 not less than 12 months and have completed approved training; and
- .4 符合 STCW 章程第 A-II/5 節規定之適任標準。
- .4 meet the standard of competence specified in section A-II/5 of the STCW Code.

3 各締約國應對在 2012 年 1 月 1 日前簽發幹練水手證書所要求的適任標準，與 STCW 章程第 A-II/5 節對證書規定之適任標準予以比較，並應決定是否有必要要求此等人員更新其資格。

3 Every Party shall compare the standards of competence which it required of Able Seamen for certificates issued before 1 January 2012 with those specified for the certificate in section A-II/5 of the STCW Code, and shall determine the need, if any, for requiring these personnel to update their qualifications.

4 在 2012 年 1 月 1 日前，如締約國亦為國際勞工組織 1946 年 (No.74) 幹練水手發證公約之締約國，得繼續依前述公約之規定簽發、認可及加簽證書。

4 Until 1 January 2012, a Party which is also a Party to the International Labour Organization Certification of Able Seamen Convention, 1946 (No. 74) may continue to issue, recognize and endorse certificates in accordance with the provisions of the aforesaid convention.

5 在 2012 年 1 月 1 日前，如締約國亦為國際勞工組織 1946 年 (No.74) 幹練水手發證公約之締約國，得繼續依前述公約之規定換發及證書之重生效與加簽。

5 Until 1 January 2017, a Party which is also a Party to the International Labour Organization Certification of Able Seamen Convention, 1946 (No. 74) may continue to renew and revalidate certificates and endorsements in accordance with the provisions of the aforesaid convention.

6 航海人員如在本條規則於其締約國生效前之 60 個月內已在艙面部門擔任相關之職務不少於 12 個月，得經締約國認為業已符合本條規則之規定。

6 Seafarers may be considered by the Party to have met the requirements of this regulation if they have served in a relevant capacity in the deck department for a period of not less than 12 months within the last 60 months preceding the entry into force of this regulation for that Party.

第三章
輪機部門
CHAPTER III
Engine department

規則 III/1

Regulation III/1

在有人值守機艙負責當值之輪機員或指派在定期無人值守機艙為值勤輪機員發證之強制性最低要求

Mandatory minimum requirements for certification of officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room

1 凡在主機推進動力 750 瓩以上之航行船舶上，有人值守機艙負責輪機當值輪機員或指派在定期無人值守機艙為值勤輪機員者，應持有適任證書。

1 Every officer in charge of an engineering watch in a manned engine-room or designated duty engineer officer in a periodically unmanned engine-room on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall hold a certificate of competency.

2 凡申請發證者應：

2 Every candidate for certification shall:

.1 年齡滿 18 歲；

.1 be not less than 18 years of age;

.2 業已完成工廠實務技能訓練，及至少 12 個月的認可之海勤資歷，作為符合 STCW 章程第 A-III/1 節所要求包含在船訓練在內經認可訓練計畫之一部分，並在認可的訓練紀錄簿中載明；或業已完成綜合機工技能訓練，及至少 36 個月的認可之海勤資歷，其中至少 30 個月係在輪機部門服務。

.2 have completed combined workshop skill training and an approved seagoing service of not less than 12 months as part of an approved training programme which includes onboard training that meets the requirements of section A-III/1 of the STCW Code and is documented in an approved training record book, or otherwise have completed combined workshop skill training and an approved seagoing service of not less than 36 months of which not less than 30 months will be seagoing service in the engine department;

.3 在所要求之海勤資歷期間，在輪機長或合格之輪機員監督下，執行輪機當值職責至少 6 個月；

.3 have performed, during the required seagoing service, engine-room watchkeeping duties under the supervision of the chief engineer officer or a qualified engineer officer for a period of not less than six months;

.4 業已完成認可之教育與訓練，符合 STCW 章程第 A-III/1 節規定之適任標準；及

.4 have completed approved education and training and meet the standards of competence specified in section A-III/1 of the STCW Code; and

.5 符合 STCW 章程第 A-VI/1 節第 2 項、第 A-VI/2 節第 1 至 4 項、第 A-VI/3 節第 1 至 4 項、及第 A-VI/4 節第 1 至 3 項規定之適任標準。

.5 meet the standards of competence specified in section A-VI/1, paragraph 2, section A-VI/2, paragraphs 1 to 4, section A-VI/3, paragraphs 1 to 4 and section A-VI/4, paragraphs 1 to 3 of the STCW Code.

規則 III/2

在主機推進動力 3,000 瓩以上船舶之輪機長及大管輪發證之強制性最低要求

Regulation III/2

Mandatory minimum requirements for certification of chief engineer officers and second engineer officers on ships powered by main propulsion machinery of 3,000 kW propulsion power or more

1 凡在主機推進動力 3,000 瓩以上航行船舶上之輪機長及大管輪，應持有適任證書。

1 Every chief engineer officer and second engineer officer on a seagoing ship powered by main propulsion machinery of 3,000 kW propulsion power or more shall hold a certificate of competency.

2 凡申請發證者應：

2 Every candidate for certification shall:

.1 符合在主機推進動力 750 瓩以上航行船舶上負責輪機當值甲級船員發證之要求；並具有該職務經認可之海勤資歷；

.1 meet the requirements for certification as an officer in charge of an engineering watch on seagoing ships powered by main propulsion machinery of 750 kW propulsion power or more and have approved seagoing service in that capacity:

.1.1 申請大管輪證書者，應具有至少 12 個月之合格輪機員之海勤資歷；
及

- .1.1 for certification as second engineer officer, not less than 12 months as qualified engineer officer, and
- .1.2 申請輪機長證書者，至少 36 個月；但如已具有至少 12 個月之大管輪海勤資歷者，則該期間得縮減為至少 24 個月；及
- .1.2 for certification as chief engineer officer, not less than 36 months; however, this period may be reduced to not less than 24 months if not less than 12 months of such seagoing service has been served as second engineer officer; and
- .2 業已完成認可之教育及訓練，並符合 STCW 章程第 A-III/2 節所述之適任標準。
- .2 have completed approved education and training and meet the standard of competence specified in section A-III/2 of the STCW Code.

規則 III/3

在主機推進動力介於 750 瓩與 3,000 瓩間船舶之輪機長及大管輪發證之強制性最低要求

Regulation III/3

Mandatory minimum requirements for certification of chief engineer officers and second engineer officers on ships powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power

1 凡在主機推進動力介於 750 瓩與 3,000 瓩間之航行船舶上之輪機長及大管輪，應持有適任證書。

1 Every chief engineer officer and second engineer officer on a seagoing ship powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power shall hold a certificate of competency.

2 凡申請發證者應：

2 Every candidate for certification shall:

- .1 符合負責輪機當值甲級船員之發證要求，及
- .1 meet the requirements for certification as an officer in charge of an engineering watch and:
 - .1.1 申請大管輪證書者，應具有至少 12 個月經認可助理輪機員或輪機員之海勤資歷；及
 - .1.1 for certification as second engineer officer, shall have not less than 12 months of approved seagoing service as assistant engineer officer or engineer officer, and
 - .1.2 申請輪機長證書者，應具有至少 24 個月經認可之海勤資歷，其中至

少有 12 個月係擔任大管輪之職位；及

.1.2 for certification as chief engineer officer, shall have not less than 24 months of approved seagoing service of which not less than 12 months shall be served while qualified to serve as second engineer officer; and

.2 業已完成認可之教育及訓練，並符合 STCW 章程第 A-III/3 節所述之適任標準。

.2 have completed approved education and training and meet the standard of competence specified in section A-III/3 of the STCW Code.

3 凡具有適於在主機推進動力 3,000 瓩以上船舶擔任大管輪資格之輪機員，如其證書已因此加簽者，得在主機推進動力未滿 3,000 瓩船舶上擔任輪機長。

3 Every engineer officer who is qualified to serve as second engineer officer on ships powered by main propulsion machinery of 3,000 kW propulsion power or more may serve as chief engineer officer on ships powered by main propulsion machinery of less than 3,000 kW propulsion power, provided the certificate is so endorsed.

規則 III/4

在構成有人值守機艙當值一部分或指派在定期無人值守機艙執行職責之乙級船員發證之強制性最低要求

Regulation III/4

Mandatory minimum requirements for certification of ratings forming part of a watch in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

1 凡在主機推進動力 750 瓩以上之航行船舶上構成機艙當值一部分或指派在定期無人值守機艙執行職責之乙級船員，除正在接受經訓練之乙級船員及在當值時其職責屬非技術性之乙級船員外，應經適當發證以執行此職責。

1 Every rating forming part of an engine-room watch or designated to perform duties in a periodically unmanned engine-room on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more, other than ratings under training and ratings whose duties are of an unskilled nature, shall be duly certificated to perform such duties.

2 凡申請發證者應：

2 Every candidate for certification shall: .

.1 年齡滿 16 歲；

.1 be not less than 16 years of age;

.2 業已完成：

.2 have completed:

.2.1 認可之海勤資歷，包括至少 6 個月之訓練及經驗；或

- .2.1 approved seagoing service including not less than six months of training and experience, or .
- .2.2 上船前或在船上之特殊訓練，包括至少 2 個月認可之海勤資歷；及
- .2.2 special training, either pre-sea or on board ship, including an approved period of seagoing service which shall not be less than two months; and
- .3 符合 STCW 章程第 A-III/4 節所述之適任標準。
- .3 meet the standard of competence specified in section A-III/4 of the STCW Code.

3 第 2.2.1 和 2.2.2 目要求之海勤資歷、訓練及經驗，應與輪機部門當值專長相關，並涉及在適格的輪機員或適格的乙級船員的直接監督之下所執行之職責。

3 The seagoing service, training and experience required by subparagraphs 2.2.1 and 2.2.2 shall be associated with engine-room watchkeeping functions and involve the performance of duties carried out under the direct supervision of a qualified engineer officer or a qualified rating.

規則 III/5

在有人值守機艙或指派在定期無人值守機艙執行職責之幹練機匠發證之強制性最低要求

Regulation III/5

Mandatory minimum requirements for certification of ratings as able seafarer engine in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

1 凡在主機推進動力 750 瓩以上之航行船舶上服務之幹練機匠，應經適當發證。

1 Every able seafarer engine serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall be duly certificated

2 凡申請發證者應：

2 Every candidate for certification shall: .

.1 年齡滿 18 歲；

.1 be not less than 18 years of age;

.2 符合構成有人值守機艙當值一部分或指派在定期無人值守機艙執行職責之乙級船員發證之要求；

.2 meet the requirements for certification as a rating forming part of a watch in a manned engine-room or designated to perform duties in a periodically unmanned engine-room;

.3 具有資格承擔輪機當值一部分之乙級船員之同時，並具有認可之輪機部門海勤資歷；

.3 while qualified to serve as a rating forming part of an engineering watch, have approved seagoing service in the engine department of:

.3.1 至少 12 個月；或

.3.1 not less than 12 months, or

.3.2 至少 6 個月並已完成認可之訓練；及

.3.2 not less than 6 months and have completed approved training; and

.4 符合 STCW 章程第 A-III/5 節所述之適任標準。

.4 meet the standard of competence specified in section A-III/5 of the STCW Code.

3 各締約國應對在 2012 年 1 月 1 日前簽發輪機部門乙級船員證書所要求的適任標準，與 STCW 章程第 A-III/5 節對證書要求之適任標準予以比較，並應決定是否有必要要求此等人員更新其資格。

3 Every Party shall compare the standards of competence which it required of ratings in the engine department for certificates issued before 1 January 2012 with those specified for the certificate in section A-III/5 of the STCW Code, and shall determine the need, if any, for requiring these personnel to update their qualifications.

4 航海人員在本條規則於對其締約國生效前之 60 個月內，已在輪機部門相關之職務至少 12 個月，則該員得經締約國認為業已符合本規則之規定。

4 Seafarers may be considered by the Party to have met the requirements of this regulation if they have served in a relevant capacity in the engine department for a period of not less than 12 months within the last 60 months preceding the entry into force of this regulation for that Party.

規則 III/6

電機員發證之強制性最低要求

Regulation III/6

Mandatory minimum requirements for certification of electro-technical officer

1 凡在主機推進動力 750 瓩以上之航行船舶上服務之電機員，應持有適任證書。

1 Every electro-technical officer serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall hold a certificate of competency.

2 凡申請發證者應：

2 Every candidate for certification shall:

.1 年齡滿 18 歲；

.1 be not less than 18 years of age;

.2 業已完成至少 12 個月之綜合機工技能訓練，及至少 6 個月經認可之海勤資歷，以作為認可訓練計畫之一部分，包括符合 STCW 章程 A-III/6 節規定之訓練，並已於認可之訓練紀錄簿上載明之；或業已完成至少 36 個月之綜合機工技能訓練，及至少 30 個月經認可在輪機部門服務之海勤資歷。

.2 have completed not less than 12 months of combined workshop skills training and approved seagoing service of which not less than 6 months will be seagoing service as part of an approved training programme which meets the requirements of section A-III/6 of the STCW Code and is documented in an approved training record book, or otherwise not less than 36 months of combined workshop skills training and approved seagoing service of which not less than 30 months will be seagoing service in the engine department;

.3 業已完成認可之教育與訓練，並符合 STCW 章程第 A-III/6 節規定之適任標準；及

.3 have completed approved education and training and meet the standards of competence specified in section A-III/6 of the STCW Code; and

.4 符合 STCW 章程第 A-VI/1 節第 2 項、第 A-VI/2 節第 1 至 4 項、第 A-VI/3 節第 1 至 4 項、及第 A-VI/4 節第 1 至 3 項規定之適任標準。

.4 meet the standards of competence specified in section A-VI/1, paragraph 2, section A-VI/2, paragraphs 1 to 4, section A-VI/3, paragraphs 1 to 4 and section A-VI/4, paragraphs 1 to 3 of the STCW Code.

3 各締約國應對在 2012 年 1 月 1 日前簽發電機員證書所要求的適任標準，與 STCW 章程第 A-III/6 節對證書要求之適任標準予以比較，並應決定是否有必要要求此等人員更新其資格。

3 Every Party shall compare the standards of competence which it required of electro-technical officers for certificates issued before 1 January 2012 with those specified for the certificate in section A-III/6 of the STCW Code, and shall determine the need for requiring those personnel to update their qualifications.

4 如航海人員在本條規則於其締約國生效前之 60 個月內，已在船上相關之職務服務至少 12 個月，則該員得經締約國認為業已符合本規則之規定，並符合 STCW 章程第 A-III/6 節規定之適任標準。

4 Seafarers may be considered by the Party to have met the requirements of this regulation if they have served in a relevant capacity on board a ship for a period of not less than 12 months within the last 60 months preceding the entry into force of this regulation for that Party and meet the standards of competence specified in section A-III/6 of the STCW Code.

5 前述第 1 至 4 項縱有規定，已具適當資格之人員，仍得為締約國所認可，能執行第

A-III/6 節之某些專長。

5 Notwithstanding the above requirements of paragraph 1 to 4, a suitably qualified person may be considered by a Party to be able to perform certain functions of section A-III/6.

規則 III/7

電匠發證之強制性最低要求

Regulation III/7

Mandatory minimum requirements for certification of electro-technical rating

1 凡在主機推進動力 750 瓩以上之航行船舶上服務之電匠，應經適當發證。

1 Every electro-technical rating serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall be duly certificated.

2 凡申請發證者應：

2 Every candidate for certification shall:

.1 年齡滿 18 歲；

.1 be not less than 18 years of age;

.2 具有：

.2 have:

.2.1 業已完成認可之海勤資歷，包括至少 12 個月之訓練與經驗；或

.2.1 completed approved seagoing service including not less than 12 months training and experience, or

.2.2 業已完成認可之訓練，包括至少 6 個月經認可之海勤資歷；或

.2.2 completed approved training, including an approved period of seagoing service which shall not be less than 6 months; or

.2.3 符合表 A-III/7 表技術適任標準及至少 3 個月經認可之海勤資歷；及

.2.3 qualifications that meet the technical competences in table A-III/7 and an approved period of seagoing service, which shall not be less than 3 months; and

.3 符合 STCW 章程第 A-III/7 節規定之適任標準。

.3 meet the standard of competence specified in section A-III/7 of the STCW Code.

3 各締約國應對在 2012 年 1 月 1 日前簽發電匠證書所要求的適任標準，與 STCW 章程第 A-III/7 節對證書要求之適任標準予以比較，並應決定是否有必要要求此等人員更新其資格。

3 Every Party shall compare the standards of competence which it required of electro-technical ratings for certificates issued before 1 January 2012 with those specified for the certificate in section A-III/7 of the STCW Code, and shall determine the need, if any, for requiring these personnel to update their qualifications.

4 如航海人員在本規則對其締約國生效之日前 60 個月內，即已在船上有關之職位服務至少 12 個月，則該員得為該締約國認為業已符合本規則之規定，並符合 STCW 章程第 A-III/7 節規定之適任標準。

4 Seafarers may be considered by the Party to have met the requirements of this regulation if they have served in a relevant capacity on board a ship for a period of not less than 12 months within the last 60 months preceding the entry into force of this regulation for that Party and meet the standards of competence specified in section A-III/7 of the STCW Code.

5 前述第 1 至 4 項縱有規定，已具適當資格之人員，仍得為締約國所認可，能執行第 A-III/7 節之部分專長。

5 Notwithstanding the above requirements of paragraphs 1 to 4, a suitably qualified person may be considered by a Party to be able to perform certain functions of section A-III/7

第四章
無線電通信及無線電操作員
CHAPTER IV
Radiocommunication and radio operators

說明：

Explanatory note

有關無線電當值之強制性規定，已在無線電規則及經修正之 1974 年海上人命安全國際公約中述及。有關無線電維修之規定，則在經修正之 1974 年海上人命安全國際公約及本組織所採納之準則中述及¹。

Mandatory provisions relating to radio watchkeeping are set forth in the Radio Regulations and in the International Convention for the Safety of Life at Sea, 1974, as amended. Provisions for radio maintenance are set forth in the International Convention for the Safety of Life at Sea, 1974, as amended, and the guidelines adopted by the Organization*.

規則 IV/1

適用範圍

Regulation IV/1

Application

1 除第 2 項之規定外，本章之規定適用於在經修正之 1974 年海上人命安全國際公約所規定之全球海上遇險及安全系統操作之船上無線電**操作員**。

1 Except as provided in paragraph 2, the provisions of this chapter apply to radio operators on ships operating in the global maritime distress and safety system (GMDSS) as prescribed by the International Convention for the Safety of Life at Sea, 1974, as amended.

2 毋需要求符合海上人命安全國際公約第 IV 章全球海上遇險及安全系統規定之船舶無線電**操作員**，則毋需要求符合本章之規定；但此等船舶之無線電**操作員**仍應符合無線電規則之規定。主管機關應確保對此等無線電操作員簽發或認可無線電規則所規定之適當證書。

2 Radio operators on ships not required to comply with the provisions of the GMDSS in chapter IV of the SOLAS Convention are not required to meet the provisions of this chapter. Radio operators on these ships are, nevertheless, required to comply with the Radio Regulations. The Administration shall ensure that the appropriate certificates as prescribed by the Radio

¹ 參照本組織所採納之 A.702(17)號決議案，有關 A3 及 A4 海域全球海上遇險及安全系統之無線電維修準則。

* Refer to the Radio Maintenance Guidelines for the Global Maritime Distress and Safety System (GMDSS) Related to Sea Areas A3 and A4 adopted by the Organization by resolution A.702(17).

Regulations are issued to or recognized in respect of such radio operators.

規則 IV/2

全球海上遇險及安全系統無線電**操作**員發證之強制性最低要求

Regulation IV/2

Mandatory minimum requirements for certification of GMDSS radio operators

1 凡在船上參與全球海上遇險及安全系統之工作，負責或執行無線電職責之人員，應持有主管機關依無線電規則規定所簽發或認可與全球海上遇險及安全系統有關之適當證書。

1 Every person in charge of or performing radio duties on a ship required to participate in the GMDSS shall hold an appropriate certificate related to the GMDSS, issued or recognized by the Administration under the provisions of the Radio Regulations.

2 此外，凡依本規則規定申請簽發擬在經修正之 1974 年海上人命安全國際公約要求配備無線電設備之船上服務之**適任**證書者應：

2 In addition, every candidate for certification of competency under this regulation for service on a ship, which is required by the International Convention for the Safety of Life at Sea, 1974, as amended, to have a radio installation, shall:

.1 年齡滿 18 歲；及

.1 be not less than 18 years of age; and

.2 業已完成認可之教育及訓練，並符合 STCW 章程第 A-IV/2 節所述之適任標準。

.2 have completed approved education and training and meet the standard of competence specified in section A-IV/2 of the STCW Code.

第五章
對特定型式船舶人員之特殊訓練要求之標準
CHAPTER V
Standards regarding special training requirements
for personnel on certain types of ships

規則 V/1-1

油輪與化學液體船船長、甲級船員及乙級船員訓練及資格之強制性最低要求

Regulation V/1-1

Mandatory minimum requirements for the training and qualifications of masters, officers and ratings on oil and chemical tankers

1 凡在油輪與化學液體船上經指派擔負與貨物或貨物設備有關特殊職責及責任之甲級船員及乙級船員，應持有油輪與化學液體船貨物操作之基本訓練證書。

1 Officers and ratings assigned specific duties and responsibilities related to cargo or cargo equipment on oil or chemical tankers shall hold a certificate in basic training for oil and chemical tanker cargo operations.

2 凡申請油輪與化學液體船貨物操作基本訓練證書者，應已完成依 STCW 章程第 A-VI/1 節規定之基本訓練，並應完成：

2 Every candidate for a certificate in basic training for oil and chemical tanker cargo operations shall have completed basic training in accordance with provisions of section A-VI/1 of the STCW Code and shall have completed:

.1 油輪或化學液體船至少 3 個月經認可之海勤資歷，並符合 STCW 章程第 A-V/1-1 節所述之適任標準；或

.1 at least three months of approved seagoing service on oil or chemical tankers and meet the standard of competence specified in section A-V/1-1, paragraph 1 of the STCW Code; or

.2 認可之油輪與化學液體船貨物操作基本訓練，並符合 STCW 章程第 A-V/1-1 節第 1 項所述之適任標準。

.2 an approved basic training for oil and chemical tanker cargo operations and meet the standard of competence specified in section A-V/1-1, paragraph 1 of the STCW Code.

3 油輪之船長、輪機長、大副、大管輪及對貨物裝卸、泵送、處理、洗艙或其他與貨物有關之作業中有直接責任之任何其他人員，應持有油輪貨物操作進階訓練證書。

3 Masters, chief engineer officers, chief mates, second engineer officers and any person

with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on oil tankers shall hold a certificate in advanced training for oil tanker cargo operations.

4 凡申請油輪貨物操作進階訓練證書者應：

4 Every candidate for a certificate in advanced training for oil tanker cargo operations shall:

.1 符合油輪與化學液體船貨物操作基本訓練發證之規定；及

.1 meet the requirements for certification in basic training for oil and chemical tanker cargo operations; and

.2 油輪與化學液體船貨物操作基本訓練之發證資格為：

.2 while qualified for certification in basic training for oil and chemical tanker cargo operations, have:

.2.1 至少3個月經認可之油輪海勤資歷；或

.2.1 at least three months of approved seagoing service on oil tankers, or

.2.2 至少1個月參照第B-V/1節之指導在油輪上以額外之職務接受認可船上訓練，至少包括3次裝載與3次卸載之作業，並記載於認可之紀錄簿；及

.2.2 at least one month of approved onboard training on oil tankers in a supernumerary capacity, which includes at least three loading and three unloading operations and is documented in an approved training record book taking into account guidance in section B-V/1; and

.3 已完成認可之油輪貨物操作進階訓練，並符合STCW章程第A-V/1-1節第2項所述之適任標準。

.3 have completed approved advanced training for oil tanker cargo operations and meet the standard of competence specified in section A-V/1-1, paragraph 2 of the STCW Code.

5 化學液體船之船長、輪機長、大副、大管輪及對貨物裝卸、泵送、處理、洗艙或其他與貨物有關之作業中有立即責任之任何其他人員，應持有化學液船貨物操作進階訓練證書。

5 Masters, chief engineer officers, chief mates, second engineer officers and any person with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on chemical tankers shall hold a certificate in advanced training for chemical tanker cargo operations.

6 凡申請化學液船貨物操作進階訓練證書者應：

6 Every candidate for a certificate in advanced training for chemical tanker cargo operations shall:

- .1 符合油輪與化學液體船貨物操作基本訓練發證之規定；及
 - .1 meet the requirements for certification in basic training for oil and chemical tanker cargo operations; and
- .2 油輪與化學液體船貨物操作基本訓練之發證資格為：
 - .2 while qualified for certification in basic training for oil and chemical tanker cargo operations, have:
 - .2.1 至少 3 個月經認可之化學液體船海勤資歷；或
 - .2.1 at least three months of approved seagoing service on chemical tankers, or
 - .2.2 至少 1 個月參照第 B-V/1 節之指導在化學液體船上以額外之職務接受認可船上訓練，至少包括 3 次裝載與 3 次卸載之作業，並記載於認可之紀錄簿；及
 - .2.2 at least one month of approved onboard training on chemical tankers in a supernumerary capacity, which includes at least three loading and three unloading operations and is documented in an approved training record book taking into account guidance in section B-V/1; and
- .3 業已完成認可之化學液體船貨物操作進階訓練，並符合 STCW 章程第 A-VI/1 節第 3 項所述之適任標準。
 - .3 have completed approved advanced training for chemical tanker cargo operations and meet the standard of competence specified in section A-V/1-1, paragraph 3 of the STCW Code.

7 主管機關應確保依據第 2 項、第 4 項或第 6 項之適當規定，為適格之航海人員簽發專業訓練證書，或在現有之適任證書或專業訓練證書上適當加簽之。

7 Administrations shall ensure that a certificate of proficiency is issued to seafarers who are qualified in accordance with paragraph 2, 4 or 6 as appropriate, or that an existing certificate of competency or certificate of proficiency is duly endorsed.

規則 V/1-2

液化氣體船船長、甲級船員及乙級船員訓練及資格之強制性最低要求

Regulation V/1-2

Mandatory minimum requirements for the training and qualifications of masters, officers and ratings on liquefied gas tankers

1 凡在液化氣體船上經指派擔負與貨物或貨物設備有關特殊職責及責任之甲級船員及

乙級船員，應持有液化氣體船貨物操作之基本訓練證書。

1 Officers and ratings assigned specific duties and responsibilities related to cargo or cargo equipment on liquefied gas tankers shall hold a certificate in basic training for liquefied gas tanker cargo operations.

2 凡申請液化氣體船貨物操作基本訓練證書者，應已完成依 STCW 章程第 A-VI/1 節規定之基本訓練，並應完成：

2 Every candidate for a certificate in basic training for liquefied gas tanker cargo operations shall have completed basic training in accordance with provisions of section A-VI/1 of the STCW Code and shall have completed:

.1 至少 3 個月經認可之液化氣體船海動資歷，並符合 STCW 章程第 A-V/1-2 節所述之適任標準；或

.1 at least three months of approved seagoing service on liquefied gas tankers and meet the standard of competence specified in section A-V/1-2, paragraph 1 of the STCW Code; or

.2 經認可之液化氣體船貨物操作基本訓練，並符合 STCW 章程第 A-V/1-2 節第 1 項所述之適任標準。

.2 an approved basic training for liquefied gas tanker cargo operations and meet the standard of competence specified in section A-V/1-2, paragraph 1 of the STCW Code.

3 液化氣體船之船長、輪機長、大副、大管輪及對貨物裝卸、泵送、處理、洗艙或其他與貨物有關之作業中有直接責任之任何其他人員，應持有液化氣體船貨物操作進階訓練證書。

3 Masters, chief engineer officers, chief mates, second engineer officers and any person with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on liquefied gas tankers shall hold a certificate in advanced training for liquefied gas tanker cargo operations.

4 凡申請液化氣體船貨物操作進階訓練證書者應：

4 Every candidate for a certificate in advanced training for liquefied gas tanker cargo operations shall:

.1 符合液化氣體船貨物操作基本訓練發證之規定；及

.1 meet the requirements for certification in basic training for liquefied gas tanker cargo operations; and

.2 液化氣體船貨物操作基本訓練之發證資格為：

.2 while qualified for certification in basic training for liquefied gas tanker cargo

operations, have:

.2.1 至少 3 個月經認可之液化氣體船海勤資歷；或

.2.1 at least three months of approved seagoing service on liquefied gas tankers, or

.2.2 至少 1 個月參照第 B-V/1 節之指導在液化氣體船上以額外之職務接受認可船上訓練，至少包括 3 次裝載與 3 次卸載之作業，並記載於認可之紀錄簿；及

.2.2 at least one month of approved onboard training on liquefied gas tankers in a supernumerary capacity, which includes at least three loading and three unloading operations and is documented in an approved training record book taking into account guidance in section B-V/1; and

.3 已完成認可之液化氣體船貨物操作進階訓練，並符合 STCW 章程第 A-V/1-2 節第 2 項所述之適任標準。

.3 have completed approved advanced training for liquefied gas tanker cargo operations and meet the standard of competence specified in section A-V/1-2, paragraph 2 of the STCW Code.

5 主管機關應確保依據第 2 項或第 4 項之適當規定，為適格之航海人員簽發專業訓練證書，或在現有之適任證書或專業訓練證書上適當加簽之。

5 Administrations shall ensure that a certificate of proficiency is issued to seafarers who are qualified in accordance with paragraph 2 or 4 as appropriate, or that an existing certificate of competency or certificate of proficiency is duly endorsed.

規則 V/2

客船船長、甲級船員、乙級船員及其他人員訓練及資格之強制性最低要求

Regulation V/2

Mandatory minimum requirements for the training and qualifications of masters, officers, ratings and other personnel on passenger ships

1 本條規則適用於在從事國際航線客船上服務之船長、甲級船員、乙級船員及其他人員。主管機關應決定此等規定是否適用於在從事國內航線客船上服務之人員。

1 This regulation applies to masters, officers, ratings and other personnel serving on board passenger ships engaged on international voyages. Administrations shall determine the applicability of these requirements to personnel serving on passenger ships engaged on domestic voyages.

2 在被指派為客船上之船上職責前，航海人員應依其職務、職責及責任業已完成下列

第 4 至第 7 項規定之訓練。

2 Prior to being assigned shipboard duties on board passenger ships, seafarers shall have completed the training required by paragraphs 4 to 7 below in accordance with their capacity, duties and responsibilities.

3 航海人員依下列第 4、6及7項之規定應予訓練者，應在不超過 5 年期間內，接受適當之複習訓練，或要求其提供在過去 5 年內業已達到所要求適任標準之證明。

3 Seafarers who are required to be trained in accordance with paragraphs 4, 6 and 7 below shall, at intervals not exceeding five years, undertake appropriate refresher training or be required to provide evidence of having achieved the required standard of competence within the previous five years.

4 在客船上之船長、甲級船員及在佈署表中經指派於緊急情況時協助旅客之人員，應已完成 STCW 章程第 A-V/2 節第 1 項所述之群眾管理訓練。

4 Masters, officers and other personnel designated on muster lists to assist passengers in emergency situations on board passenger ships shall have completed training in crowd management as specified in section A-V/2, paragraph 1 of the STCW Code.

5 在客船之客艙，提供直接服務旅客之人員，應已完成 STCW 章程第 A-V/2 節第 2 項所述之安全訓練。

5 Personnel providing direct service to passengers in passenger spaces on board passenger ships shall have completed the safety training specified in section A-V/2, paragraph 2 of the STCW Code.

6 在客船上之船長、輪機長、大副、大管輪及經指派部署表負有在緊急情況下旅客安全責任之其他人員，應已完成 STCW 章程第 A-V/2 節第 3 項所述之危機管理與人員行為管理之訓練。

6 Masters, chief engineer officers, chief mates, second engineer officers and any person designated on muster lists of having responsibility for the safety of passengers in emergency situations on board passenger ships shall have completed approved training in crisis management and human behaviour as specified in section A-V/2, paragraph 3 of the STCW Code.

7 在駛上／駛下客船上之船長、大副、輪機長、大管輪及經指派對旅客上下船、貨物裝卸與繫固或關閉船體對外通道負有直接之任何人員，應已完成 STCW 章程第 A-V/2 節第 4 項所述認可之旅客安全、貨物安全及船體完整性訓練。

7 Masters, chief engineer officers, chief mates, second engineer officers and every person assigned immediate responsibility for embarking and disembarking passengers, loading, discharging or securing cargo, or closing hull openings on board ro-ro passenger ships shall have completed approved training in passenger safety, cargo safety and hull integrity as

specified in section A-V/2, paragraph 4 of the STCW Code.

8 主管機關應確保將業已完成訓練之證明檔簽發予依本條規則規定業已適格之每位人員。

8 Administrations shall ensure that documentary evidence of the training which has been completed is issued to every person found qualified under the provisions of this regulation.

第六章
應急、職業安全、保全、醫護及求生專長

CHAPTER VI

Emergency, occupational safety, security, medical care and survival functions

規則 VI/1

所有航海人員安全專業、基本訓練與指導之強制性最低要求

Regulation VI/1

Mandatory minimum requirements for safety familiarization, basic training and instruction for all seafarers

1 航海人員應依 STCW 章程第 A-VI/1 節之規定接受安全專業及基本訓練或指導，並應符合該節所述之適當之適任標準。

1 Seafarers shall receive safety familiarization and basic training or instruction in accordance with section A-VI/1 of the STCW Code and shall meet the appropriate standard of competence specified therein.

2 如在所簽發之適格證書中並未包含基本訓練時，應簽發專業訓練證書，指明持證者業已參加基本訓練課程。

2 Where basic training is not included in the qualification for the certificate to be issued, a certificate of proficiency shall be issued, indicating that the holder has attended the course in basic training.

規則 VI/2

簽發救生艇筏、救難艇及快速救難艇專業訓練證書之強制性最低要求

Regulation VI/2

Mandatory minimum requirements for the issue of certificates of proficiency in survival craft, rescue boats and fast rescue boats

1 凡申請救生艇筏及救難艇但不包括快速救難艇專業訓練證書者應：

1 Every candidate for a certificate of proficiency in survival craft and rescue boats other than fast rescue boats shall:

.1 年齡滿 18 歲；

.1 be not less than 18 years of age;

.2 具有至少 12 個月經認可之海勤資歷，或業已參加認可之訓練課程與至少 6 個月經認可之海勤資歷；及

- .2 have approved seagoing service of not less than 12 months or have attended an approved training course and have approved seagoing service of not less than six months; and
 - .3 符合 STCW 章程第 A-VI/2 節第 1 至 4 項所述之救生艇筏及救難艇專業訓練證書之適任標準。
 - .3 meet the standard of competence for certificates of proficiency in survival craft and rescue boats set out in section A-VI/2, paragraphs 1 to 4, of the STCW Code.
- 2 凡申請快速救難艇專業訓練證書者應：
- 2 Every candidate for a certificate of proficiency in fast rescue boats shall:
- .1 持有救生艇筏及救難艇但不包括快速救難艇之專業訓練證書；
 - .1 be the holder of a certificate of proficiency in survival craft and rescue boats other than fast rescue boats;
 - .2 業已參加認可之訓練課程；及
 - .2 have attended an approved training course; and
 - .3 符合 STCW 章程第 A-VI/2 節第 7 至 10 項所述之快速救難艇專業訓練證書之適任標準。
 - .3 meet the standard of competence for certificates of proficiency in fast rescue boats set out in section A-VI/2, paragraphs 7 to 10, of the STCW Code.

規則 VI/3

進階滅火訓練之強制性最低要求

Regulation VI/3

Mandatory minimum requirements for training in advanced fire fighting

1 航海人員經指派為控制滅火作業應依 STCW 章程第 A-VI/3 節第 1 至 4 項所規定之要求，圓滿完成著重於滅火組織、策略及指揮方面之滅火進階技術訓練，並應符合該節所述之適任標準。

1 Seafarers designated to control fire-fighting operations shall have successfully completed advanced training in techniques for fighting fire, with particular emphasis on organization, tactics and command, in accordance with the provisions of section A-VI/3, paragraphs 1 to 4, of the STCW Code and shall meet the standard of competence specified therein.

2 所簽發之適格證書中未包含進階滅火訓練時，應簽發專業訓練證書，以證明持證人業已參加進階滅火訓練課程。

2 Where training in advanced fire fighting is not included in the qualifications for the certificate to be issued, a certificate of proficiency shall be issued indicating that the holder has

attended a course of training in advanced fire fighting.

規則 VI/4

醫療急救及醫護之強制性最低要求

Regulation VI/4

Mandatory minimum requirements relating to medical first aid and medical care

1 航海人員經指派提供船上醫療急救應符合 STCW 章程第 A-VI/4 節第 1 至 3 項所述之醫療急救適任標準。

1 Seafarers designated to provide medical first aid on board ship shall meet the standard of competence in medical first aid specified in section A-VI/4, paragraphs 1 to 3, of the STCW Code.

2 航海人員經指派負責船上醫護應符合 STCW 章程第 A-VI/4 節第 4 至 6 項所述之船上醫護適任標準。

2 Seafarers designated to take charge of medical care on board ship shall meet the standard of competence in medical care on board ships specified in section A-VI/4, paragraphs 4 to 6, of the STCW Code.

3 所發予適格證書中未包括醫療急救或醫護訓練時，應簽發專業訓練證書，以證明持證人已參加醫療急救或醫護訓練課程。

3 Where training in medical first aid or medical care is not included in the qualifications for the certificate to be issued, a certificate of proficiency shall be issued indicating that the holder has attended a course of training in medical first aid or in medical care.

規則 VI/5

簽發船舶保全人員專業訓練證書之強制性最低要求

Regulation VI/5

Mandatory minimum requirements for the issue of certificates of proficiency for ship security officers

1 凡申請船舶保全人員專業訓練證書者應：

1 Every candidate for a certificate of proficiency as ship security officer shall:

.1 具有至少 12 個月經認可之海勤資歷，或適當之海勤資歷與船舶操作之知識；
及

.1 have approved seagoing service of not less than 12 months or appropriate seagoing service and knowledge of ship operations; and

.2 符合 STCW 章程第 A-VI/5 節第 1 至 4 項所述之船舶保全人員專業訓練證書之

適任標準。

- .2 meet the standard of competence for certification of proficiency as ship security officer, set out in section A-VI/5, paragraphs 1 to 4, of the STCW Code.

2 主管機關應確保將專業訓練證書簽發予業已依本條規則規定適格之每位人員。

- 2 Administrations shall ensure that every person found qualified under the provisions of this regulation is issued with a certificate of proficiency.

規則 VI/6

所有航海人員保全有關訓練與指導之強制性最低要求

Regulation VI/6

Mandatory minimum requirements for security-related training and instruction for all seafarers

1 航海人員應接受依 STCW 章程第 A-VI/6 節第 1 至 4 項所規定與保全有關之熟悉和保全意識訓練，並應符合該規定適當之適任標準。

- 1 Seafarers shall receive security-related familiarization and security-awareness training or instruction in accordance with section A-VI/6, paragraphs 1 to 4 of the STCW Code and shall meet the appropriate standard of competence specified therein.

2 所簽發之適格證書中未包含保全意識時，應簽發專業訓練證書，以證明持證人業已參加保全意識訓練課程。

- 2 Where security awareness is not included in the qualification for the certificate to be issued, a certificate of proficiency shall be issued indicating that the holder has attended a course in security awareness training.

3 各締約國應對在本條規定生效前，持有或能授予資格所要求航海人員保全有關訓練與指導之適任標準，與 STCW 章程第 A-VI/6 節第 4 項所要求之適任標準予以比較，並應決定是否有必要要求此等人員更新其資格。

- 3 Every Party shall compare the security-related training or instruction it requires of seafarers who hold or can document qualifications before the entry into force of this regulation with those specified in section A-VI/6, paragraph 4 of the STCW Code, and shall determine the need for requiring these seafarers to update their qualifications.

經指派負有保全責任之航海人員

Seafarers with designated security duties

4 經指派負有保全責任之航海人員應符合STCW章程第A-VI/6節第6至8項所述之適任標準。

- 4 Seafarers with designated security duties shall meet the standard of competence specified in section A-VI/6, paragraphs 6 to 8 of the STCW Code.

5 如在所簽發之適格證書中並未包指派負保全責任之訓練時，應簽發專業訓練證書，指明持證者業已參加指派負有保全責任之訓練課程。

5 Where training in designated security duties is not included in the qualifications for the certificate to be issued, a certificate of proficiency shall be issued indicating that the holder has attended a course of training for designated security duties.

6 各締約國應對在本條規定生效前，持有或能授予資格所要求航海人員指派負保全責任之保全訓練適任標準，與 STCW 章程第 A-VI/6 節第 8 項所要求之適任標準予以比較，並應決定是否有必要要求此等人員更新其資格。

6 Every Party shall compare the security training standards required of seafarers with designated security duties who hold or can document qualifications before the entry into force of this regulation with those specified in section A-VI/6, paragraph 8 of the STCW Code, and shall determine the need for requiring these seafarers to update their qualifications.

第七章
另一發證方式
CHAPTER VII
Alternative certification

規則 VII/1

替代證書之簽發

Regulation VII/1

Issue of alternative certificates

1 無論本附錄第 II 章及第 III 章對發證如何要求，締約國得選擇簽發或授權簽發與該等章節所述證書不相同之證書，但；

1 Notwithstanding the requirements for certification laid down in chapters II and III of this annex, Parties may elect to issue or authorize the issue of certificates other than those mentioned in the regulations of those chapters, provided that:

- .1 證書及加簽上所記明之有關專長及責任層級，係從 STCW 章程第 A-II/1、A-II/2、A-II/3、A-II/4、A-II/5、A-III/1、A-III/2、A-III/4、A-III/5 及 A-IV/2 節中所選出，並係一致者；
- .1 the associated functions and levels of responsibility to be stated on the certificates and in the endorsements are selected from and identical to those appearing in sections A-II/1, A-II/2, A-II/3, A-II/4, A-II/5, A-III/1, A-III/2, A-III/3, A-III/4, A-III/5 and A-IV/2 of the STCW Code;
- .2 申請發證者業已完成認可之教育及訓練，並且符合 STCW 章程有關章節適任標準之規定，並如本章程第 A-VII/1 節所述，將在證書及加簽上記明專長及層級；
- .2 the candidates have completed approved education and training and meet the requirements for standards of competence, prescribed in the relevant sections of the STCW Code and as set forth in section A-VII/1 of this Code, for the functions and levels that are to be stated on the certificates and in the endorsements;
- .3 申請發證者業已具備適於執行證書上所記明之專長與層級之認可海勤資歷。最短之海勤資歷期間應相當於本附錄第 II 章及第 III 章所規定之海勤資歷期間。此最短之海勤資歷期間在任何情況下不得少於 STCW 章程第 A-VII/2 節之規定者。
- .3 the candidates have completed approved seagoing service appropriate to the performance of the functions and levels that are to be stated on the certificate. The

minimum duration of seagoing service shall be equivalent to the duration of seagoing service prescribed in chapters II and III of this annex. However, the minimum duration of seagoing service shall be not less than as prescribed in section A-VII/2 of the STCW Code;

- .4 申請操作級之航海專長證書者應符合規則 IV/2 之適當規定，指派執行無線電職責者則依無線電規則之規定；及
- .4 the candidates for certification who are to perform the function of navigation at the operational level shall meet the applicable requirements of the regulations in chapter IV, as appropriate, for performing designated radio duties in accordance with the Radio Regulations; and
- .5 證書之簽發係依規則 I/2 之要求及 STCW 章程第 VII 章所述之規定。
- .5 the certificates are issued in accordance with the requirements of regulation I/2 and the provisions set forth in chapter VII of the STCW Code.

2 除非締約國依第 IV 條及規則 I/7 已向本組織遞送資料外，否則不得按本章規定簽發證書。

2 No certificate shall be issued under this chapter unless the Party has communicated information to the Organization in accordance with article IV and regulation I/7.

規則 VII/2

航海人員之發證

Regulation VII/2

Certification of seafarers

1 凡執行 STCW 章程第 II 章表 A-II/1、A-II/2、A-II/3、A-II/4 或 A-II/5 或第 III 章表 A-III/1、A-III/2、A-III/3、A-III/4 或 A-III/5 或第 IV 章表 A-IV/2 所述之任何一種專長或一組專長之航海人員，應持有適當之適任證書或專業訓練證書。

1 Every seafarer who performs any function or group of functions specified in tables A-II/1, A-II/2, A-II/3, A-II/4 or A-II/5 of chapter II or in tables A-III/1, A-III/2, A-III/3, A-III/4 or A-III/5 of chapter III or A-IV/2 of chapter IV of the STCW Code shall hold a certificate of competency or certificate of proficiency, as applicable.

規則 VII/3

簽發替代證書之原則

Regulation VII/3

Principles governing the issue of alternative certificates

1 任何締約國選擇簽發或授權簽發替代證書時，應確保遵守下列原則：

1 Any Party which elects to issue or authorize the issue of alternative certificates shall ensure that the following principles are observed:

- .1 除非確保海上安全之程度及防止污染之效果至少與其他各章之規定相當，否則不應實施替代發證制度；
- .1 no alternative certification system shall be implemented unless it ensures a degree of safety at sea and has a preventive effect as regards pollution at least equivalent to that provided by the other chapters; and
- .2 依本章規定簽發替代證書之任何安排應能與依其他各章規定所簽發之證書互相通用。
- .2 any arrangement for alternative certification issued under this chapter shall provide for the interchangeability of certificates with those issued under the other chapters.

2 第 1 項所述之互相通用原則應確保：

2 The principle of interchangeability in paragraph 1 shall ensure that:

- .1 依第 II 章及第 III 章之安排而取得證書之航海人員，及依第 VII 章之規定而取得證書之航海人員得在傳統船上組織形式或其他船上組織形式之船上服務；及
- .1 seafarers certificated under the arrangements of chapters II and/or III and those certificated under chapter VII are able to serve on ships which have either traditional or other forms of shipboard organization; and
- .2 航海人員並不對特定船舶上之配置施訓，否則將妨礙其在其他船上之技術能力。
- .2 seafarers are not trained for specific shipboard arrangements in such a way as would impair their ability to take their skills elsewhere.

3 依本章規定簽發任何證書，應考慮及下列原則：

3 In issuing any certificate under the provisions of this chapter, the following principles shall be taken into account:

- .1 簽發替代證書，其本身不應用以：
- .1 the issue of alternative certificates shall not be used in itself:
 - .1.1 減少船上船員人數；
 - .1.1 to reduce the number of crew on board,
 - .1.2 削弱專業完整性或降低航海人員之技能；或

- .1.2 to lower the integrity of the profession or “de-skill” seafarers, or
 - .1.3 證明在任何特定當值期間，指派持有單一證書者兼任輪機與艙面當值職責為正當。
 - .1.3 to justify the assignment of the combined duties of the engine and deck watchkeeping officers to a single certificate holder during any particular watch; and
 - .2 負責指揮之人應經指派為船長；船長與其他人員之法律地位與權限不應因執行專長發證之任何安排而受到嚴重影響。
 - .2 the person in command shall be designated as the master; and the legal position and authority of the master and others shall not be adversely affected by the implementation of any arrangement for alternative certification.
- 4 本規則第 1 項及第 2 項所涵蓋之原因，應確保航行員及輪機員之適任性得予以維持。
- 4 The principles contained in paragraphs 1 and 2 of this regulation shall ensure that the competency of both deck and engineer officers is maintained.

第八章
當 值
CHAPTER VIII
Watchkeeping

規則 VIII/1

適於當值

Regulation VIII/1

Fitness for duty

1 各主管機關為防止疲勞之目的應：

1 Each Administration shall, for the purpose of preventing fatigue:

.1 依 STCW 章程第 A-VIII/1 節之規定，制訂並實施當值及負有有關指定之安全、防止污染與保全當值人員之休息期間；及

.1 establish and enforce rest periods for watchkeeping personnel and those whose duties involve designated safety, prevention of pollution and security duties in accordance with the provisions of section A-VIII/1 of the STCW Code; and

.2 要求當值制度之安排能使所有當值人員之效率不致因疲勞而受影響，且其當值之組成應使航程開始之第一次當值及嗣後各接班均有充分之休息，或有其他辦法使其適於當值。

.2 require that watch systems are so arranged that the efficiency of all watchkeeping personnel is not impaired by fatigue and that duties are so organized that the first watch at the commencement of a voyage and subsequent relieving watches are sufficiently rested and otherwise fit for duty.

2 為防止吸毒與酗酒，在考慮使用第 B-VIII/1 節之指導時，主管機關應確保依第 A-VIII/1 節之規定制定適當之措施。

2 Each Administration shall, for the purpose of preventing drug and alcohol abuse, ensure that adequate measures are established in accordance with the provisions of section A-VIII/1 while taking into account the guidance given in section B-VIII/1 of the STCW Code.

規則 VIII/2

當值安排及應遵守之原則

Regulation VIII/2

Watchkeeping arrangements and principles to be observed

1 主管機關應指示公司、船長、輪機長及全體當值人員注意及 STCW 章程所述之要求、原則與準則，並應予以遵守以確保隨時在所有航行船舶上保持適於當時環境及狀況之安全連續當值。

1 Administrations shall direct the attention of companies, masters, chief engineer officers and all watchkeeping personnel to the requirements, principles and guidance set out in the STCW Code which shall be observed to ensure that a safe continuous watch or watches appropriate to the prevailing circumstances and conditions are maintained in all seagoing ships at all times.

2 主管機關要求各船船長，在其一般指引之下，考慮及當時環境及狀況，確保當值安排足以保持安全當值：

2 Administrations shall require the master of every ship to ensure that watchkeeping arrangements are adequate for maintaining a safe watch or watches, taking into account the prevailing circumstances and conditions and that, under the master's general direction:

.1 負責航行當值之甲級船員在其當值期間應始終身在駕駛台或與之直接相連之場所，如海圖室或駕駛台控制室，俾對船舶航行安全負責；

.1 officers in charge of the navigational watch are responsible for navigating the ship safely during their periods of duty, when they shall be physically present on the navigating bridge or in a directly associated location such as the chartroom or bridge control room at all times;

.2 無線電操作員其在當值期間應在適當頻率上負責保持連續無線電守聽；

.2 radio operators are responsible for maintaining a continuous radio watch on appropriate frequencies during their periods of duty;

.3 負責輪機當值之甲級船員，依 STCW 章程之規定，及在輪機長之指示下，應隨時備便聽候差遣至機艙；並於必要時，在當其負責之期間應身在機艙；及

.3 officers in charge of an engineering watch, as defined in the STCW Code, under the direction of the chief engineer officer, shall be immediately available and on call to attend the machinery spaces and, when required, shall be physically present in the machinery space during their periods of responsibility;

.4 當船舶錨泊或繫泊時，為隨時安全之目的，應保持適當及有效之當值。如船舶裝運危險貨品，則此等當值之安排應充分考慮及危險貨品之特性、數量、包裝及積載，及當時船上、水上或岸上之任何特殊情況；及

.4 an appropriate and effective watch or watches are maintained for the purpose of safety at all times while the ship is at anchor or moored and, if the ship is carrying hazardous cargo, the organization of such watch or watches takes full account of the nature, quantity, packing and stowage of the hazardous cargo and of any

special conditions prevailing on board, afloat or ashore; and

.5 如屬適當，為保全之目的保持適當有效之當值。

.5 as applicable, an appropriate and effective watch or watches are maintained for the purposes of security.”

1978 年航海人員訓練、發證
及當值標準(STCW)國際公約締約國會議
議程10

CONFERENCE OF PARTIES TO THE
INTERNATIONAL CONVENTION ON
STANDARDS OF TRAINING,
CERTIFICATION AND WATCHKEEPING
FOR SEAFARERS, 1978
Agenda item 10

本會議工作小組所提載事文件及任何文書、決議案與建議案之採納
**ADOPTION OF THE FINAL ACT AND ANY INSTRUMENTS, RESOLUTIONS AND
RECOMMENDATIONS RESULTING FROM THE WORK OF THE CONFERENCE**

**會議決議案二
DRAFT RESOLUTION 2**

航海人員訓練、發證及當值標準國際公約（STCW）章程修正案之採納
**ADOPTION OF AMENDMENT TO THE SEAFARERS' TRAINING,
CERTIFICATION AND WATCHKEEPING (STCW) CODE**

全文經起草委員會審核認可

Text examined and approved by the Drafting Committee

2010 年馬尼拉會議，
THE 2010 MANILA CONFERENCE

業已採納決議案一，有關 1978 年航海人員訓練、發證及當值標準國際公約附錄修正案之採納，

HAVING ADOPTED resolution 1 on Adoption of the amendments to the annex to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978,

鑒於建立詳細的強制性適任標準及其他強制性規定之重要性，必需確保所有航海人員應接受適當之教育及訓練、合適之經驗與技巧，並適任於執行其職責，以提供海上人命及財產之安全；及保護海洋環境，

RECOGNIZING the importance of establishing detailed mandatory standards of competence

and other mandatory provisions necessary to ensure that all seafarers shall be properly educated and trained, adequately experienced, skilled and competent to perform their duties in a manner which provides for the safety of life and property at sea and the protection of the marine environment,

復鑒於適時修正該等強制標準及規定之必要性，以有效地反應船上所使用之技術、操作、實作及程式之變更，

ALSO RECOGNIZING the need to allow for the timely amendment of such mandatory standards and provisions in order to effectively respond to changes in technology, operations, practices and procedures used on board ships,

憶及海難及污染事故佔大部分比率均肇因於人為疏失，

RECALLING that a large percentage of maritime casualties and pollution incidents are caused by human error,

察覺減少航行船舶因人為操作疏失所肇致危害之有效措施在確保雇用於該等船舶上之航海人員，其訓練、發證及適任維持於最高級實作標準，

APPRECIATING that one effective means of reducing the risks associated with human error in the operation of seagoing ships is to ensure that the highest practicable standards of training, certification and competence are maintained in respect of the seafarers who are or will be employed on such ships,

鹹願為海上及在港之生命與財產安全，及為保護環境，達到並維持於最高實作標準，

DESIRING to achieve and maintain the highest practicable standards for the safety of life and property at sea and in port and for the protection of the environment,

業已慮及航海人員訓練、發證及當值(STCW)章程係由 A 篇關於 1978 年 STCW 公約及其修正案附錄規定之強制性標準之修正案及 B 篇關於 1978 年 STCW 公約及其修正案附錄規定之建議性準則之修正案所組成，業以建議並分送予本組織之所有會員國及本公約之所有締約國，

HAVING CONSIDERED amendments to the Seafarers' Training, Certification and Watchkeeping (STCW) Code, comprised in part A – Mandatory standards regarding provisions of the annex to the 1978 STCW Convention, as amended, and part B – Recommended guidance regarding provisions of the STCW Convention, as amended, proposed and circulated to all Members of the Organization and all Parties to the Convention,

察及 1978 年 STCW 公約經修正之附錄規則 I/1 第 2 項規定，STCW 章程 A 篇應依據公約第 XII 條有關附錄修正程式之規定予以採納、生效與施行；

NOTING that regulation I/1, paragraph 2, of the annex to the 1978 STCW Convention provides

that amendments to part A of the STCW Code shall be adopted, brought into force and take effect in accordance with the provisions of article XII of the Convention concerning the amendment procedure applicable to the annex,

業已慮及航海人員訓練、發證及當值(STCW)章程之修正案業已提出並分送予本組織之會員國及所有本公約之締約國，

HAVING CONSIDERED amendments to the STCW Code proposed and circulated to the Members of the Organization and to all Parties to the Convention,

1. 採納航海人員訓練、發證及當值(STCW)章程之修正案附於本決議案之附錄；

1. ADOPTS amendments to the Seafarers' Training, Certification and Watchkeeping (STCW) Code, set out in annex to the present resolution;

2. 爰決議依據公約第 XII(1)(a)(vii) 條，STCW 章程 A 篇之修正案，應視同業於 2012 年 7 月 1 日接受，除非在該日前有三分之一之締約國；或擁有一百登記總噸船舶之商船隊其合計總噸位不少於全球商船隊 50%以上之締約國，業已通知秘書長反對該修正案外；

2. DETERMINES, in accordance with article XII(1)(a)(vii) of the Convention, that the amendments to part A of the STCW Code shall be deemed to have been accepted on 1 July 2011, unless, prior to that date, more than one third of Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant shipping of ships of 100 gross register tons or more have notified the Secretary-General that they object to the amendments;

3. 請求各締約國注意本公約附錄修正案，依據前述第 2 項一旦視同業已被接受後，依據本公約第 XII(1)(a)(ix)目之規定應於 2012 年 1 月 1 日起生效；

3. INVITES Parties to note that, in accordance with article XII(1)(a)(ix) of the Convention, the amendments to part A of the STCW Code annexed hereto shall enter into force on 1 January 2012 upon being deemed to have been accepted in accordance with paragraph 2 above;

4. 建議所有之 1978 年 STCW 公約締約國，應考慮及當 STCW 章程 A 篇修正案生效之日起在 STCW 章程 B 篇修正案內之準則；

4. RECOMMENDS that the guidance contained in part B of the STCW Code, as amended, should be taken into account by all Parties to the 1978 STCW Convention as from the date of entry into force of the amendments to part A of the STCW Code;

5. 要求海事安全委員會在適當時繼續對 STCW 章程予以檢討並修正；

5. REQUESTS the Maritime Safety Committee to keep the STCW Code under review and amend it, as appropriate;

6. 復要求本組織秘書長將本決議案之複本與附錄所包含之修正案全文傳送予本公約之締約國；

6. ALSO REQUESTS the Secretary-General of the Organization to transmit certified copies of the present resolution and the text of amendments to the STCW Code contained in the annex to all Parties to the Convention;

7. 進而要求秘書長將本決議案之複本與其附錄傳送予所有非本公約締約國之本組織會員。

7. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its annexes to all Members of the Organization which are not Parties to the Convention.

附錄一
ANNEX 1

航海人員訓練、發證及當值(STCW)章程修正案
**DRAFT AMENDMENTS TO THE SEAFARERS' TRAINING, CERTIFICATION AND
WATCHKEEPING (STCW) CODE**

1 航海人員訓練、發證及當值(STCW)章程 A 篇業以下列代之：

1 The part A of the Seafarers' Training, Certification and Watchkeeping (STCW) Code is replaced by the following:

A 篇
“PART A

STCW 公約附錄所規定之強制性標準
Mandatory standards regarding provisions of the annex to the STCW Convention

引言

Introduction

1 STCW 章程之本篇包括強制性規定，該等規定在經修正之「1978 年航海人員訓練、發證及當值標準國際公約」(以下簡稱 STCW 公約)之附錄中特別提及應予以參照者。該等規定詳細列出締約國為全面徹底實施該公約所需維持之最低標準。

1 This part of the STCW Code contains mandatory provisions to which specific reference is made in the annex to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended, hereinafter referred to as the STCW Convention. These provisions give in detail the minimum standards required to be maintained by Parties in order to give full and complete effect to the Convention.

2 本篇亦包含依 STCW 公約之規定要求申請簽發適任證書及重新生效證書之申請者用以證明其適任之適任標準。為了釐清第 VII 章另一發證方式之規定與第 II、III 及 IV 章之發證規定之間的關係，在適任標準中所述之能力適當地歸類為以下七項專長：

2 Also contained in this part are standards of competence required to be demonstrated by candidates for the issue and revalidation of certificates of competency under the provisions of the STCW Convention. To clarify the linkage between the alternative certification provisions of chapter VII and the certification provisions of chapters II, III and IV, the abilities specified in the standards of competence are grouped as appropriate under the following seven functions:

- .1 航海
- .1 Navigation
- .2 貨物裝載
- .2 Cargo handling and stowage
- .3 控制船舶操作及船上人員管理
- .3 Controlling the operation of the ship and care for persons on board
- .4 輪機
- .4 Marine engineering
- .5 電機、電子及控制工程
- .5 Electrical, electronic and control engineering
- .6 保養及維修
- .6 Maintenance and repair
- .7 無線電通信
- .7 Radiocommunications

並分成下列責任層級：

at the following levels of responsibility:

- .1 管理級
- .1 Management level
- .2 操作級
- .2 Operational level
- .3 助理級
- .3 Support level

專長及責任層級在本篇之第 II、III 及 VI 章之適任標準表中以小標題予以明示。在小標題所述之責任層級之專長範圍係由該表之第一欄所列之能力予以界定專長。至於「專長」及「責任層級」之意義，則在以下第 A-I/1 節以一般性術語予以定義。

Functions and levels of responsibility are identified by subtitle in the tables of standards of competence given in chapters II, III and IV of this part. The scope of the function at the level of responsibility stated in a subtitle is defined by the abilities listed under it in column 1 of the table. The meaning of “function” and “level of responsibility” is defined in general terms in section A-I/1 below.

3 本篇章節之編碼與 STCW 公約附錄規則之編碼是一致的。各節內容可能分成編碼之款項；但此編碼僅供該節之用。

3 The numbering of the sections of this part corresponds with the numbering of the regulations contained in the annex to the STCW Convention. The text of the sections may be divided into numbered parts and paragraphs, but such numbering is unique to that text alone.

第一章 關於總則之標準

CHAPTER I

Standard regarding general provisions

第 A-I/1 節

定義及釋義

Section A-I/1

Definitions and clarifications

1 在公約第 II 條及規則 I/1 內之定義及釋義同樣適用於本章程 A 及 B 篇用詞。此外，下列之補充定義僅適用於本章程：

1 The definitions and clarifications contained in article II and regulation I/1 apply equally to the terms used in parts A and B of this Code. In addition, the following supplementary definitions apply only to this Code:

.1 「適任標準」係指依據本篇所述之國際約定準繩並結合規定之標準或知識程度，瞭解及認定之技能，為適當地執行船上之專長，所應達到之熟練程度。

.1 *Standard of competence* means the level of proficiency to be achieved for the proper performance of functions on board ship in accordance with the internationally agreed criteria as set forth herein and incorporating prescribed standards or levels of knowledge, understanding and demonstrated skill;

.2 「管理級」係指與下列有關之責任層級：

.2 *Management level* means the level of responsibility associated with:

.2.1 擔任航行船舶上之船長、大副、輪機長或大管輪；及

.2.1 serving as master, chief mate, chief engineer officer or second engineer officer on board a seagoing ship, and

.2.2 確保適當地執行指定責任範圍內之所有專長。

.2.2 ensuring that all functions within the designated area of responsibility are properly performed;

.3 「操作級」係指與下列有關之責任層級：

.3 *Operational level* means the level of responsibility associated with:

.3.1 在航行船舶上服務負責航海或輪機當值之甲級船員，或定時無人值守機艙指派之職責輪機員，或無線電操作員；及

- 3.1 serving as officer in charge of a navigational or engineering watch or as designated duty engineer for periodically unmanned machinery spaces or as radio operator on board a seagoing ship, and
- .3.2 依適當程式並在擔任各該責任範圍管理級人員之指導下，履行指定責任範圍之所有專長，保持直接之控制。
- 3.2 maintaining direct control over the performance of all functions within the designated area of responsibility in accordance with proper procedures and under the direction of an individual serving in the management level for that area of responsibility;
- .4 「助理級」係指在擔任操作級或管理級人員的指導下，在航行船舶上，與執行所指派之任務、職務或責任有關之責任層級。
- .4 *Support level* means the level of responsibility associated with performing assigned tasks, duties or responsibilities on board a seagoing ship under the direction of an individual serving in the operational or management level;
- .5 「評審標準」為列於 A 篇「最低適任標準之說明」表之第 4 欄，並提方法供評審員判斷申請者是否能執行相關任務、職務及責任；及
- .5 *Evaluation criteria* are the entries appearing in column 4 Criteria of the “Specification of Minimum Standard of Competence” tables in part A and provide the means for an assessor to judge whether or not a candidate can perform the related tasks, duties and responsibilities; and
- .6 「獨立評審」係指由獨立的、或本單位以外或與被評審活動無關之適格人員所為之評審，以查證所有層級之管理及操作程式，其內部是否予以管理、組織、實施及監督，以確保適合其目的，並達成既定之目標。
- .6 *Independent evaluation* means an evaluation by suitably qualified persons, independent of, or external to, the unit or activity being evaluated, to verify that the administrative and operational procedures at all levels are managed, organized, undertaken and monitored internally in order to ensure their fitness for purpose and achievement of stated objectives.

第 A-I/2 節

證書及加簽

Section A-I/2

Certificates and endorsements

1 如規則 I/2 第 4 項所述，本公約第 VI 條所規定之加簽係併入證書本身之措辭，證書應以下述之格式予以簽發，但因證書有效日期屆滿應予以更換，故格式正面之「或迄至記

載於本證書背面延期之屆滿日」，及該格式背面記錄有效日期予以延期之文字應予以刪除，格式之填寫準則參見本章程第 B-I/2 節。

1 Where, as provided in regulation I/2, paragraph 6, the endorsement required by article VI of the Convention is incorporated in the wording of the certificate itself, the certificate shall be issued in the format shown hereunder, provided that the words “or until the date of expiry of any extension of the validity of this certificate as may be shown overleaf” appearing on the front of the form and the provisions for recording extension of the validity appearing on the back of the form shall be omitted where the certificate is required to be replaced upon its expiry. Guidance on completion of the form is contained in section B-I/2 of this Code.

(關防)

(Official Seal)

(國家名稱)

(COUNTRY)

依據經修正之 1978 年航海人員訓練、發證及當值標準國際公約之規定簽發之證書

**CERTIFICATE ISSUED UNDER THE PROVISIONS OF
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING,
CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978,
AS AMENDED**

_____政府茲證明_____依據上述經修正公約規則
_____之規定已取得適當資格，得適任以執行下列專長之特定層級，但應受表列之限制
迄至_____，或迄至記載於本證書背面延期之屆滿日。

The Government of certifies that
has been found duly qualified in accordance with the provisions of regulation of the
above Convention, as amended, and has been found competent to perform the following functions, at the
levels specified, subject to any limitations indicated until or until the date of expiry
of any extension of the validity of this certificate as may be shown overleaf:

專長 FUNCTION	層級 LEVEL	適用之限制(若有限制時) LIMITATIONS APPLYING (IF ANY)

本證書之合法持有人得服務於主管機關所頒佈可適用之安全配額規定之職務：

The lawful holder of this certificate may serve in the following capacity or capacities specified in the
applicable safe manning requirements of the Administration:

職務 CAPACITY	適用之限制(若有限制時) LIMITATIONS APPLYING (IF ANY)

證書編號

簽發日期

Certificate No. issued on.....

(關防)

(Official Seal)

.....
奉命代簽

Signature of duly authorized official

.....
正式授權官員

Name of duly authorized official

依本公約規則 I/2 第 9 項之規定，本證書正本在船上服務時，須隨時攜備。

The original of this certificate must be kept available in accordance with regulation I/2, paragraph 11 of the Convention while its holder is serving on a ship.

持證人出生日期

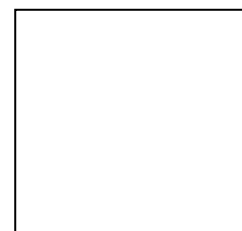
Date of birth of the holder of the certificate

持證人簽字

Signature of the holder of the certificate

持證人照片

Photograph of the holder of the certificate



本證書之有效期茲延至	
The validity of this certificate is hereby extended until.....	
(關防)	
(Official Seal)
	奉命代簽 <i>Signature of duly authorized official</i>
重新生效日期	
Date of revalidation.....	
	正式授權官員 <i>Name of duly authorized official</i>
本證書之有效期茲延至	
The validity of this certificate is hereby extended until.....	
(關防)	
(Official Seal)
	奉命代簽 <i>Signature of duly authorized official</i>
重新生效日期	
Date of revalidation.....	
	正式授權官員 <i>Name of duly authorized official</i>

2 除第 1 項之規定外，用以證明簽發證書之加簽格式應如下所示，但因加簽有效日期屆滿時應予以更換，故格式正面之「或迄至記載於背面本加簽延期之屆滿日」及該格式背面記錄有效日期予以延期之文字應予以刪除。格式之填寫準則參見本章程第 B-I/2 節。

2 Except as provided in paragraph 1, the form used to attest the issue of a certificate shall be as shown hereunder, provided that the words “or until the date of expiry of any extension of the validity of this endorsement as may be shown overleaf” appearing on the front of the form and the provisions for recording extension of the validity appearing on the back of the form shall be omitted where the endorsement is required to be replaced upon its expiry. Guidance on completion of the form is contained in section B-I/2 of this Code.

(關防)

(Official Seal)

(國家名稱)

(COUNTRY)

依據經修正之 1978 年航海人員訓練、發證及當值標準國際公約
之規定證明證書簽發之加簽

**ENDORSEMENT ATTESTING THE ISSUE OF A CERTIFICATE UNDER THE
PROVISIONS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF
TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978, AS
AMENDED**

_____政府茲證明證書編號_____已簽發予_____，依
據上述經修正公約規則_____之規定已取得資格，得適任執行下述專長之特定層級，但
受表列之限制迄至_____，或迄至記載於背面本加簽延期之屆滿日。

The Government of certifies that certificate No. has been issued
to who has been found duly qualified in accordance with the
provisions of regulation of the above Convention, as amended, and has been
found competent to perform the following functions, at the levels specified, subject to any limitations
indicated until or until the date of expiry of any extension of the validity of this
endorsement as may be shown overleaf:

專長 FUNCTION	層級 LEVEL	適用之限制(若有限制時) LIMITATIONS APPLYING (IF ANY)

本加簽之合法持有人得服務於主管機關所頒佈可適用之安全配額規定之職務：

The lawful holder of this endorsement may serve in the following capacity or capacities specified in the

applicable safe manning requirements of the Administration:

職務 CAPACITY	適用之限制(若有限制時) LIMITATIONS APPLYING (IF ANY)

加簽編號

簽發日期

Endorsement No. issued on.....

(關防)

(Official Seal)

.....
奉命代簽

Signature of duly authorized official

.....
正式授權官員

Name of duly authorized official

依本公約規則 I/2 第 9 項之規定，本加簽正本在船上服務時，須隨時攜備。

The original of this endorsement must be kept available in accordance with regulation I/2, paragraph 11 of the Convention while its holder is serving on a ship.

持證人出生日期

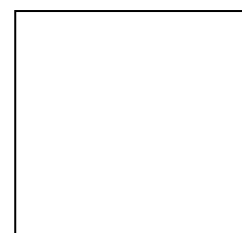
Date of birth of the holder of the certificate

持證人簽字

Signature of the holder of the certificate

持證人照片

Photograph of the holder of the certificate



本加簽之有效期茲延至	
The validity of this endorsement is hereby extended until.....	
(關防)	
(Official Seal)
	奉命代簽 <i>Signature of duly authorized official</i>
重新生效日期	
Date of revalidation.....
	正式授權官員 <i>Name of duly authorized official</i>
本加簽之有效期茲延至	
The validity of this endorsement is hereby extended until.....	
(關防)	
(Official Seal)
	奉命代簽 <i>Signature of duly authorized official</i>
重新生效日期	
Date of revalidation.....
	正式授權官員 <i>Name of duly authorized official</i>

3 加簽證明認可證書之格式應如下所示，但因加簽有效日期屆滿時應予以更換，故格式正面之「或迄至記載於背面本加簽延期之屆滿日」及該格式背面記錄有效日期予以延期之文字予以刪除。格式之填寫準則參見本章程第 B-I/2 節。

3 The form used to attest the recognition of a certificate shall be as shown hereunder, except that the words “or until the date of expiry of any extension of the validity of this endorsement as may be shown overleaf” appearing on the front of the form and the provisions for recording extension of the validity appearing on the back of the form shall be omitted where the endorsement is required to be replaced upon its expiry. Guidance on completion of the form is contained in section B-I/2 of this Code.

(關防)

(Official Seal)

(國家名稱)

(COUNTRY)

依據經修正之 1978 年航海人員訓練、發證及當值標準國際公約
之規定證明證書認可之加簽

**ENDORSEMENT ATTESTING THE RECOGNITION OF A CERTIFICATE UNDER
THE PROVISIONS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF
TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978, AS
AMENDED**

政府茲證明證書編號_____係代表_____

政府簽發予_____，依據上述經修正公約規則 I/10 之規定予以認可，合法持有人經授權執行下列專長之特定層級，但因受表列之限制迄至_____，或迄至記載於背面本加簽延期之屆滿日。

The Government ofcertifies that certificate No.issued to by or on behalf of the Government of is duly recognized in accordance with the provisions of regulation I/10 of the above Convention, as amended, and the lawful holder is authorized to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of this endorsement as may be shown overleaf:

專長 FUNCTION	層級 LEVEL	適用之限制(若有限制時) LIMITATIONS APPLYING (IF ANY)

本加簽之合法持有人得服務於主管機關所頒佈可適用之安全配額規定之職務：

The lawful holder of this endorsement may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration:

職務 CAPACITY	適用之限制(若有限制時) LIMITATIONS APPLYING (IF ANY)

加簽編號

簽發日期

Endorsement No. issued on.....

(關防)

(Official Seal)

奉命代簽

Signature of duly authorized official

正式授權官員

Name of duly authorized official

依本公約規則 I/2 第 9 項之規定，本加簽正本在船上服務時，須隨時攜備。

The original of this endorsement must be kept available in accordance with regulation I/2, paragraph 11 of the Convention while its holder is serving on a ship.

持證人出生日期

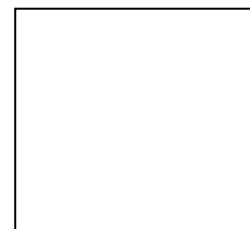
Date of birth of the holder of the certificate

持證人簽字

Signature of the holder of the certificate

持證人照片

Photograph of the holder of the certificate



本加簽之有效期茲延至 The validity of this endorsement is hereby extended until.....	
(關防) (Official Seal) 奉命代簽 <i>Signature of duly authorized official</i>
重新生效日期 Date of revalidation.....	
..... 正式授權官員 <i>Name of duly authorized official</i>	
本加簽之有效期茲延至 The validity of this endorsement is hereby extended until.....	
(關防) (Official Seal) 奉命代簽 <i>Signature of duly authorized official</i>
重新生效日期 Date of revalidation.....	
..... 正式授權官員 <i>Name of duly authorized official</i>	

4 所採用之格式與本節不同時，則依規則 I/2 第 3 項，在任何情況下，締約國應確保：

4 In using formats which may be different from those set forth in this section, pursuant to regulation I/2, paragraph 10, Parties shall ensure that in all cases:

- .1 有關持證人身分及個人情況之所有資料，包括姓名、出生日期、照片及簽字以及簽發該檔之日期，應在該檔之同一頁上顯示之；及
- .1 all information relating to the identity and personal description of the holder, including name, date of birth, photograph and signature, along with the date on which the document was issued, shall be displayed on the same side of the documents; and

- .2 有關依據主管機關所頒佈可適用之安全配額規定而授權持證人服務之職務，以及任何限制，應永久顯示之，並易於識別。
- .2 all information relating to the capacity or capacities in which the holder is entitled to serve in accordance with the applicable safe manning requirements of the Administration, as well as any limitations, shall be prominently displayed and easily identified.

證書之簽發與登記

ISSUE AND REGISTRATION OF CERTIFICATES

海勤資歷之認可

Approval of seagoing service

5 在認可本公約所要求之海勤資歷時，締約國應確保所涉及之資歷係與所申請之資格相關，並切記除在航行船舶服務之初步熟悉勤務外，此勤務之目的係使航海人員在適當之監督下，就與其所申請職位相關之安全與適當之航海業務、程式與日常工作進行訓練與熟練。

5 In approving seagoing service required by the Convention, Parties should ensure that the service concerned is relevant to the qualification being applied for, bearing in mind that, apart from the initial familiarization with service in seagoing ships, the purpose of such service is to allow the seafarer to be instructed in and to practise, under appropriate supervision, those safe and proper seagoing practices, procedures and routines which are relevant to the qualification applied for.

訓練課程之認可

Approval of training courses

6 在認可訓練課程與計畫時，締約國應考慮及相關之國際海事組織典型課程能幫助此等課程與計畫之準備，並確保將所建議之詳細學習目標適當之包括在內。

6 In approving training courses and programmes, Parties should take into account that the relevant IMO Model Courses can assist in the preparation of such courses and programmes and ensure that the detailed learning objectives recommended therein are suitably covered.

電子登記資料之查詢

Electronic access to registers

7 依據規則 I/2 第 15 項之規定，在維護電子登記資料時，應有規定使此等登記資料具有可予控制之電子通道，以使締約國與公司確認：

7 In the maintenance of the electronic register in accordance with paragraph 15 of regulation I/2, provisions shall be made to allow controlled electronic access to such register or registers to allow Parties and companies to confirm:

.1 業經簽發證書、加簽或其他資格證明之航海人員，其姓名及相關檔之編號、簽發日期與失效日期；

1. the name of the seafarer to whom such certificate, endorsement or other qualification was issued, its relevant number, date of issue, and date of expiry;

.2 持證人可擔任之職務及附帶之任何限制；及

.2 the capacity in which the holder may serve and any limitations attaching thereto; and

.3 持證人可履行的專長及所授等級與附帶之任何限制。

.3 the functions the holder may perform, the levels authorized and any limitations attaching thereto.

發證登記資料庫之開發

Development of a database for certificate registration

8 在履行規則 I/2 第 14 項規定中有關證書與加簽登記之維護規定時，如已依規則 I/2 記錄所有之相關資訊並可供使用，則不需建立標準資料庫。

8 In implementing the requirement in paragraph 14 of regulation I/2 for the maintenance of a register of certificates and endorsements, a standard database is not necessary provided that all the relevant information is recorded and available in accordance with regulation I/2.

9 下列各項資訊應依規則 I/2 以書面或電子方式予以記錄並可供使用：

9 The following items of information should be recorded and available, either on paper or electronically, in accordance with regulation I/2:

.1 證書狀況

.1 **Status of certificate**

有效

Valid

暫停有效

Suspended

註銷

Cancelled

報失

Reported lost

損毀

Destroyed

狀況變化包括變化日期之記錄應予保持。

with a record of changes to status to be kept, including dates of changes.

.2 證書之細節

.2 Certificate details

航海人員姓名

Seafarer's name

出生日期

Date of birth

國籍

Nationality

性別

Gender

最好有一幀照片

Preferably a photograph

相關文件之編號

Relevant document number

簽發日期

Date of issue

失效日期

Date of expiry

上次重新生效日期

Last revalidation date

特許細節

Details of dispensation(s)

.3 適任細節

.3 Competency details

STCW 適任標準（例如規則第 II/1）

STCW competency standard (e.g., regulation II/1)

職位

Capacity

專長

Function

責任等級

Level of responsibility

加簽

Endorsements

限制

Limitations

.4 健康細節

.4 Medical details

與簽發適任證書或重新生效相關之最新健康證書簽發日期。

Date of issue of latest medical certificate relating to the issue or revalidation of the certificate of competency.

第 A-I/3 節

近岸航程之原則

Section A-I/3

Principles governing near-coastal voyages

1 當締約國對近岸航程予以定義時，尤其是在為有權懸掛其國旗並從事近岸航程之船上服務之航海人員簽發證書而變更本章程 A 篇第 II 章與第 III 章適任標準表第 2 欄內所列科目時，應考慮及下列因素，並切記對所有船舶之安全與海洋環境之影響：

1 When a Party defines near-coastal voyages, *inter alia*, for the purpose of applying variations to the subjects listed in column 2 of the standard of competence tables contained in chapters II and III of part A of the Code, for the issue of certificates valid for service in ships entitled to fly the flag of that Party and engaged on such voyages, account shall be taken of the following factors, bearing in mind the effect on the safety and security of all ships and on the marine environment:

.1 船舶類型及其所從事之業務；

.1 type of ship and the trade in which it is engaged;

.2 船舶總噸位及主推進機之推進功率 (kW) ；

.2 gross tonnage of the ship and the power in kilowatts of the main propulsion machinery;

.3 航程性質與遠近 ；

.3 nature and length of the voyages;

.4 距避難港之最遠距離 ；

.4 maximum distance from a port of refuge;

.5 導航定位設施之覆蓋範圍及定位之精確度 ；

.5 adequacy of the coverage and accuracy of navigational position-fixing devices;

.6 近岸航行區域通常之氣象條件 ；

.6 weather conditions normally prevailing in the near-coastal voyages area;

.7 船上與岸上所具有用於搜救之通信設施 ； 及

.7 provision of shipboard and coastal communication facilities for search and rescue; and

.8 岸上基地支援之有效性，尤其是有關船上技術保養方面之岸上支援。

.8 the availability of shore-based support, regarding especially technical maintenance on board.

2 本原則無意使從事近岸航程之船舶，以其時常在相鄰國家所指定之近岸航程航行為理由，而將其航程擴及全球。

2 It is not intended that ships engaged on near-coastal voyages extend their voyages worldwide, under the excuse that they are navigating constantly within the limits of designated near-coastal voyages of neighbouring Parties.

第 A-I/4 節

管制程式

Section A-I/4

Control procedures

1 規則 I/4 第 1.3 項所規定之評估程式係肇因於該項所述之事件，應採取查證之方式，查證依要求須適任之船員是否實際上具有與所發生事件有關之必要技能。

1 The assessment procedure provided for in regulation I/4, paragraph 1.3, resulting from any of the occurrences mentioned therein shall take the form of a verification that members of the crew who are required to be competent do in fact possess the necessary skills related to the occurrence.

2 進行本項評估時應切記：船上程式係與國際安全管理(ISM)章程有關，而本公約之規定係限於安全執行該等程式之能力。

2 It shall be borne in mind when making this assessment that onboard procedures are relevant to the International Safety Management (ISM) Code and that the provisions of this Convention are confined to the competence to safely execute those procedures.

3 本公約所規定之管制程式應侷限於所界定之船上每位航海人員之適任標準及本章程 A 篇有關之當值技能。在船上評估適任性應從查證航海人員證書開始。

3 Control procedures under this Convention shall be confined to the standards of competence of the individual seafarers on board and their skills related to watchkeeping as defined in part A of this Code. Onboard assessment of competency shall commence with verification of the certificates of the seafarers.

4 不論證書之查證如何，規則 I/4 第 1.3 項所規定之評估可要求航海人員在其職責崗位上證明相關之適任性。此證明得包含查證：有關當值標準之操作要求是否業已符合，及在航海人員適任層級內是否對應急狀況具有適當之反應。

4 Notwithstanding verification of the certificate, the assessment under regulation I/4, paragraph 1.3 can require the seafarer to demonstrate the related competency at the place of duty. Such demonstration may include verification that operational requirements in respect of watchkeeping standards have been met and that there is a proper response to emergency situations within the seafarer's level of competence.

5 在評估時，僅本章程 A 篇所述證明適任性之方法及其評審標準暨本章 A 篇之標準範圍得以採用。

5 In the assessment, only the methods for demonstrating competence together with the criteria for its evaluation and the scope of the standards given in part A of this Code shall be used.

6 對負有保全責任之航海人員應施行之適任性評估，限在有明顯理由之情況下，依據海上人命安全國際公約第 XI/2 節之規定施行。在所有其他情況下，此適任性評估限對航海人員之證書及/或加簽予以核實。

6 Assessment of competency related to security shall be conducted for those seafarers with specific security duties only in case of clear grounds, as provided for in chapter XI/2 of the International Convention for the Safety of Life at Sea (SOLAS). In all other cases, it shall be confined to the verification of the certificates and/or endorsements of the seafarers.

第 A-I/5 節

國家規定

Section A-I/5

National provisions

規則 I/5 之規定不應解釋為在監督下及不可抗力時不能分派訓練任務。

The provisions of regulation I/5 shall not be interpreted as preventing the allocation of tasks for training under supervision or in cases of *force majeure*.

第 A-I/6 節

訓練及評估

Section A-I/6

Training and assessment

1 各締約國應確保依據公約申請發證之航海人員，其所有訓練及評估係：

1 Each Party shall ensure that all training and assessment of seafarers for certification under the Convention is:

.1 依書面計畫予以安排，為達到既定之適任標準，該計畫應包含必要之授課方法與手段、程式以及教材。

.1 structured in accordance with written programmes, including such methods and media of delivery, procedures, and course material as are necessary to achieve the prescribed standard of competence; and

.2 由依據第 4、5 及 6 項所規定適格人員予以實施、監督、評審及支援。

.2 conducted, monitored, evaluated and supported by persons qualified in accordance with paragraphs 4, 5 and 6.

2 人員在船上實施在職訓練或評估時，應僅在不嚴重影響船舶正常操作情況下，且該等人員能將其時間與心力投入訓練或評估始實施之

2 Persons conducting in-service training or assessment on board ship shall only do so when such training or assessment will not adversely affect the normal operation of the ship and they can dedicate their time and attention to training or assessment.

講師、監督員及評審員之資格*

Qualifications of instructors, supervisors and assessors*

3 各締約國應依本節之規定確保講師、監督員及評審員具有適當資格以擔負不論在船上或在岸上依本公約所要求之特定形式及層級航海人員適任能力之訓練或評估。

3 Each Party shall ensure that instructors, supervisors and assessors are appropriately qualified for the particular types and levels of training or assessment of competence of seafarers either on board or ashore, as required under the Convention, in accordance with the provisions of this section.

* IMO 典型課程 6.09 “講師訓練課程” 及 IMO 典型課程 3.12 “航海人員評估、考試及發證” 有助於課程之準備。（譯者註：本註腳業經 STW 31 予以更新）

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

在職訓練

In-service training

4 施行航海人員在職訓練之人員，不論在船上或岸上，欲依本公約之規定憑以發證者，應：

4 Any person conducting in-service training of a seafarer, either on board or ashore, which is intended to be used in qualifying for certification under the Convention, shall:

.1 對訓練計畫有所體會，並對擬施行之特定型式訓練之特定訓練目標有所瞭解；

.1 have an appreciation of the training programme and an understanding of the specific training objectives for the particular type of training being conducted;

.2 對進行之訓練工作具有資格；及

.2 be qualified in the task for which training is being conducted; and

.3 如施行訓練使用模擬設施時：

.3 if conducting training using a simulator:

.3.1 已獲得包含如何使用模擬設施之教學技術之適當指導，及

.3.1 have received appropriate guidance in instructional techniques involving the use of simulators, and

.3.2 已取得擬使用特定型式模擬設施之實際操作經驗。

.3.2 have gained practical operational experience on the particular type of simulator being used.

5 負責監督航海人員在職訓練之任何人員，欲藉此使航海人員依本公約之規定取得資格證書者，應對所擬施行之各型訓練之訓練計畫及特別訓練目標有全盤之瞭解。

5 Any person responsible for the supervision of in-service training of a seafarer intended to be used in qualifying for certification under the Convention shall have a full understanding of the training programme and the specific objectives for each type of training being conducted.

適任性評估

Assessment of competence

6 任何人員對航海人員施行在船上或岸上在職適任性之評估，欲藉此使航海人員依本公約之規定取得資格證書者，應：

6 Any person conducting in-service assessment of competence of a seafarer, either on board or ashore, which is intended to be used in qualifying for certification under the Convention, shall:

.1 對擬評估之適任性有適當程度之知識及瞭解；

- .1 have an appropriate level of knowledge and understanding of the competence to be assessed;
- .2 具有對擬評估任務之資格；
- .2 be qualified in the task for which the assessment is being made;
- .3 對評估方法及實務獲得適當指導；
- .3 have received appropriate guidance in assessment methods and practice;
- .4 已取得實際評估經驗；及
- .4 have gained practical assessment experience; and
- .5 如進行評估涉及模擬設施之使用，則在有經驗評審員之監督下滿意地取得對特定型式模擬設施之實際評估經驗。
- .5 if conducting assessment involving the use of simulators, have gained practical assessment experience on the particular type of simulator under the supervision and to the satisfaction of an experienced assessor.

訓練機構內之訓練及考核

Training and assessment within an institution

7 將認可訓練課程，訓練機構或訓練機構所認可之資格作為依據本公約規定簽發證書要求一部分之各締約國，應確保講師及評審員之資格及經驗涵蓋於第 A-I/8 節品質標準規定之應適用範圍中，該等資格、經驗及品質標準之適用應併入教學技術之適當訓練及訓練與評估之方法與實務，並符合第 4 至第 6 項所有可適用之要求。

7 Each Party which recognizes a course of training, a training institution, or a qualification granted by a training institution, as part of its requirements for the issue of a certificate required under the Convention, shall ensure that the qualifications and experience of instructors and assessors are covered in the application of the quality standard provisions of section A-I/8. Such qualification, experience and application of quality standards shall incorporate appropriate training in instructional techniques, and training and assessment methods and practice, and shall comply with all applicable requirements of paragraphs 4 to 6.

第 A-I/7 節

資料遞送

Section A-I/7

Communication of information

1 規則 I/7 第 1 項所要求之資料應依下述第 2 項規定之格式提交秘書長。

1 The information required by regulation I/7, paragraph 1 shall be communicated to the Secretary-General in the formats prescribed in the paragraphs hereunder.

第一部分 資料之初步遞送

PART 1 – INITIAL COMMUNICATION OF INFORMATION

2 規則 I/7 生效後之一個曆年內，各締約國應將促使公約全面徹底生效所採取之步驟予提出報告，報告之內容應包括下列各項：

2 Within one calendar year of entry into force of regulation I/7, each Party shall report on the steps it has taken to give the Convention full and complete effect, which report shall include the following:

- .1 負責主管本公約之部會、司局或政府機構之聯絡細節及組織圖；
- .1 contact details and organization chart of the ministry, department or governmental agency responsible for administering the Convention;
- .2 為保證遵守本規則而制定並執行之法律及行政措施之扼要介紹，尤其是規則 I/6 及 I/9；
- .2 a concise explanation of the legal and administrative measures provided and taken to ensure compliance, particularly with regulations I/2, I/6 and I/9;
- .3 所採行之教育、訓練、測驗、適任性評估以及發證政策之明確說明；
- .3 a clear statement of the education, training, examination, competency assessment and certification policies adopted;
- .4 為按本公約規定簽發各種證書，所制定之課程、訓練計畫、測驗及評估之扼要說明；
- .4 a concise summary of the courses, training programmes, examinations and assessments provided for each certificate issued pursuant to the Convention;
- .5 授權、委託或認可本公約所要求之訓練及測驗、健康檢查及適任性評估所應遵循之程式，及其所附加之情況，以及已核准之授權、委託及認可一覽表之扼要大綱；
- .5 a concise outline of the procedures followed to authorize, accredit or approve training and examinations, medical fitness and competency assessments required by the Convention, the conditions attaching thereto, and a list of the authorizations, accreditations and approvals granted;
- .6 依本公約第 VIII 條規定核准任何特許證後所應遵循程式之扼要說明；
- .6 a concise summary of the procedures followed in granting any dispensation under article VIII of the Convention; and
- .7 按照規則 I/11 所實施之比較結果以及強制性知識更新及提昇訓練之扼要說明；

- .7 the results of the comparison carried out pursuant to regulation I/11 and a concise outline of the refresher and upgrading training mandated.

第二部分 後續報告

PART 2 – SUBSEQUENT REPORTS

3 各締約國應在 6 個月之內：

3 Each Party shall, within six months of:

.1 提出一份為依公約第 IX 條規定保留或採納任何等效教育或訓練，此項安排之詳細說明；

.1 retaining or adopting any equivalent education or training arrangements pursuant to article IX, provide a full description of such arrangements;

.2 提交一份為確保符合規則 I/10 所採取措施，而認可由他締約國所簽發證書之報告；及

.2 recognizing certificates issued by another Party, provide a report summarizing the measures taken to ensure compliance with regulation I/10; and

.3 向秘書長提供一份批准懸掛其國旗的船舶為雇用持有根據規則 VII/1 簽發替代證書之航海人員，所簽發予該船船員安全配額檔之樣本。

.3 authorizing the employment of seafarers holding alternative certificates issued under regulation VII/1 on ships entitled to fly its flag, provide the Secretary-General with a specimen copy of the type of safe manning documents issued to such ships.

4 各締約國依規則 I/8 第 2 項規定完成獨立評鑑後之 6 個月內，應將每次評鑑之結果予以報告。該評鑑報告應包含有下列資料：

4 Each Party shall report the results of each evaluation carried out pursuant to regulation I/8, paragraph 2 within six months of its completion. The report of the evaluation shall include the following information:

.1 實施評鑑人員之資格與經驗；（如所持適任證書、作為航海人員及獨立評鑑員之經驗、海事訓練及評估領域之經驗、發證系統之管理經驗、或其他任何相關之資格/經驗）；

.1 the qualifications and experience of those who conducted the evaluation; (e.g., certificates of competency held, experience as a seafarer and independent evaluator, experience in the field of maritime training and assessment, experience in the administration of certification systems, or any other relevant qualifications/experience);

.2 獨立評鑑及評鑑員之職責範圍；

.2 the terms of reference for the independent evaluation and those of the evaluators;

.3 獨立評鑑所包含之訓練機構/中心名單；及

.3 a list of training institutions/centres covered by the independent evaluation; and

.4 獨立評鑑之結果，包括：

.4 the results of the independent evaluation, including:

.1 確認：

.1 verification that:

.1.1 本公約及 STCW 章程包括其修正案所有可適用之規定，皆應符合 A-I/8 第 3.1 項規定之締約國品質標準系統；及

.1.1 all applicable provisions of the Convention and STCW Code, including their amendments, are covered by the Party's quality standards system in accordance with section A-I/8, paragraph 3.1; and

.1.2 所有內部之管理控制與監控措施及補充措施是否符合計畫之安排與檔之程式，及是否能有效地確保 A-I/8 第 3.2 項既定目標之實現；

.1.2 all internal management control and monitoring measures and follow-up actions comply with planned arrangements and documented procedures and are effective in ensuring achievement of defined objectives in accordance with section A-I/8, paragraph 3.2;

.2 簡短敘述：

.2 a brief description of:

.2.1 獨立評鑑時所發現可能有之不合格事項；

.2.1 the non-conformities found, if any, during the independent evaluation,

.2.2 對所發現不合格事項之糾正措施提出建議，及

.2.2 the corrective measures recommended to address the identified non-conformities, and

.2.3 對所發現不合格事項所採取之糾正措施。

.2.3 the corrective measures carried out to address the identified non-conformities.

5 締約國應將實施本公約及嗣後 STCW 章程強制性修正案之步驟提出報告，此等步驟以往並未包含於依規則 I/7 所作之最初資料遞送報告或任何依規則 I/8 所作之先前報告中。本修正案生效後，該資料應包含在下一次依規則 I/8 第 3 項所作之報告中。

5 Parties shall report the steps taken to implement any subsequent mandatory amendments to the Convention and STCW Code, not previously included in the report on the initial communication of information pursuant to regulation I/7 or any previous report pursuant to regulation I/8. The information shall be included in the next report pursuant to regulation I/8, paragraph 3, following the entry into force of the amendment.

6 在可適用時，有關實施本公約及 STCW 章程強制性修正案所採取之步驟，應包括下列內容：

6 The information on the steps taken to implement mandatory amendments to the Convention and STCW Code shall include the following, where applicable:

.1 為確保遵守本修正案所制定並採取之法律與行政措施之簡要說明；

.1 a concise explanation of the legal and administrative measures provided and taken to ensure compliance with the amendment;

.2 為符合本修正案所制定之課程、訓練計畫、考試與評估之概要；

.2 a concise summary of any courses, training programmes, examinations and assessments provided to comply with the amendment;

.3 對授權、認可或批准本修正案所要求之訓練與考試、健康、適任評估所應遵循程式之綱要；

.3 a concise outline of the procedures followed to authorize, accredit or approve training and examinations, medical fitness and competency assessments required under the amendment;

.4 對任何本修正案所要求之新知與更新訓練之綱要；及

.4 a concise outline of any refresher training and upgrading training required to meet the amendments; and

.5 對實施本修正案之措施與依規則 I/7 第 1 項及/或 I/8 第 2 項（如適用時）包含在以前報告中之現有措施，兩者間之比較。

.5 a comparison between the measures to implement the amendment and existing measures contained in previous reports pursuant to regulation I/7, paragraph 1 and/or regulation I/8, paragraph 2 where applicable.

第三部分 適格人員名單

PART 3 – PANEL OF COMPETENT PERSONS

7 秘書長應保持一份經海事安全委員會認可由締約國提供或推薦之適格人員名單，俾召請他們評審依規則 I/7 及規則 I/8 所提送之報告及召請他們協助準備規則 I/7 第 2 項所要求之報告。此等人員一般應在海上安全委員會或其下屬機構召開有關會議時在場，但參加

此種會議時並不需要由其單獨進行工作。

7 The Secretary-General shall maintain a list of competent persons approved by the Maritime Safety Committee, including competent persons made available or recommended by the Parties, who may be called upon to evaluate the reports submitted pursuant to regulation I/7 and regulation I/8 and may be called to assist in the preparation of the report required by regulation I/7, paragraph 2. These persons shall ordinarily be available during relevant sessions of the Maritime Safety Committee or its subsidiary bodies, but need not conduct their work solely during such sessions.

8 與規則 I/7 第 2 項有關之適格人員應瞭解公約之要求，其中至少有一人應瞭解有關締約國之訓練發證制度。

8 In relation to regulation I/7, paragraph 2, the competent persons shall be knowledgeable of the requirements of the Convention and at least one of them shall have knowledge of the system of training and certification of the Party concerned.

9 當秘書長收到任何締約國依規則 I/8 第 3 項規定之報告後，應依第 7 項規定所保持之名單指定適格人員考慮此報告並提出他們有關下列各項觀點：

9 When a report is received from any Party under regulation I/8, paragraph 3, the Secretary-General will designate competent persons from the list maintained in accordance with paragraph 7, to consider the report and provide their views on whether:

.1 該報告係屬完整，並表明該締約國業已依 A-I/8 節第 3 項，對知識、理解、技能與適任能力之獲得與評估活動及對發證系統（包括加簽與重新生效）之管理進行獨立之評鑑；

.1 the report is complete and demonstrates that the Party has carried out an independent evaluation of the knowledge, understanding, skills and competence acquisition and assessment activities, and of the administration of the certification system (including endorsement and revalidation), in accordance with section A-I/8, paragraph 3;

.2 該報告足以表明：

.2 the report is sufficient to demonstrate that:

.2.1 評審員已適格，

.2.1 the evaluators were qualified,

.2.2 職責範圍明確，足以確保：

.2.2 the terms of reference were clear enough to ensure that:

.2.2.1 所有本公約及 STCW 章程可適用之規定包括其修正案，皆已納入該締約國之品質標準系統中；及

.2.2.1 all applicable provisions of the Convention and STCW Code, including their amendments, are covered by the Party's quality standards system; and

.2.2.2 實施依規則 I/8 第 1 項所制定之明確目標，得經全範圍之相關活動予以確證。

.2.2.2 the implementation of clearly defined objectives in accordance with regulation I/8, paragraph 1 could be verified over the full range of relevant activities,

.2.3 在獨立評鑑中，所採取之程式能鑒定出該締約國在訓練系統、適任性評估及航海人員發證方面任何重大不合格事項，及

.2.3 the procedures followed during the independent evaluation were appropriate to identify any significant non-conformities in the Party's system of training, assessment of competence, and certification of seafarers, as may be applicable to the Party concerned, and

.2.4 糾正任何明顯不合格事項所採之行動適時、適當。*

.2.4 the actions being taken to correct any noted non-conformities are timely and appropriate.*

10 上述適格人員之任何會議應：

10 Any meeting of the competent persons shall:

.1 在秘書長指示下召集會議；

.1 be held at the discretion of the Secretary-General;

.2 由奇數人員組成，通常不超過 5 人；

.2 be comprised of an odd number of members, ordinarily not to exceed five persons;

.3 指定其會議主席；及

.3 appoint its own chairman; and

.4 向秘書長提交其成員協議之意見，如果未達成此協議，則將多數意見及少數意見一併提送。

.4 provide the Secretary-General with the agreed opinion of its members, or if no agreement is reached, with both the majority and minority views

11 上述人員應在保密之基礎上，以書面表達其意見：

*糾正行動須適時、適當指該等行動必須着眼於缺點之基礎/根源，並須安排在計畫之時間內施行。

*Corrective actions must be timely and appropriate means those actions must be focused on the underpinning/root causes of deficiencies and must be arranged to take place in a prescribed time schedule.

- 11 The competent persons shall, on a confidential basis, express their views in writing on:
- .1 將締約國提交給秘書長資料中所報告之事實與公約之有關要求進行比較；
 - .1 a comparison of the facts reported in the information communicated to the Secretary-General by the Party with all relevant requirements of the Convention;
 - .2 根據規則 I/8 第 3 項提交之任何有關評審報告；
 - .2 the report of any relevant evaluation submitted under regulation I/8, paragraph 3;
 - .3 根據第 5 項提交之有關任何實施 STCW 公約及章程修正案所採取步驟之報告；及
 - .3 the report of any steps taken to implement the amendments to the STCW Convention and Code submitted under paragraph 5; and
 - .4 締約國提供之任何附加資料。
 - .4 any additional information provided by the Party.

第四部分 向海事安全委員會提交之報告

PART 4 – REPORT TO THE MARITIME SAFETY COMMITTEE

12 秘書長在根據規則 I/7 製備向海事安全委員提交報告時應：

12 In preparing the report to the Maritime Safety Committee required by regulation I/7, paragraph 2, the Secretary-General shall:

- .1 向根據第 7 項所建立名單中所選擇適格人員徵詢並考慮其意見；
- .1 solicit and take into account the views expressed by competent persons selected from the list established pursuant to paragraph 7;
- .2 必要時要求締約國澄清與其根據規則 I/7 第 1 項所提供資料之有關任何事宜；及
- .2 seek clarification, when necessary, from the Party of any matter related to the information provided under regulation I/7, paragraph 1; and
- .3 確定締約國在履約上可能要求協助之任何領域。
- .3 identify any area in which the Party may have requested assistance to implement the Convention.

13 適格人員會議之安排應通知有關締約國，同時締約國代表應到會澄清與其根據規則 I/7 第 1 項所提供有關資料之任何事宜。

13 The Party concerned shall be informed of the arrangements for the meetings of competent persons, and its representatives shall be entitled to be present to clarify any matter related to the information provided pursuant to regulation I/7, paragraph 1.

14 如秘書長未站在提交規則 I/7 第 2 項所要求之報告立場上，則有關之締約國得請求海事安全委員會根據規則 I/7 第 3 項採取所期待之行動，並考慮及依本節所提交之資料及按照第 10 與 11 項所表達之意見。

14 If the Secretary-General is not in a position to submit the report called for by paragraph 2 of regulation I/7, the Party concerned may request the Maritime Safety Committee to take the action contemplated by paragraph 3 of regulation I/7, taking into account the information submitted pursuant to this section and the views expressed in accordance with paragraphs 10 and 11.

第 A-I/8 節

品質標準

Section A-I/8

Quality standards

國家目標及品質標準

National objectives and quality standards

1 各締約國應確保對應予達到之教育及訓練目標及有關適任之標準予以明確規定，並對本公約所要求適用於測驗及評估之知識、瞭解及技能予以確定。該目標及相關品質標準得針對不同課程及訓練計畫分別訂定之，並應涵蓋發證制度之管理。

1 Each Party shall ensure that the education and training objectives and related standards of competence to be achieved are clearly defined and identify the levels of knowledge, understanding and skills appropriate to the examinations and assessments required under the Convention. The objectives and related quality standards may be specified separately for different courses and training programmes and shall cover the administration of the certification system.

2 品質標準之適用範圍應涵蓋發證制度管理、所有訓練課程及計畫、締約國政府自行或授權進行之測驗與評估，及講師與評審員之資歷之要求，並考慮及為確保達到既定目標而建立之政策、制度、管制及內部品質保證審查。

2 The field of application of the quality standards shall cover the administration of the certification system, all training courses and programmes, examinations and assessments carried out by or under the authority of a Party and the qualifications and experience required of instructors and assessors, having regard to the policies, systems, controls and internal quality assurance reviews established to ensure achievement of the defined objectives.

3 各締約國應確保，為了查證下列事項，應以不超過 5 年之間隔，對知識、瞭解、技能及適任性之取得與評估活動；以及發證制度管理進行一次獨立性評審，以查證：

3 Each Party shall ensure that an independent evaluation of the knowledge, understanding, skills and competence acquisition and assessment activities, and of the administration of the

certification system, is conducted at intervals of not more than five years in order to verify that:

.1 本公約及 STCW 章程所有可適用之規定，包括其的修正案，均應符合品質標準系統；

.1 all applicable provisions of the Convention and STCW Code, including their amendments, are covered by the quality standards system;

.2 所有內部管理控制，與監督措施及跟催行動符合策畫既定之安排與定案程式之檔，並有效確保既定目標之達成；

.2 all internal management control and monitoring measures and follow-up actions comply with planned arrangements and documented procedures and are effective in ensuring achievement of the defined objectives;

.3 每一獨立評估結果係作成書面文件，並送請受評估部門之負責人注意；

.3 the results of each independent evaluation are documented and brought to the attention of those responsible for the area evaluated; and

.4 適時採取行動矯正缺失；

.4 timely action is taken to correct deficiencies.

第 A-I/9 節

健康標準

Section A-I/9

Medical standards

1 各締約國在依據規則 I/9 制定航海人員之健康標準時，應遵循表 A-I/9 所列之在職視力最低標準、並考慮及第 2 項所述之身體與健康標準。此外尚應考慮及本章程第 B-I/9 節所作之指導及表 B-I/9 有關之最低身體能力。

1 Parties, when establishing standards of medical fitness for seafarers as required by regulation I/9, shall adhere to the minimum in-service eyesight standards set out in table A-I/9 and take into account the criteria for physical and medical fitness set out in paragraph 2. They should also take into account the guidance given in section B-I/9 of this Code and table B-I/9 regarding assessment of minimum physical abilities.

由於航海人員職責之不同，對於剛開始尋求海上職業之人員與已在海上服務之航海人員及其在船上職責之不同，因而其健康之標準得由締約國決定作不同之規定。締約國亦應考慮及任何會限制航海人員之能力而無法使其在健康證書有效期內有效履行其職責之傷害或疾病。

These standards may, to the extent determined by the party without prejudice to the safety of the seafarers or the ship, differentiate between those persons seeking to start a career at sea and

those seafarers already serving at sea and between different functions on board, bearing in mind the different duties of seafarers. They shall also take into account for any impairment or disease that will limit the ability of the seafarer to effectively perform his/her duties during the validity period of the medical certificate.

2 締約國所制定之身體與健康標準，應確保航海人員符合下列之標準：

2 The standards of physical and medical fitness established by the party shall ensure that seafarers satisfy the following criteria:

.1 考慮及下述第 5 項之規定，具有體力滿足第 A-VI/1 節第 2 項所要求之所有基本訓練規定；

.1 have the physical capability, taking into account paragraph 5 below, to fulfil all the requirements of the basic training as required by section A-VI/1, paragraph 2;

.2 證實能適當有效作聽講方面之溝通，並能發覺任何聽覺警報；

.2 demonstrate adequate hearing and speech to communicate effectively and detect any audible alarms;

.3 在其健康證書有效期間內，並不致有妨礙其有效在船上安全進行例行及應急任務之身體狀況、病痛或傷害；

.3 have no medical condition, disorder or impairment that will prevent the effective and safe conduct of their routine and or emergency duties on board during the validity period of the medical certificate;

.4 並無可能會有因在海上服務而加劇之任何健康狀況疾病，或使該航海人員不適於在海上服務、或會危及船上其他人員之健康與安全；及

.4 are not suffering from any medical condition likely to be aggravated by service at sea or to render the seafarer unfit for such service or to endanger the health and safety of other persons on board; and

.5 並未以任何有副作用之藥物治療，致損及其判斷力、平衡感或任何其他需要在船上有效安全執行例行及應急任務。

.5 are not taking any medication that has side effects that will impair judgment, balance, or any other requirements for effective and safe performance of routine or and emergency duties on board.

3 航海人員之健康檢查，應由經該締約國認可具有適當資格並有經驗之執業醫師施行。

3 Medical fitness examinations of seafarers shall be conducted by appropriately qualified and experienced medical practitioners recognized by the Party.

4 各締約國應制定認可執業醫師之規定。該締約國應保持對經認可執業醫師之登記，

並可提供予請求提供其他締約國、公司及航海人員。

4 Each Party shall establish provisions for recognizing medical practitioners. A register of recognized medical practitioners shall be maintained by the Party and made available to other Parties, companies and seafarers on request.

5 各締約國應考慮及本章程第 B-I/9 節之規定，為執行健康檢查與簽健康證書提供指導。各締約國應決定對經認可之執業醫師運用健康標準時，切記航海人員之不同職責給予自由判斷之範疇，但表 A-I/9 艙面部門航海人員需要擔任瞭望責任者所列有關最低矯正遠距視力、近視力及辨色力標準不應給予自由判斷。

5 Each Party shall provide guidance for the conduct of medical fitness examinations and issuing of medical certificates, taking into account provisions set out in section B-I/9 of this Code. Each Party shall determine the amount of discretion given to recognized medical practitioners on the application of the medical standards, bearing in mind the different duties of seafarers, except that there shall not be discretion with respect to the minimum eyesight standards for distance vision aided, near/immediate vision and colour vision in table A-I/9 for seafarers in the deck department required to undertake look-out duties. A Party may allow discretion on the application of these standards with regard to seafarers in the engine department, on the condition that seafarers' combined vision fulfils the requirements set in table A-I/9.

6 各締約國應制定程式，以使體檢後並不符合健康標準，或其工作能力遭受局限之航海人員，尤其是有關時間、工作領域或航行區域受局限者，可根據該締約國之申訴規定對其狀況進行複查。

6 Each Party shall establish processes and procedures to enable seafarers who, after examination, do not meet the medical fitness standards or have had a limitation imposed on their ability to work, in particular with respect to time, field of work or trading area, to have their case reviewed in line with that Party's provisions for appeal.

7 依規則 I/9 第 3 項所提供之健康證書至少應包含有下列資料：

7 The medical certificate provided for in regulation I/9, paragraph 3 shall include the following information as a minimum:

.1 授權機關及授權簽發檔之要求

.1 **Authorizing authority** and the requirements under which the document is issued

.2 航海人員資料

.2 **Seafarer information**

.2.1 姓名：（姓、名、中間名）

.2.1 Name: (Last, first, middle)

.2.2 出生日期：（日/月/年）

.2.2 Date of birth: *(day/month/year)*

.2.3 性別：（男/女）

.2.3 Gender: *(Male/Female)*

.2.4 國籍

.2.4 Nationality

.3 經認可醫師之陳述

.3 Declaration of the recognized medical practitioner

.3.1 認證文件在檢查時業經確認：是/否

.3.1 Confirmation that identification documents were checked at the point of examination: *Y/N*

.3.2 聽力符合 STCW 章程第 A-I/9 節之標準：是/否

.3.2 Hearing meets the standards in STCW A-I/9: *Y/N*

.3.3 裸耳聽力符合要求？是/否

.3.3 Unaided hearing satisfactory? *Y/N*

.3.4 視力符合 STCW 章程第 A-I/9 節之標準？是/否

.3.4 Visual acuity meets standards in STCW A-I/9? *Y/N*

.3.5 辨色力*符合 STCW 章程第 A-I/9 節之標準？是/否

.3.5 Colour vision* meets standards in STCW A-I/9? *Y/N*

.3.5.1 上次辨色力測試日期

.3.5.1 Date of last colour vision test.

.3.6 適於瞭望之職責？是/否

.3.6 Fit for look-out duties? *Y/N*

.3.7 對健康並無限制或約束？是/否

如為「否」，敘明該限制或約束。

.3.7 No limitations or restrictions on fitness? *Y/N*

If “N”, specify limitations or restrictions.

.3.8 無任何健康條件限制的航海人員是否可能由於在海上服務致使健康

*註：辨色力評估僅需每六年施行一次。

* Note: Colour vision assessment only needs to be conducted every six years.

惡化，或可能使該航海人員不適該服務，或使船上其他人員之健康受到危害？是/否

- .3.8 Is the seafarer free from any medical condition likely to be aggravated by service at sea or to render the seafarer unfit for such service or to endanger the health of other persons on board?: Y/N

.3.9 檢查日期：（日/月/年）

- .3.9 Date of examination: (day/month/year)

.3.10 證書失效日期：（日/月/年）

- .3.10 Expiry date of certificate: (day/month/year)

.4 簽發機關詳情

.4 Details of the issuing authority

.4.1 簽發機關之正式印章（包括名稱）

- .4.1 Official stamp (including name) of the issuing authority .

.4.2 授權人員之簽名

- .4.2 Signature of the authorized person

.5 航海人員簽名—確認該航海人員業已瞭解證書之內容及依據第A-I/9 節第6 項享有複查權利。

- .5 Seafarer's signature** – *confirming that the seafarer has been informed of the content of the certificate and of the right to a review in accordance with paragraph 6 of section A-I/9*

8 健康證書應以發證國之官方文字為之。如所使用之文字並非英文，則全文應包括英譯文。

- 8 Medical certificates shall be in the official language of the issuing country. If the language used is not English, the text shall include a translation into that language

表 A-I/9
在職航海人員視力最低標準

Table A-I/9

Minimum in-service eyesight standards for seafarers

<u>STCW</u> <u>公約規則</u> STCW Convention regulation	<u>航海人員</u> <u>類別</u> Category of seafarer	<u>矯正遠距視力</u> ¹ Distance vision Aided ¹		<u>近視力</u> Near/immediate vision <u>雙眼皆經矯正或未矯正</u> Both eyes together, aided or unaided	<u>辨色力</u> ³ Colour vision ³	<u>視野</u> ⁴ Visual fields ⁴	<u>夜盲</u> ⁴ Night blindness ⁴	<u>複視</u> ⁴ <u>(雙影)</u> Diplopia (double vision) ⁴
		<u>單眼</u> One eye	<u>另一眼</u> Other eye					
<u>I/11</u> I/11 <u>II/1</u> II/1 <u>II/2</u> II/2 <u>II/3</u> II/3 <u>II/4</u> II/4 <u>II/5</u> II/5 <u>VII/2</u> VII/2	<u>船長、</u> <u>艙面甲級船員</u> <u>及需執行瞭望</u> <u>職責之乙級船</u> <u>員</u> Masters, deck officers and ratings required to undertake look-out duties	<u>0.5²</u> 0.5 ²	<u>0.5</u> 0.5	<u>船舶航行所需之視</u> <u>力(如參閱海圖、航</u> <u>海出版物、使用駕駛台</u> <u>儀器設備及辨識導</u> <u>航設備)</u> Vision required for ship's navigation (e.g., chart and nautical publication reference, use of bridge instrumentation and equipment, and identification of aids to navigation)	<u>見註6</u> See Note 6	<u>視野正常</u> Normal Visual fields	<u>在黑暗中執行</u> <u>一切必要功能</u> <u>所需之視力，</u> <u>不應有妥協</u> Vision required to perform all necessary functions in darkness without compromise	<u>並無重大</u> <u>狀況之證據</u> No significant condition evident
<u>I/11</u> I/11 <u>III/1</u> III/1 <u>III/2</u> III/2 <u>III/3</u> III/3 <u>III/4</u> III/4 <u>III/5</u> III/5 <u>III/6</u> III/6 <u>III/7</u> III/7 <u>VII/2</u> VII/2	<u>所有之輪機</u> <u>員、電機員、電</u> <u>匠、及其他構成</u> <u>機艙當值之乙</u> <u>級船員</u> All engineer officers, electro-techni cal officers, electro- technical ratings and ratings or others forming part of an engine- room watch	<u>0.4⁵</u> 0.4 ⁵	<u>0.4</u> <u>(見註5)</u> 0.4 (see Note5)	<u>近距離讀出儀表數</u> <u>據、操作設備及辨識</u> <u>必要之系統/構件所</u> <u>需要之視力</u> Vision required to read instruments in close proximity, to operate equipment, and to identify systems/components as necessary	<u>見註7</u> See Note 7	<u>足夠之視</u> <u>野</u> Sufficient visual fields	<u>在黑暗中執行</u> <u>一切必要功能</u> <u>所需之視力，</u> <u>不應有妥協</u> Vision required to perform all necessary functions in darkness without compromise	<u>並無重大</u> <u>狀況之證據</u> No significant condition evident

<u>STCW</u> <u>公約規則</u> STCW Convention regulation	<u>航海人員</u> <u>類別</u> Category of seafarer	<u>矯正遠距視力</u> ¹ Distance vision Aided ¹		<u>近視力</u> Near/immediate vision <u>雙眼皆經矯正或未</u> <u>矯正</u> Both eyes together, aided or unaided	<u>辨色力</u> ³ Colour vision ³	<u>視野</u> ⁴ Visual fields ⁴	<u>夜盲</u> ⁴ Night blindness ⁴	<u>複視</u> ⁴ <u>(雙影)</u> Diplopia (double vision) ⁴
		<u>單眼</u> One eye	<u>另一眼</u> Other eye					
<u>/11</u> I/11 <u>IV/2</u> IV/2	<u>全球海上遇險</u> <u>及安全系統無</u> <u>線電操作員</u> GMDSS Radio operators	<u>0.4</u> 0.4	<u>0.4</u> 0.4	<u>近距離讀出儀表數</u> <u>據、操作設備及辨識</u> <u>必要之系統/構件所</u> <u>需要之視力</u> Vision required to read instruments in close proximity, to operate equipment, and to identify systems/ components as necessary	<u>見註7</u> See Note 7	<u>足夠之視</u> <u>野</u> Sufficient visual fields	<u>在黑暗中執行</u> <u>一切必要功能</u> <u>所需之視力，</u> <u>不應有妥協</u> Vision required to perform all necessary functions in darkness without compromise	<u>並無重大</u> <u>狀況之證</u> <u>據</u> No significant condition evident

註：

Notes:

1 為 Snellen 十進位值表示。

1 Values given in Snellen decimal notation.

2 建議單眼之值為 0.7，以減少未檢查出之眼疾危險性。

2 value of at least 0.7 in one eye is recommended to reduce the risk of undetected underlying eye disease.

3 依國際照明委員會 (CIE-143-2001) 所採納 運輸業辨色力要求國際建議案 之規定。

3 As defined in the *International Recommendations for Colour Vision Requirements for Transport* by the Commission Internationale de l'Eclairage (CIE-143-2001 including any subsequent versions).

4 如有最初檢驗結果，依臨床視力專家之評估。

4 Subject to assessment by a clinical vision specialist where indicated by initial examination findings.

5 輪機部門人員應具有至少 0.4 之相加視力。

5 Engine department personnel shall have a combined eyesight vision of at least 0.4.

6 國際照明委員會 辨色力標準 1 或 2。

6 CIE colour vision standard 1 or 2.

7 國際照明委員會辨色力標準 1、2 或 3。

7 CIE colour vision standard 1, 2 or 3.

第 A-I/10 節

證書之認可

Section A-I/10

Recognition of certificates

1 規則 I/10 第 4 項所規定對有關非締約國所簽發之證書不予認可，不應構成妨礙某締約國在非締約國授權下簽發其本身證書所接受之海勤資歷、教育及訓練。但以該締約國在簽發各該等證書符合規則 I/2 時之規定，並確使有關之海勤資歷、教育、訓練及適任性符合本公約之要求為限。

1 The provisions of regulation I/10, paragraph 4 regarding the non-recognition of certificates issued by a non-Party shall not be construed as preventing a Party, when issuing its own certificate, from accepting seagoing service, education and training acquired under the authority of a non-Party, provided the Party complies with regulation I/2 in issuing each such certificate and ensures that the requirements of the Convention relating to seagoing service, education, training and competence are complied with.

2 如已認可證書之主管機關因行政處罰而吊銷其認可之加簽，則該主管機關應將情況通知簽發證書之締約國。

2 Where an Administration which has recognized a certificate withdraws its endorsement of recognition for disciplinary reasons, the Administration shall inform the Party that issued the certificate of the circumstances.

第 A-I/11 節

證書重新生效

Section A-I/11

Revalidation of certificates

專業能力

Professional competence

1 規則 I/11 所要求之持續專業能力，應由下列條件建立之：

1 Continued professional competence as required under regulation I/11 shall be established by:

.1 執行適合所持證書所述專長經認可之海勤資歷，為期至少：

.1 approved seagoing service, performing functions appropriate to the certificate held, for a period of at least:

.1.1 在最近之 5 年中累計 12 個月，或

.1.1 twelve months in total during the preceding five years, or

.1.2 在重新生效之前 6 個月中累計 3 個月；或

.1.2 three months in total during the preceding six months immediately prior to revalidating; or

.2 業已執行經認為與第 1.1 項所要求海上海勤資歷相同之專長；或

.2 having performed functions considered to be equivalent to the seagoing service required in paragraph 1.1; or

.3 通過經認可之測驗，或

.3 passing an approved test; or

.4 圓滿地完成認可之一項或多項課程，或

.4 successfully completing an approved training course or courses; or

.5 在編制外之職務或在比剛取得該層級有效證書前較所持有有效證書為低之甲級船員層級完成所持證書專長至少 3 個月之海勤資歷。

.5 having completed approved seagoing service, performing functions appropriate to the certificate held, for a period of not less than three months in a supernumerary capacity, or in a lower officer rank than that for which the certificate held is valid immediately prior to taking up the rank for which it is valid.

2 規則 I/11 所要求複習與新知課程應經過認可，包括與海上人命安全及保護海洋環境有關之國內及國際規則之變更，並考慮及有關適任標準之任何更新。

2 The refresher and updating courses required by regulation I/11 shall be approved and include changes in relevant national and international regulations concerning the safety of life at sea and the protection of the marine environment and take account of any updating of the standard of competence concerned.

3 液貨船之持續專業能力依規則 I/11 第 3 項之規定應制定：

3 Continued professional competence for tankers as required under regulation I/11, paragraph 3 shall be established by:

.1 執行適合所持液貨船證書或加簽所述職責之認可海勤資歷，在最近之 5 年中累計至少 3 個月；或

.1 approved seagoing service, performing duties appropriate to the tanker certificate or endorsement held, for a period of at least 3 months in total during the preceding 5 years; or

.2 圓滿地完成認可之一項或多項課程。

.2 successfully completing an approved relevant training course or courses.

第 A-I/12 節

使用模擬設施之標準

Section A-I/12

Standards governing the use of simulators

第 1 部分 — 性能標準

PART 1 PERFORMANCE STANDARDS

訓練所用模擬設施之一般性能標準

General performance standards for simulators used in training

1 各締約國應確保強制使用模擬設施訓練之任何模擬設施應：

1 Each Party shall ensure that any simulator used for mandatory simulator-based training shall:

- .1 適合於選定之目標及訓練任務；
.1 be suitable for the selected objectives and training tasks;
- .2 能模擬船上有關設備之操作能力，其有形之真實性，包括該等設備之能力、限制及可能之誤差達到適於訓練目的之水準；
.2 be capable of simulating the operating capabilities of shipboard equipment concerned, to a level of physical realism appropriate to training objectives, and include the capabilities, limitations and possible errors of such equipment;
- .3 具有充分之操作真實性。俾接受訓練人員能獲得合乎訓練目標之技能；
.3 have sufficient behavioural realism to allow a trainee to acquire the skills appropriate to the training objectives;
- .4 提供有可控制之操作環境，能夠產生各種狀況，包括與訓練目的有關之緊急、危險或非正常狀況；
.4 provide a controlled operating environment, capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to the training objectives;
- .5 提供介面，俾受訓人員可藉此與設備、模擬狀況及適當時與講師互動；及
.5 provide an interface through which a trainee can interact with the equipment, the simulated environment and, as appropriate, the instructor; and
- .6 可由講師控制、監測及記錄過程，俾便對受訓人員作講評。
.6 permit an instructor to control, monitor and record exercises for the effective debriefing of trainees.

適任性評估所使用模擬設施之一般性能標準

General performance standards for simulators used in assessment of competence

2 各締約國應確保用於評審公約所要求之適任性或證明公約所要求之持續熟練程度之任何模擬設施應：

2 Each Party shall ensure that any simulator used for the assessment of competence required under the Convention or for any demonstration of continued proficiency so required shall:

- .1 具備評鑑特定項目之能力；
- .1 be capable of satisfying the specified assessment objectives;
- .2 能模擬船上有關設備之操作能力，其有形之真實性，包括該等設備之能力、限制及可能產生之誤差達到適於評審目的之水準；
- .2 be capable of simulating the operational capabilities of the shipboard equipment concerned to a level of physical realism appropriate to the assessment objectives, and include the capabilities, limitations and possible errors of such equipment;
- .3 具有充分之操作真實性，俾受訓人員能合乎訓練目標之技能；
- .3 have sufficient behavioural realism to allow a candidate to exhibit the skills appropriate to the assessment objectives;
- .4 提供介面俾受訓人員可藉此與設備及模擬狀況互動；
- .4 provide an interface through which a candidate can interact with the equipment and simulated environment;
- .5 提供可控制之操作環境，能產生各種狀況，包括與評估目標有關之緊急、危險或非正常狀況；及
- .5 provide a controlled operating environment, capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to assessment objectives; and
- .6 可由評審員控制、監控並記錄訓練過程，俾便對受訓人員作有效評估。
- .6 permit an assessor to control, monitor and record exercises for the effective assessment of the performance of candidates.

追加性能標準

Additional performance standards

3 除符合第 1 與第 2 項所述之基本要求外，本節所適用之模擬設施尚應依其特定型式追加符合下述之性能標準：

3 In addition to meeting the basic requirements set out in paragraphs 1 and 2, simulation equipment to which this section applies shall meet the performance standards given hereunder in accordance with their specific type.

雷達模擬

Radar simulation

4 雷達模擬設備應能模擬航海雷達設備之操作能力，該雷達設備係符合本組織所採納所有可適用之性能標準*，並附有下列設施，以：

4 Radar simulation equipment shall be capable of simulating the operational capabilities of navigational radar equipment which meets all applicable performance standards adopted by the Organization* and incorporate facilities to:

- .1 穩定之相對運動方式與對水及對地擬真運動方式之操作；
- .1 operate in the stabilized relative-motion mode and sea- and ground-stabilized true-motion modes;
- .2 模仿天氣狀況、潮流、海流、扇形陰影、假回波及其他電波傳播影響，並產生岸線，導航浮標及搜救雷達詢答機；及
- .2 model weather, tidal streams, current, shadow sectors, spurious echoes and other propagation effects, and generate coastlines, navigational buoys and search and rescue transponders; and
- .3 創造一包括至少兩個能改變本船航向及航速之本船船台之即時操作環境，並包括至少 20 個目標船之數據及適當之通信設備。
- .3 create a real-time operating environment incorporating at least two own-ship stations with ability to change own ship's course and speed, and include parameters for at least 20 target ships and appropriate communication facilities.

自動測繪雷達模擬

Automatic Radar Plotting Aid (ARPA) simulation

5 自動測繪雷達模擬設備應能模擬自動測繪雷達之操作能力，該自動測繪雷達係符合本組織所採納所有可適用之性能標準*，並應附有下列功能設施；

5 ARPA simulation equipment shall be capable of simulating the operational capabilities of ARPAs which meet all applicable performance standards adopted by the Organization*, and shall incorporate the facilities for:

- .1 以手動及自動捕捉目標；

*參見本組織所採納之有關/適當之性能標準。

* See relevant/appropriate performance standards adopted by the Organization.

- .2 past track information;
- .2 過去航跡資料；
- .1 manual and automatic target acquisition;
- .3 除外區域之使用；
- .3 use of exclusion areas;
- .4 向量/圖解時間刻度及數據顯示；及
- .4 vector/graphic time-scale and data display; and
- .5 試操演。
- .5 trial manoeuvres.

第 2 部分 — 其他規定

PART 2 OTHER PROVISIONS

模擬設施訓練目標

Simulator training objectives

6 各締約國應確保使用模擬設施訓練之目的及目標在一全面性訓練計畫中予以界定，同時選定特定之訓練目標及任務，使其儘可能與船上之任務與實務相接近。

6 Each Party shall ensure that the aims and objectives of simulator-based training are defined within an overall training programme and that specific training objectives and tasks are selected so as to relate as closely as possible to shipboard tasks and practices.

訓練程式

Training procedures

7 進行強制使用模擬設施訓練時，講師應確保：

7 In conducting mandatory simulator-based training, instructors shall ensure that:

- .1 事先對受訓人員就訓練目標及任務做適當之說明，並且在操練開始前有充分之準備時間；
- .1 trainees are adequately briefed beforehand on the exercise objectives and tasks and are given sufficient planning time before the exercise starts;
- .2 受訓人員在訓練或評估操練開始前，有適當之時間熟悉模擬設施及其設備；
- .2 trainees have adequate familiarization time on the simulator and with its equipment before any training or assessment exercise commences;
- .3 施教與演練係依照受訓人員之經驗程度選定項目與內容；

- .3 guidance given and exercise stimuli are appropriate to the selected exercise objectives and tasks and to the level of trainee experience;
- .4 操練可經由聲音及畫面觀察受訓人員之動作，並在操練前後予以評鑑；
- .4 exercises are effectively monitored, supported as appropriate by audio and visual observation of trainee activity and pre-and post-exercise evaluation reports;
- .5 受訓人員接受有效之盤問以確保受訓目標已達成，以及操作技能證明已夠標準；
- .5 trainees are effectively debriefed to ensure that training objectives have been met and that operational skills demonstrated are of an acceptable standard;
- .6 鼓勵在盤問時利用一起受訓人員相互評鑑；及
- .6 the use of peer assessment during debriefing is encouraged; and
- .7 模擬設施之設計與測試確保適於特定之訓練目標。
- .7 simulator exercises are designed and tested so as to ensure their suitability for the specified training objectives.

評估程式

Assessment procedures

- 8 如利用模擬設施評估申請發證者之能力證明其適任程度，評審員應確保：
- 8 Where simulators are used to assess the ability of candidates to demonstrate levels of competency, assessors shall ensure that:
 - .1 將經確認清晰明白之操作標準恰當地供申請發證者使用；
 - .1 performance criteria are identified clearly and explicitly and are valid and available to the candidates;
 - .2 制訂有清晰明白之評估標準，以確保評估之可靠與公平，達最佳客觀之檢定與評鑑，並使主觀之裁量減至最低；
 - .2 assessment criteria are established clearly and are explicit to ensure reliability and uniformity of assessment and to optimize objective measurement and evaluation, so that subjective judgements are kept to the minimum;
 - .3 對申請發證者清晰說明應予評估之任務及或技能，及用以決定其適任性之任務與操作標準；
 - .3 candidates are briefed clearly on the tasks and/or skills to be assessed and on the tasks and performance criteria by which their competency will be determined;
 - .4 操作評估考慮及正常之操作程式及在模擬設施上與其他申請發證者或模擬設

施上之講師相互之影響；

- .4 assessment of performance takes into account normal operating procedures and any behavioural interaction with other candidates on the simulator or with simulator staff;
- .5 在利用評分評等之方法評估操作，經批准前，應謹慎使用之；及
- .5 scoring or grading methods to assess performance are used with caution until they have been validated; and
- .6 主要標準為申請發證者證明具有安全有效施行任務之能力，使評審員滿意。
- .6 the prime criterion is that a candidate demonstrates the ability to carry out a task safely and effectively to the satisfaction of the assessor.

講師及評審員之資格*

Qualifications of instructors and assessors*

9 各締約國應確保講師及評審員對規則 I/6 及第 A-I/6 節所規定之特定型式及層級訓練暨相對應之適任性評估具有適當之資格與經驗。

9 Each Party shall ensure that instructors and assessors are appropriately qualified and experienced for the particular types and levels of training and corresponding assessment of competence as specified in regulation I/6 and section A-I/6.

第 A-I/13 節

試驗之實施

Section A-I/13

Conduct of trials

(無條文)

(No provisions)

第 A-I/14 節

公司之責任

Section A-I/14

Responsibilities of companies

1 公司、船長及船員皆有責任確保本節所規定之義務得到全面徹底地執行，並確保採取其他必要措施以確保每位船員皆能為船舶之安全操作，做出有見識及有建樹之貢獻。

1 Companies, masters and crew members each have responsibility for ensuring that the

*相關之 IMO 典型課程及 MSC.64 (67) 號決議案對新增與修正之性能標準決議案可能有助於課程之準備。

*The relevant IMO Model Course(s) and resolution MSC.64(67), *Recommendations on new and amended performance standards*, may be of assistance in the preparation of courses.

obligations set out in this section are given full and complete effect and that such other measures as may be necessary are taken to ensure that each crew member can make a knowledgeable and informed contribution to the safe operation of the ship.

2 公司應向本公約所適用之各船舶之船長提供書面指示，規定應遵循之政策與程式以確保新雇上船工作之所有航海人員皆有合理之機會，在指派其職責前熟悉船上之設備、操作程式及為正確執行其職責所需之其他安排。該等政策及程式應包括：

2 The company shall provide written instructions to the master of each ship to which the Convention applies, setting forth the policies and the procedures to be followed to ensure that all seafarers who are newly employed on board the ship are given a reasonable opportunity to become familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of their duties, before being assigned to those duties. Such policies and procedures shall include:

- .1 安排合理之時間，俾在此期間，每位新雇之航海人員將有機會熟悉：
- .1 allocation of a reasonable period of time during which each newly employed seafarer will have an opportunity to become acquainted with:
 - .1.1 該航海人員即將使用或操作之特定設備；及
 - .1.1 the specific equipment the seafarer will be using or operating;
 - .1.2 該航海人員所需瞭解以正確執行所指派職責之船上特定之當值、安全、環境保護及緊急程式與安排；及
 - .1.2 ship-specific watchkeeping, safety, environmental protection, security and emergency procedures and arrangements the seafarer needs to know to perform the assigned duties properly; and
- .2 指派有見識之船員，以負責確保提供機會予新雇之每位航海人員，以該航海人員能瞭解之語言，使其獲得重要之資訊。
- .2 designation of a knowledgeable crew member who will be responsible for ensuring that an opportunity is provided to each newly employed seafarer to receive essential information in a language the seafarer understands.

3 各公司應考慮及本章程第 B-I/14 節所述之準則，確保駛上／駛下客船上之船長、甲級船員及其他經指派特別職責與責任之人員應已完成專業訓練，達到適於所擔任之職務及所承擔之職責與責任之能力。

3 Companies shall ensure that masters, officers and other personnel assigned specific duties and responsibilities on board their ro-ro passenger ships shall have completed familiarization training to attain the abilities that are appropriate to the capacity to be filled and duties and responsibilities to be taken up, taking into account the guidance given in section B-I/14 of this Code.

第 A-I/15 節

過渡規定

Section A-I/15

Transitional provisions

(無條文)

(No provisions)

第二章 船長及艙面部門之標準

CHAPTER II

Standards regarding the master and deck department

第 A-II/1 節

在總噸位 500 以上船舶負責航行當值之甲級船員發證之強制性最低要求

Section A-II/1

Mandatory minimum requirements for certification of officers in charge of a navigational watch on ships of 500 gross tonnage or more

適任標準

Standard of competence

- 1 凡申請發證者應：
 - 1 Every candidate for certification shall:
 - .1 應要求證明其能力能承擔表 A-II/1 第 1 欄所列操作級之任務、職責及責任；
.1 be required to demonstrate the competence to undertake, at the operational level, the tasks, duties and responsibilities listed in column 1 of table A-II/1;
 - .2 至少持有依據無線電規則所要求之適當證書以執行特高頻無線電通信；及
.2 at least hold the appropriate certificate for performing VHF radiocommunications in accordance with the requirements of the Radio Regulations; and
 - .3 如經指定在遇險事故時負有無線電通信之主要責任，則持有依無線電規則規定所簽發或認可之適當證書。
.3 if designated to have primary responsibility for radiocommunications during distress incidents, hold the appropriate certificate issued or recognized under the provisions of the Radio Regulations.
- 2 發證所要求之最低知識、瞭解及熟練如表 A-II/1 第 2 欄所列。
2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/1.
- 3 表 A-II/1 第 2 欄所列各科目之知識水準，應足使當值甲級船員執行其當值職責*。
3 The level of knowledge of the subjects listed in column 2 of table A-II/1 shall be

*相關之 IMO 典型課程可能有助於課程之準備。

sufficient for officers of the watch to carry out their watchkeeping duties.*

4 為達到所需水準之理論知識、瞭解及熟練之訓練及經驗，應以第 A-VIII/2 節第 4-1 部分航行當值應遵守之基本原則為基礎，並應考慮及本部分之有關要求及本章程 B 篇所列之準則。

4 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall be based on section A-VIII/2, part 4-1 – Principles to be observed in keeping a navigational watch – and shall also take into account the relevant requirements of this part and the guidance given in part B of this Code.

5 凡申請發證者應要求其依表 A-II/1 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供已達到所要求之適任標準之證據。

5 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/1.

船上訓練

Onboard training

6 凡申請發證之申請人在總噸位 500 以上船舶負責航行當值之甲級船員者，其海勤資歷依規則 II/1 第 2.2 項，構成符合本節要求經認可訓練計畫之一部分，則應接受下列認可之在船上訓練計畫：

6 Every candidate for certification as officer in charge of a navigational watch of ships of 500 gross tonnage or more whose seagoing service, in accordance with paragraph 2.2 of regulation II/1, forms part of a training programme approved as meeting the requirements of this section shall follow an approved programme of onboard training which:

- .1 確保申請發證者在要求之海勤資歷期間，考慮及本章程第 B-II/1 節所述之準則，在負責當值甲級船員之任務、職責及責任中，接受有系統之實作訓練及經驗；
- .1 ensures that, during the required period of seagoing service, the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch, taking into account the guidance given in section B-II/1 of this Code;
- .2 在其執行認可之海勤資歷時受到船上適任甲級船員嚴密之指導及監督；及
- .2 is closely supervised and monitored by qualified officers aboard the ships in which the approved seagoing service is performed; and

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

- .3 在訓練紀錄或類似之文件中適當記載之*。
- .3 is adequately documented in a training record book or similar document.*

近岸航程

Near-coastal voyages

7 為簽發服務於近岸航程之限制證書，得刪去表 A-II/4 第 2 欄所列科目中之下列科目，但要記住可能在同一水域作業之所有船舶安全之影響：

7 The following subjects may be omitted from those listed in column 2 of table A-II/1 for issue of restricted certificates for service on near-coastal voyages, bearing in mind the safety of all ships which may be operating in the same waters:

- .1 天文航海；
- .1 celestial navigation; and
- .2 有效證書上未涵蓋水域之電子定位及導航系統。
- .2 those electronic systems of position fixing and navigation that do not cover the waters for which the certificate is to be valid

*相關之 IMO 典範課程及國際航運聯盟(ISF)所製作之類似文件可能有助於課程之準備。

* The relevant IMO Model Course(s) and a similar document produced by the International Shipping Federation may be of assistance in the preparation of training record books.

表 A-II/1

噸位 500 以上船舶負責航行當值之甲級船員之最低適任標準規範

Table A-II/1

**Specification of minimum standard of competence for officers in charge of a
navigational watch on ships of 500 gross tonnage or more**

專長：航海(操作級)

Function: Navigation at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
航程計畫與執行及定位 Plan and conduct a passage and determine position	天文航海 <i>Celestial navigation</i> 使用天體確定船位之能力 Ability to use celestial bodies to determine the ship's position 地文航海及沿岸航行 <i>Terrestrial and coastal navigation</i> 使用下列各項確定船位之能力 Ability to determine the ship's position by use of: .1 岸標 .1 landmarks .2 燈塔、示標及浮標等助航標誌 .2 aids to navigation, including lighthouses, beacons and buoys .3 考慮及風、潮汐、海流及估計航速推算船位 .3 dead reckoning, taking into account winds, tides, currents and estimated speed	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate .4 認可之實驗室設備訓練 .4 approved laboratory equipment training 使用海圖目錄、海圖、航海出版物、無線電航行警告、六分儀、方位鏡、電子導航設備、回聲測深儀、羅經 using chart catalogues, charts, nautical publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo-sounding equipment, compass	從海圖及航海出版物獲取資料，正確地解釋並適當地應用。所有潛在之航行危險已準確辨識 The information obtained from nautical charts and publications is relevant, interpreted correctly and properly applied. All potential navigational hazards are accurately identified 主要船舶定位方法係最適合於當時環境及狀況 The primary method of fixing the ship's position is the most appropriate to the prevailing circumstances and conditions 確定之船位係在公認之儀器/系統誤差限度內 The position is determined within the limits of acceptable instrument/system errors 從主要定位方法所獲得資料之可信度已每隔適當之時間予以查核 The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals 航海資料之計算及量測係精確 Calculations and measurements of navigational information are accurate

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
	<p>使用海圖及航海刊物，諸如航行指南、潮汐表、航船佈告、無線電航行警告及船舶航路資料等詳盡之知識及能力 Thorough knowledge of and ability to use nautical charts, and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routeing information</p> <p>電子定位及導航系統 <i>Electronic systems of position fixing and navigation</i></p> <p>使用電子導航儀器、確定船位之能力 Ability to determine the ship's position by use of electronic navigational aids</p>		<p>所選用之海圖為適於航行區域所用之最大比例者，且海圖及刊物係經船上可用之最新資料修正 The charts selected are the largest scale suitable for the area of navigation and charts and publications are corrected in accordance with the latest information available</p> <p>依廠家之建議、良好之航海習慣查核，並測試導航系統之性能 Performance checks and tests to navigation systems comply with manufacturer's recommendations and good navigational practice</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
維持安全航行當值 Maintain a safe navigational watch	<p><u>當值</u> <i>Watchkeeping</i></p> <p>關於<u>經修正 1972 年</u>國際海上避碰規則之內容、應用及企圖之全面知識 Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, as amended</p> <p>維持航行當值應遵守之基本原則之全面知識 Thorough knowledge of the Principles to be observed in keeping a navigational watch</p> <p>依船舶航路之一般規定所使用之航路 The use of routeing in accordance with the General Provisions on Ships' Routeing</p> <p><u>自航儀設備保持安全航行當值所獲資訊之運用</u> The use of information from navigational equipment for maintaining a safe navigational watch</p> <p><u>無目視資訊之航行技術知識</u> Knowledge of blind pilotage techniques</p> <p><u>依據船舶報告系統與 VTS 程式一般原則報告之運用</u> The use of reporting in accordance with the General Principles for Ship Reporting Systems and with VTS procedures</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： <i>Examination and assessment of evidence obtained from one or more of the following:</i></p> <p>.1 認可之在職經歷 .1 approved in-service experience;</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p>.4 認可之實驗設備訓練 .4 approved laboratory equipment training</p>	<p>按照公認之原則及程式當值、交班及接班 The conduct, handover and relief of the watch conforms with accepted principles and procedures</p> <p>隨時維持正規之瞭望，遵守公認之原則及程式號燈、號標及音響信號遵守與<u>經修正 1972 年</u>國際海上避碰規則之要求並正確予以識別 A proper look-out is maintained at all times and in such a way as to conform to accepted principles and procedures Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea, 1972, as amended and are correctly recognized</p> <p>監視交通、船舶及環境之頻度及程度與公認之原則及程式相符 The frequency and extent of monitoring of traffic, the ship and the environment conform with accepted principles and procedures</p> <p>有關該船舶航行之維持正常記錄 A proper record is maintained of the movements and activities relating to the navigation of the ship</p> <p>隨時清楚地界定安全航行之責任，包括船長在駕駛台期間及正在領航期間 Responsibility for the safety of navigation is clearly defined at all times, including periods when the master is on the bridge and while under pilotage</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
維持安全航行當值（續） Maintain a safe navigational watch (continued)	<u>駕駛台資源管理</u> <i>Bridge resource management</i> <u>駕駛台資源管理原則之知識包括：</u> Knowledge of bridge resource management principles, including: .1 資源之分配、分派與優先順序 .1 allocation, assignment, and prioritization of resources .2 有效之通信 .2 effective communication .3 決斷與領導力 .3 assertiveness and leadership .4 獲得與保持處境之警覺性 .4 obtaining and maintaining situational awareness	評估自下列一項或數項所獲得之證據： Assessment of evidence obtained from one or more of the following: .1 認可之訓練 .1 approved training .2 認可之在職經驗 .2 approved in-service experience .3 認可之模擬機訓練 .3 approved simulator training	依據需要按正確之優先順序分配及分派資源，以執行必要之任務 Resources are allocated and assigned as needed in correct priority to perform necessary tasks 通信之發出與接收清晰並不含糊 Communication is clearly and unambiguously given and received 有疑問之決定及/或行動肇致適當之質疑與反應 Questionable decisions and/or actions result in appropriate challenge and response 確定有效之領導行為 Effective leadership behaviours are identified 對當前與預期之船舶狀況、航路與外在環境，與小組成員有共同之準確理解 Team member(s) share accurate understanding of current and predicted vessel state, navigation path, and external environment
使用雷達與自動測繪雷達以維持航行安全 Use of radar and ARPA to maintain safety of navigation 註：使用自動測繪雷達之訓練及評估專門在無自動測繪雷達船上服務之人員而言，不必要求此項限制，但應在有關航海人員所簽發之加簽上註明 Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on ships not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the seafarer concerned	<u>雷達航海</u> <i>Radar navigation</i> 雷達及自動測繪雷達之基本知識 Knowledge of the fundamentals of radar and automatic radar plotting aids (ARPA) 有能力操作雷達，並有能力解釋及分析從雷達所獲取之資料，包括下列各項： Ability to operate and to interpret and analyse information obtained from radar, including the following: 性能包括： Performance, including: .1 影響性能及精確度之因素 .1 factors affecting performance and accuracy .2 調整並維持顯示 .2 setting up and maintaining displays .3 偵測誤傳資料、假回跡、海浪反射等雷桿及搜救詢答機 .3 detection of misrepresentation of information, false echoes, sea return, etc., racons and SARTs	評估之證據係自認可之雷達模擬設施與自動模擬訓練加在職經驗獲得 Assessment of evidence obtained from approved radar simulator and ARPA simulator plus in service experience	考慮及設備之限制及當時環境及狀況，將從雷達及自動測繪雷達所獲取之資料予以正確解釋及分析 Information obtained from radar and ARPA is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
使用雷達與自動測繪雷達以維持航行安全(續) Use of radar and ARPA to maintain safety of navigation (continued)	<p>使用包括： Use, including:</p> <ol style="list-style-type: none"> .1 距離及方位：他船航向及航速；穿越、相遇、追越船舶時最接近之時間及距離 .1 range and bearing; course and speed of other ships; time and distance of closest approach of crossing, meeting overtaking ships .2 重要回跡之識別，他船航向及航速改變之偵測、本船航向及/或航速改變之影響 .2 identification of critical echoes; detecting course and speed changes of other ships; effect of changes in own ship's course or speed or both .3 經修正 1972 年國際海上避碰規則之應用 .3 application of the International Regulations for Preventing Collisions at Sea, 1972, as amended .4 測繪技術及相對與真運動概念 .4 plotting techniques and relative- and true-motion concepts .5 平行標示 .5 parallel indexing 		<p>依據經修正 1972 年國際海上避碰規則之規定採取措施以避免接近他船或與他船碰撞</p> <p>Action taken to avoid a close encounter or collision with other vessels is in accordance with the International Regulations for Preventing Collisions at Sea, 1972, as amended</p> <p>修正航向及/或航速之決定應即時並符合航海慣例</p> <p>Decisions to amend course and/or speed are both timely and in accordance with accepted navigation practice</p> <p>調整船舶航向及航速以維持安全航行</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p> <p>以符船員之禮儀隨時保持清晰、簡潔及確定之溝通</p> <p>Communication is clear, concise and acknowledged at all times in a seamanlike manner</p> <p>依據經修正 1972 年國際海上避碰規則適時發出運轉信號</p> <p>Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea, 1972, as amended</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p>使用雷達與自動測繪雷達以維持航行安全(續) Use of radar and ARPA to maintain safety of navigation (continued)</p> <p>註：使用自動測繪雷達之訓練及評估專門在無自動測繪雷達船上服務之人員而言，不必要求此項限制，但應在有關航海人員所簽發之加簽上註明 Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on ships not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the seafarer concerned</p>	<p>自動測繪雷達主要型式，其顯示特性、性能標準及過分依賴自動測繪雷達之危險 Principal types of ARPA, their display characteristics, performance standards and the dangers of over-reliance on ARPA</p> <p>有能力操作自動測繪雷達，並有能力解釋及分析從自動測繪雷達所獲得之資料，包括： Ability to operate and to interpret and analyse information obtained from ARPA, including:</p> <ol style="list-style-type: none"> .1 系統性能及精確度，追蹤航跡能力及限制與過程之延遲 .1 system performance and accuracy, tracking capabilities and limitations, and processing delays .2 操作警告及系統測試之使用 .2 use of operational warnings and system tests .3 捕捉目標方法及其限制 .3 methods of target acquisition and their limitations .4 絕對及相對向量、目標資料及危險區之圖示 .4 true and relative vectors, graphic representation of target information and danger areas .5 推究及分析資料、重要回跡、限區或試航 .5 deriving and analysing information, critical echoes, exclusion areas and trial manoeuvres 		

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>使用ECDIS保持航行之安全</u> Use of ECDIS to maintain the safety of navigation</p> <p><u>註：對不必配備 ECDIS 之船上工作人員，免予施行該設備之使用訓練與評估，該限制應反映於簽發予有關航海人員之加簽證書中</u> Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on ships not fitted with ECDIS. These limitations shall be reflected in the endorsements issued to the seafarer concerned</p>	<p><u>使用ECDIS航行</u> <i>Navigation using ECDIS</i></p> <p><u>操作 ECDIS 之能力與限制知識，包括：</u> Knowledge of the capability and limitations of ECDIS operations, including:</p> <p><u>.1 徹底瞭解電子海圖（ENC）數據、數據精度、表示規則、顯示選擇與其他海圖數據格式</u> .1 a thorough understanding of Electronic Navigational Chart (ENC) data, data accuracy, presentation rules, display options and other chart data formats</p> <p><u>.2 過分依賴之危險</u> .2 the dangers of over-reliance</p> <p><u>.3 熟悉ECDIS之功能應合於已生效之執行標準及要求</u> .3 familiarity with the functions of ECDIS required by performance standards in force</p> <p><u>熟練之操作、解釋與分析自 ECDIS所獲取之資訊，包括：</u> Proficiency in operation, interpretation, and analysis of information obtained from ECDIS, including:</p> <p><u>.1 使用與各種不同裝置中之其他導航系統整體之功能，包括適當之功能設定及對所欲調定之調整</u> .1 use of functions that are integrated with other navigation systems in various installations, including proper functioning and adjustment to desired settings</p>	<p><u>考試並評估自下列一項或多項所獲得之證據：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之訓練船上經驗</u> .1 approved training ship experience</p> <p><u>.2 認可的 ECDIS 模擬機訓練</u> .2 approved ECDIS simulator training</p>	<p><u>以有助於航行安全之方式監視ECDIS上之資訊</u> Monitors information on ECDIS in a manner that contributes to safe navigation</p> <p><u>正確之解釋與分析自ECDIS（包括如裝有之雷達覆蓋及/或雷達目標追縱功能）獲取之資訊，並考慮及設備之局限性、所有相關之感應器（包括雷達與AIS，如接面時）及當時之環境與條件</u> Information obtained from ECDIS (including radar overlay and/or radar tracking functions, when fitted) is correctly interpreted and analysed, taking into account the limitations of the equipment, all connected sensors (including radar and AIS where interfaced), and prevailing circumstances and conditions</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>使用ECDIS 保持航行之安全(續)</u> Use of ECDIS to maintain the safety of navigation (continued)	<p><u>.2 安全監控與調整資訊，包括本船位置、海域顯示、模式與方位、顯示之海圖數據、航路監控、用戶所生之資訊層、物標（當AIS及/或雷達追縱接面時）與雷達覆蓋功能（當接面時）</u></p> <p>.2 safe monitoring and adjustment of information, including own position, sea area display, mode and orientation, chart data displayed, route monitoring, user-created information layers, contacts (when interfaced with AIS and/or radar tracking) and radar overlay functions (when interfaced)</p> <p><u>.3 使用另一方式確認船位</u></p> <p>.3 confirmation of vessel position by alternative means</p> <p><u>.4 有效利用調定以確保符合操作程式，包括防止擱淺、接近物標與特殊區域之報警參數、海圖數據之完整性、海圖更新狀態與備份之安排</u></p> <p>.4 efficient use of settings to ensure conformance to operational procedures, including alarm parameters for anti-grounding, proximity to contacts and special areas, completeness of chart data and chart update status, and backup arrangements</p> <p><u>.5 調整適合當前狀況之設定值</u></p> <p>.5 adjustment of settings and values to suit the present conditions</p> <p><u>.6 用ECDIS時之處境意識，包括安全水域及對危險之接近程度、流向與流速、海圖數據與比例尺選擇、航路之適合性、物標之探測與管理，及感應器之完整性</u></p> <p>.6 situational awareness while using ECDIS including safe water and proximity of hazards, set and drift, chart data and scale selection, suitability of route, contact detection and management, and integrity of sensors</p>		<p><u>通過ECDIS 控制之航跡保持功能（當裝有時）調節船舶之航向與航速，使船舶之航行安全得以保持</u></p> <p>Safety of navigation is maintained through adjustments made to the ship's course and speed through ECDIS-controlled track-keeping functions (when fitted)</p> <p><u>始終以海員之方式清晰與簡要之溝通並確認</u></p> <p>Communication is clear, concise and acknowledged at all times in a seamanlike manner</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
應急之反應 Respond to emergencies	<p>應急程式 <i>Emergency procedures</i></p> <p>緊急情況下旅客安全與保護之預防措施 Precautions for the protection and safety of passengers in emergency situations</p> <p>碰撞或擱淺後，應採取之初步措施，損害之最初評估及管制 Initial action to be taken following a collision or a grounding; initial damage assessment and control</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練，(適當時) .3 approved simulator training, where appropriate</p> <p>.4 實作訓練 .4 practical training</p>	<p>迅速鑑定緊急情況之型式及大小 The type and scale of the emergency is promptly identified</p> <p>最初行動及適當時船舶操縱係依應急計畫，並適於緊急情況及應急性質 Initial actions and, if appropriate, manoeuvring of the ship are in accordance with contingency plans and are appropriate to the urgency of the situation and nature of the emergency</p>
對海上遇險信號之反應 Respond to a distress signal at sea	<p>重視救助落水人員、協助遇險船舶、處置在港內之緊急情況應遵守之程式 Appreciation of the procedures to be followed for rescuing persons from the sea, assisting a ship in distress, responding to emergencies which arise in port</p> <p>搜索與救助 <i>Search and rescue</i></p> <p>國際航空與海上搜救手冊 (IAMSAR) 內容之知識 Knowledge of the contents of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual</p>	<p>測驗及從實作講授或認可之模擬設施訓練(適當時)所獲得證據，予以評估 Examination and assessment of evidence obtained from practical instruction or approved simulator training, where appropriate</p>	<p>立即識別遇險及緊急信號 The distress or emergency signal is immediately recognized</p> <p>執行並符合應急計畫及標準作業程式之指導 Contingency plans and instructions in standing orders are implemented and complied with</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
使用 IMO 標準海事通信用語並以書寫及口語型式使用英語 Use the IMO Standard Marine Communication Phrases and use English in written and oral form	<p>英語 <i>English language</i></p> <p>足夠之英語知識，使甲級船員能使用海圖及其他航海出版物，瞭解氣象資料及有關船舶安全與操作之資訊，與他船、海岸電台及 VTS 中心通信以及執行甲級船員職責，並亦能與多種語言船員溝通，包含有能力使用，並瞭解 IMO 標準海事通信用語(IMO SMCP)</p> <p>Adequate knowledge of the English language to enable the officer to use charts and other nautical publications, to understand meteorological information and messages concerning ship's safety and operation, to communicate with other ships, coast stations and VTS centres and to perform the officer's duties also with a multilingual crew, including the ability to use and understand the IMO Standard Marine Communication Phrases (IMO SMCP)</p>	<p>測驗及從實作講授所獲得證據予以評估 Examination and assessment of evidence obtained from practical instruction</p>	<p>正確地解釋及草擬英文版航海出版物及有關船舶安全之訊息 English language nautical publications and messages relevant to the safety of the ship are correctly interpreted or drafted</p> <p>語言溝通清楚並能被瞭解 Communications are clear and understood</p>
以視覺信號發送及接收資訊 Transmit and receive information by visual signalling	<p>視覺信號 <i>Visual signalling</i></p> <p>使用國際信號代碼之能力以摩斯燈號收發經修正1972年海上避碰國際規則附錄IV與國際信號代碼附件1規定之遇險信號SOS及同樣在國際信號代碼所規定之單字母視覺信號之能力 Ability to use the International Code of Signals Ability to transmit and receive, by Morse light, distress signal SOS as specified in Annex IV of the International Regulations for Preventing Collisions at Sea, 1972, as amended and appendix 1 of the International Code of Signals, and visual signalling of single-letter signals as also specified in the International Code of Signals</p>	<p>從實際訓練及/或模擬中所獲得證據予以評估 Assessment of evidence obtained from practical instruction and/or simulation</p>	<p>在操作者責任範圍內之通訊圓滿 Communications within the operator's area of responsibility are consistently successful</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操縱船舶 Manoeuvre the ship	<p>船舶操縱及操作 <i>Ship manoeuvring and handling</i></p> <p>具有下列知識： Knowledge of:</p> <ul style="list-style-type: none"> .1 載重量、吃水、俯仰、航速及迴旋時餘裕水深暨停止距離之影響 .1 the effects of deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances .2 風及海流對船舶操作之影響 .2 the effects of wind and current on ship handling .3 救助落水人員之操縱及程式 .3 manoeuvres and procedures for the rescue of person overboard .4 艫坐、淺水及類似效應 .4 squat, shallow-water and similar effects .5 錨泊及繫泊之正規程式 .5 proper procedures for anchoring and mooring 	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate .4 在認可之有人操縱縮小船模之訓練(適當時) .4 approved training on a manned scale ship model, where appropriate 	<p>在正常之操縱中，船舶推進、操舵及動力系統不超出安全操作限制 Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>調整船舶之航向及航速，以維持航行安全 Adjustments made to the ship's course and speed maintain safety of navigation</p>

專長：貨物裝載（操作級）

Function: Cargo handling and stowage at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
監督裝貨、積載、繫固、航行中照料及卸貨 Monitor the loading, stowage, securing, care during the voyage and the unloading of cargoes	<p>貨物裝卸、積載及繫固 <i>Cargo handling, stowage and securing</i></p> <p>貨物影響之知識，包括重貨對船舶適航性及穩度之影響 Knowledge of the effect of cargo, including heavy lifts, on the seaworthiness and stability of the ship</p> <p>安全裝卸、積載及貨物繫固之知識，包括固體貨物、危險與有害貨物及其對人命與船舶安全之影響 Knowledge of safe handling, stowage and securing of cargoes, including dangerous, hazardous and harmful cargoes, and their effect on the safety of life and of the ship</p> <p>當裝卸貨中建立並保持有效通信之能力 Ability to establish and maintain effective communications during loading and unloading</p>	<p>測驗及從所獲得下列之一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p>	<p>依據貨物積載圖與其他文件，所制訂之安全規則、設備操作手冊及船舶積載限制，進行貨物操作 Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules/regulations, equipment operating instructions and shipboard stowage limitations</p> <p>遵照國際規則與認可之標準及安全操作章程進行裝卸危險與有害貨物 The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognized standards and codes of safe practice</p> <p>通信清楚能瞭解且圓滿 Communications are clear, understood and consistently successful</p>
對貨艙間、艙口蓋與壓艙櫃進行檢查並作缺點報告 Inspect and report defects and damage to cargo spaces, hatch covers and ballast tanks	<p>闡述何處尋找由於下列最常遭受損壞與瑕疵之知識*與能力： Knowledge* and ability to explain where to look for damage and defects most commonly encountered due to:</p> <p>.1 裝卸作業 .1 loading and unloading operations</p> <p>.2 腐蝕 .2 corrosion</p> <p>.3 惡劣之天候狀況 .3 severe weather conditions</p>	<p>測驗及從所獲得下列之一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p>	<p>依據既定之程式施行檢查，並發現瑕疵與損壞且作適當之報告 The inspections are carried out in accordance with laid-down procedures, and defects and damage are detected and properly reported</p> <p>如未發現瑕疵與損壞，由測試與測驗之證據明白顯示在遵循程式方面有適當之適任性並具有能力區別船舶之正常與缺陷或損壞部位之能力 Where no defects or damage are detected, the evidence from testing and examination clearly indicates adequate competence in adhering to procedures and ability to distinguish between normal and defective or damaged parts of the ship</p>

*應瞭解航行員並不需要具有船舶檢驗之資格。

*It should be understood that deck officers need not be qualified in the survey of ships.

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
對貨艙間、艙口蓋與壓艙櫃進行檢查並作缺點報告(續) Inspect and report defects and damage to cargo spaces, hatch covers and ballast tanks (continued)	<p>陳述在特定之期間內船舶之那一部位每次均應予檢查始能涵蓋全部之能力 Ability to state which parts of the ship shall be inspected each time in order to cover all parts within a given period of time</p> <p>確定為船舶安全關鍵之船體結構件 Identify those elements of the ship structure which are critical to the safety of the ship</p> <p>陳述貨艙間與壓艙櫃腐蝕之原因，及如何確認與防止銹蝕 State the causes of corrosion in cargo spaces and ballast tanks and how corrosion can be identified and prevented</p> <p>有關如何施行檢查程式之知識 Knowledge of procedures on how the inspections shall be carried out</p> <p>闡述如何確保能可靠發現缺陷與損壞之能力 Ability to explain how to ensure reliable detection of defects and damages</p> <p>瞭解“加強檢驗計畫”之目的 Understanding of the purpose of the “enhanced survey programme”</p>		

專長：控制船舶操作及船上人員管理(操作級)

Function: Controlling the operation of the ship and care for persons on board at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
確保符合防止污染要求 Ensure compliance with pollution-prevention requirements	<p>防止海上環境污染及防止污染程式 <i>Prevention of pollution of the marine environment and anti-pollution procedures</i></p> <p>防止海上環境污染應採取之預防措施之知識 Knowledge of the precautions to be taken to prevent pollution of the marine environment</p> <p>防止污染程式及所有相關設備 Anti-pollution procedures and all associated equipment</p> <p><u>主動保護海洋環境措施之重要性</u> Importance of proactive measures to protect the marine environment</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p><u>.3 認可之訓練</u> .3 approved training</p>	<p>監督船上操作程式，並確保完全符合遵守 MARPOL 公約之要求 Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed</p> <p><u>採取行動以保證保持積極之環保聲譽</u> Actions to ensure that a positive environmental reputation is maintained</p>
維持船舶之適航性 Maintain seaworthiness of the ship	<p>船舶穩度 <i>Ship stability</i></p> <p>穩度、俯仰與應力圖表及應力計算設備之實際知識及應用 Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment</p> <p>瞭解一旦喪失部分完整浮力，應採取之基本行動 Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy</p> <p>瞭解水密完整性之基本知識 Understanding of the fundamentals of watertight integrity</p> <p>船舶構造 <i>Ship construction</i></p> <p>船舶主要結構構件之一般知識及各部構件之正確名稱 General knowledge of the principal structural members of a ship and the proper names for the various parts</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p>.4 認可之實驗設備訓練 .4 approved laboratory equipment training</p>	<p>在各種裝載情況下之穩度符合 IMO 完整穩度標準 The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>依據公認之慣例採取確保並維持水密完整性之行動 Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
船上防火、控制火災及滅火 Prevent, control and fight fires on board	<p>防火及滅火設備 <i>Fire prevention and fire-fighting appliances</i></p> <p>組織滅火演習之能力 Ability to organize fire drills</p> <p>火災之種類及其化學性質之知識 Knowledge of classes and chemistry of fire</p> <p>滅火系統之知識 Knowledge of fire-fighting systems</p> <p>一旦失火包括油料系統著火時，應採取行動之知識 Knowledge of action to be taken in the event of fire, including fires involving oil systems</p>	<p>從第 A-VI/3 節所規定認可之滅火訓練及經驗中獲得證據予以評估 Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3</p>	<p>迅速確認問題之型式及範圍，其最初行動與應急程式及船上應急計畫相符 The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the ship</p> <p>撤離、緊急關閉及隔離程序適於應急情況之性質，並迅速予以執行 Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p>優先順序，及作出報告與通知船上人員之程度與時間表，係與緊急情況之性質相關，並反映出問題之緊急程度 The order of priority and the levels and time-scales of making reports and informing personnel on board are relevant to the nature of the emergency and reflect the urgency of the problem</p>
操作救生設備 Operate life-saving appliances	<p>救生 <i>Life-saving</i></p> <p>組織棄船演習之能力及操作救生艇筏與救難艇及其下水設備與佈置，及其設備(包括無線電救生設備、衛星應急指位無線電示標、搜救雷達詢答機、浸水衣與保暖設備)之知識 Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids</p>	<p>從第 A-VI/2 節第 1 至 4 項所規定認可之訓練及經驗中獲得證據予以評估 Assessment of evidence obtained from approved training and experience as set out in section A-VI/2, paragraphs 1 to 4</p>	<p>對棄船及求生狀況所為之反應行動適於當時環境及情況，並符合公認之安全習慣及標準 Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards</p>
在船上應用醫療急救 Apply medical first aid on board ship	<p>醫護 <i>Medical aid</i></p> <p>醫護指南及無線電諮詢之實際應用，包括在船上對可能發生事故或疾病，根據該等知識所採取有效行動之能力 Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship</p>	<p>從第 A-VI/4 節第 1 至 3 項所規定認可訓練獲得證據予以評估 Assessment of evidence obtained from approved training as set out in section A-VI/4, paragraphs 1 to 3</p>	<p>迅速確認傷害或病況之可能原因、性質及程度，並予治療以減低對生命之立即威脅 The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
監督符合法定要求 Monitor compliance with legislative requirements	與海上人命安全及保護海洋環境有關之 IMO 有關公約之基本實用知識 Basic working knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment	從測驗或認可訓練中獲得證據予以評估 Assessment of evidence obtained from examination or approved training	正確確認有關海上人命安全及保護海洋環境之法定要求 Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified
領導與統禦技巧之運用 Application of leadership and teamworking skills	<u>船上人員管理與訓練之工作知識</u> Working knowledge of shipboard personnel management and training <u>有關國際海事公約與建議案及國內法規之知識</u> Knowledge of related international maritime conventions and recommendations, and national legislation <u>分派任務與管理工作量之能力，包括：</u> Ability to apply task and workload management, including: <u>.1 計劃與統合</u> .1 planning and co-ordination <u>.2 人員分配</u> .2 personnel assignment <u>.3 時間與資源之侷限</u> .3 time and resource Constraints <u>.4 優先順序</u> .4 prioritization	<u>從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following: <u>.1 認可之訓練</u> .1 approved training <u>.2 認可之在職經驗</u> .2 approved in-service experience <u>.3 實作示範</u> .3 practical demonstration	<u>分派船員之任務並告知適於各有關人員之預期行為方式與工作標準</u> The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned <u>訓練之目標與活動係基於對目前適任性與能力及操作要求之評估</u> Training objectives and activities are based on assessment of current competence and capabilities and operational requirements.

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>領導與統禦技巧之運用 (續)</u> Application of leadership and teamworking skills <i>(continued)</i>	<u>有效應用資源管理之知識與能力：</u> Knowledge and ability to apply effective resource management: <u>.1 資源之分派、分配及優先順序</u> .1 allocation, assignment, and prioritization of resources <u>.2 有效之船岸通信</u> .2 effective communication onboard and ashore <u>.3 所作決策反映尊重團隊之經驗</u> .3 decisions reflect consideration of team experiences <u>.4 決斷與領導，包括推動</u> .4 assertiveness and leadership, including motivation <u>.5 獲取並保持處境認識</u> .5 obtaining and maintaining situational awareness <u>應用作出決策技術之知識與能力：</u> Knowledge and ability to apply decision-making techniques: <u>.1 處境與風險之評估</u> .1 Situation and risk assessment <u>.2 確定與考慮所應作之選擇</u> .2 Identify and consider generated options <u>.3 選擇行動之方針</u> .3 Selecting course of action <u>.4 評估結果之有效性</u> .4 Evaluation of outcome effectiveness		<u>證明依係可適用之規則操作</u> Operations are demonstrated to be in accordance with applicable rules <u>依計畫操作而資源係依完成必要任務之所需作正確優先順序之分派</u> Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks <u>清晰及明確的溝通</u> Communication is clearly and unambiguously given and received <u>證明具有有效之領導行為</u> Effective leadership behaviours are demonstrated <u>必要之小組成員分別瞭解現有與預期船舶之操作情況與外部環境之狀況</u> Necessary team member(s) share accurate understanding of current and predicted vessel and operational status and external environment <u>所作之決策對處境非常有效</u> Decisions are most effective for the situation

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於船舶與人員之安全 Contribute to the safety of personnel and ship	<u>人員求生技能之知識</u> Knowledge of personal survival techniques <u>防火之知識與滅火之能力</u> Knowledge of fire prevention and ability to fight and extinguish fires <u>基本急救之知識</u> Knowledge of elementary first aid <u>人員安全與社會責任之知識</u> Knowledge of personal safety and social responsibilities	<u>從第 A-VI/I 節第 2 項所規定之認可訓練與經驗獲得證據予以評估</u> Assessment of evidence obtained from approved training and experience as set out in section A-VI/1, paragraph 2	<u>正確利用適當之安全與防護設備</u> Appropriate safety and protective equipment is correctly used <u>經常注意指定用以保護船舶與人員之程式與安全工作實務</u> Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times <u>經常注意指定用以保護環境之程式</u> Procedures designed to safeguard the environment are observed at all times <u>在察覺緊急情況時依據所建立之應急回應程式展開及嗣後之行動</u> Initial and follow-up action on becoming aware of an emergency conforms with established emergency response procedures

第 A-II/2 節

在總噸位 500 以上船舶之船長及大副發證之強制性最低要求

Section A-II/2

Mandatory minimum requirements for certification of masters and chief mates on ships of 500 gross tonnage or more

適任標準

Standard of competence

1 凡申請發證為總噸位 500 以上船舶之船長及大副者，應要求證明其能力能承擔表 A-II/2 第 1 欄所列管理級之任務、職責及責任。

1 Every candidate for certification as master or chief mate of ships of 500 gross tonnage or more shall be required to demonstrate the competence to undertake, at the management level, the tasks, duties and responsibilities listed in column 1 of table A-II/2.

2 發證所要求之最低知識、瞭解及熟練如表 A-II/2 第 2 欄所列。其內容合併、擴大並加深了表 A-II/1 第 2 欄所列負責航行當值甲級船員所要求之科目。

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/2. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-II/1 for officers in charge of a navigational watch.

3 切記船長對船舶、旅客、船員及貨物之安全，以及對保護海洋環境防止為船舶污染負有基本責任；而大副應處於隨時承擔該等責任之職位；因此對該等科目之評估，應予設計以測試其對影響船舶、旅客、船員及貨物安全或保護海洋環境等所有可用資料之吸收能力。

3 Bearing in mind that the master has ultimate responsibility for the safety of the ship, its passengers, crew and cargo, and for the protection of the marine environment against pollution by the ship, and that a chief mate shall be in a position to assume that responsibility at any time, assessment in these subjects shall be designed to test their ability to assimilate all available information that affects the safety of the ship, its passengers, crew or cargo, or the protection of the marine environment.

4 表 A-II/2 第 2 欄所列各科目之知識水準，應足以使申請發證者在船長或大副之職務*上服務。

4 The level of knowledge of the subjects listed in column 2 of table A-II/2 shall be sufficient to enable the candidate to serve in the capacity of master or chief mate*.

*相關之 IMO 典型課程可能有助於課程之準備。

*The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

5 表 A-II/2 第 2 欄不同各節所要求之理論知識、瞭解及熟練之水準，得與證書適用於總噸位 3,000 以上之船舶，抑是適用於總噸位 500 至 3,000 之間之船舶而有所不同。

5 The level of theoretical knowledge, understanding and proficiency required under the different sections in column 2 of table A-II/2 may be varied according to whether the certificate is to be valid for ships of 3,000 gross tonnage or more or for ships of between 500 gross tonnage and 3,000 gross tonnage.

6 為達到所需水準之理論知識、瞭解及熟練，並應考慮及本部分之有關要求及本章程 B 篇所列之準則。

6 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take into account the relevant requirements of this part and the guidance given in part B of this Code.

7 凡申請發證者應要求其依表 A-II/1 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供已達到所要求適任標準之證據。

7 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/2.

近岸航程

Near-coastal voyages

8 主管機關得簽發限制服務於專門從事近岸航程之船舶上之證書。簽發此等證書，並得將不適用於有關水域或有關船舶之此等科目予以刪減，但要記住可能在同一水域作業之所有船舶之安全。

8 An Administration may issue a certificate restricted to service on ships engaged exclusively on near-coastal voyages and, for the issue of such a certificate, may exclude such subjects as are not applicable to the waters or ships concerned, bearing in mind the effect on the safety of all ships which may be operating in the same waters.

表 A-II/2

在總噸位 500 以上船舶之船長及大副之最低適任標準規範

Table A-II/2

Specification of minimum standard of competence for masters and chief mates
on ships of 500 gross tonnage or more

專長：航海(管理級)

Function: Navigation at the management level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
航程計畫及執行 Plan a voyage and conduct navigation	<p>航程計畫及所有情況之航行考慮及下列以公認之方法繪出大洋航線：</p> <p>Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks, taking into account, e.g.:</p> <p>.1 受限制水域 .1 restricted waters</p> <p>.2 氣象條件 .2 meteorological conditions</p> <p>.3 冰區 .3 ice</p> <p>.4 能見度不良 .4 restricted visibility</p> <p>.5 分道通航制 .5 traffic separation schemes</p> <p><u>.6 船舶交通服務 (VTS) 區域</u> .6 vessel traffic service (VTS) areas</p> <p><u>.7 潮汐影響大的區域</u> .7 areas of extensive tidal effects</p> <p>規定航路依據「船舶航路一般規定」 Routeing in accordance with the General Provisions on Ships' Routeing</p> <p>報告依據「船舶報告系統之一般原則」與 VTS 之程式 Reporting in accordance with the General principles for Ship Reporting Systems and with VTS procedures</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate</p> <p>.3 認可之實驗設備訓練 .3 approved laboratory equipment training</p> <p>使用海圖目錄、海圖、航海刊物及船舶規格表 using chart catalogues, charts, nautical publications and ship particulars</p>	<p>所列舉該航次所需之設備、海圖及航海刊物，適於在該航程安全施行 The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>航線之規則係自有關來源及出版物所得知之現況及統計數據為準 The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>計算正確之船位、航向、航程及時間，並在航行設備所公認之精確度標準內 Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment</p> <p>所有潛在之航行危險已準確認出 All potential navigational hazards are accurately identified</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
定位及以任何方法定位結果之精確度 Determine position and the accuracy of resultant position fix by any means	<p>所有情況下之定位： Position determination in all conditions:</p> <p>.1 利用天文觀測 .1 by celestial observations</p> <p>.2 利用地文觀測，包括使用適當之海圖、航行通告及其他航海刊物，判斷最終所得船位精確度之能力； .2 by terrestrial observations, including the ability to use appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting position fix</p> <p>.3 使用現代電子航儀，以其操作原理、限制、誤差源、誤傳資訊之偵測、為獲得正確船位之修正方法等專業知識 .3 using modern electronic navigational aids, with specific knowledge of their operating principles, limitations, sources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate</p> <p>.3 <u>使用認可之實驗設備訓練：</u> .3 approved laboratory equipment training, using:</p> <p>.1 海圖、航海曆、測繪用紙、天文鐘、六分儀及計算機 .1 charts, nautical almanac, plotting sheets, chronometer, sextant and a calculator</p> <p>.2 海圖、航海刊物及儀器(方位儀、六分儀、計程儀、測深設備、羅經)與廠家使用手冊； .2 charts, nautical publications and navigational instruments (azimuth mirror, sextant, log, sounding equipment, compass) and manufacturers' manuals</p> <p>.3 雷達、<u>地文電子定位系統</u>、衛星導航系統及適當之航海海圖及刊物 .3 Radar, terrestrial electronic position-fixing systems, satellite navigation systems and appropriate nautical charts and publications</p>	<p>所選用之主要船舶定位方法最適於當時環境及狀況 The primary method chosen for fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p> <p>利用天文觀測所獲得之船位在公認之精確度範圍內 The fix obtained by celestial observations is within accepted accuracy levels</p> <p>利用地文觀測所獲得之船位在公認之精確度範圍內 The fix obtained by terrestrial observations is within accepted accuracy levels</p> <p>正確地判斷最終船位之精確度 The accuracy of the resulting fix is properly assessed</p> <p>使用電子航儀所獲得之船位在所用系統之精確度標準內。說出影響最終船位精確度之可能誤差，並使用正確之方法以減少系統誤差影響最終船位 The fix obtained by the use of electronic navigational aids is within the accuracy standards of the systems in use. The possible errors affecting the accuracy of the resulting position are stated and methods of minimizing the effects of system errors on the resulting position are properly applied</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
測定及考慮羅經誤差 Determine and allow for compass errors	<p>測定及考慮羅經及電羅經誤差之能力 Ability to determine and allow for errors of the magnetic and gyro-compasses</p> <p>磁羅經及電羅經原理之知識 Knowledge of the principles of magnetic and gyro-compasses</p> <p>瞭解主羅經控制下之各系統及對電羅經之主要型式之操作與維護之知識 An understanding of systems under the control of the master gyro and a knowledge of the operation and care of the main types of gyro-compass</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 1 approved in-service experience</p> <p>.2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate</p> <p>.3 認可之實驗設備訓練 .3 approved laboratory equipment training</p> <p>使用天文觀測、地文方位並比較磁羅經及電羅經 using celestial observations, terrestrial bearings and comparison between magnetic and gyro-compasses</p>	<p>測定磁羅經及電羅經誤差之方法與頻度，確保資料之精確度 The method and frequency of checks for errors of magnetic and gyro-compasses ensures accuracy of information</p>

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搜救作業之協調 Coordinate search and rescue operations	國際航空與海上搜救手冊 (IAMSAR) 所述程式之全面知識及使用该程式之能力 A thorough knowledge of and ability to apply the procedures contained in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience . .2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate . .3 認可之實驗設備訓練 .3 approved laboratory equipment training 使用相關之刊物、海圖、氣象資料、所涉船舶規格、無線電通信設備及其他可用之設施，暨下列一項或多項： using relevant publications, charts, meteorological data, particulars of ships involved, radiocommunication equipment and other available facilities and one or more of the following: .1 認可之搜救訓練課程 .1 approved SAR training course . .2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate . .3 認可之實驗設備訓練 .3 approved laboratory equipment training	依據國際準則及標準訂定協調搜救作業計畫 The plan for coordinating search and rescue operations is in accordance with international guidelines and standards 建立無線電通信，並在所有搜救作業階段遵循正確之通信程式 Radiocommunications are established and correct communication procedures are followed at all stages of the search and rescue operations
建立當值安排及程式 Establish watchkeeping arrangements and procedures	經修正 1972 年海上避碰國際規則之內容、應用及意義之全面知識 Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, as amended 維持航行當值應遵守基本原則之內容、應用及企圖之全面知識 Thorough knowledge of the content, application and intent of the Principles to be observed in keeping a navigational watch	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience . .2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate	依據國際規則及準則建立並維持當值安排及程式，以確保航行安全，保護海上環境以及船舶與船上人員之安全 Watchkeeping arrangements and procedures are established and maintained in compliance with international regulations and guidelines so as to ensure the safety of navigation, protection of the marine environment and safety of the ship and persons on board

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
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<p>使用由導航設備與系統之資料協助作成指揮決策以維持航行安全 Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision making</p> <p>註：使用自動測繪雷達之訓練及評估，對專門在無自動測繪雷達船上之人員而言，不要求此限制，但應對該有關航海人員所簽發之加簽上註明 Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on ships not fitted with ARPA.</p> <p>This limitation shall be reflected in the endorsement issued to the seafarer concerned</p>	<p>正確判斷及全面瞭解導航系統之系統誤差 An appreciation of system errors and thorough understanding of the operational aspects of navigational systems</p> <p>無目視資訊之航行計畫 Blind pilotage planning</p> <p>為避碰及指引船舶安全航行作出並執行指揮決策，評估從所有來源(包括雷達及自動測繪雷達)所取得之航海資料 Evaluation of navigational information derived from all sources, including radar and ARPA, in order to make and implement command decisions for collision avoidance and for directing the safe navigation of the ship</p> <p>可用於引導航行之所有航海資料，其間之關係及最佳之使用 The interrelationship and optimum use of all navigational data available for conducting navigation</p>	<p>測驗及從認可之自動測繪雷達模擬設施所獲下列一項或多項證據予以評估： Examination and assessment of evidence obtained from approved ARPA simulator training and one or more of the following:</p> <p><u>1. 認可之在職經驗</u> 1. approved in-service experience</p> <p><u>2. 如適用時，認可之模擬設施訓練</u> 2. approved simulator training, where appropriate</p> <p><u>3. 認可之實驗設備訓練</u> 3. approved laboratory equipment training</p>	<p>正確解釋及分析從導航設備與系統所獲得之資料，並考慮及該設備之限制及當時環境與狀況 Information obtained from navigation equipment and systems is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions</p> <p>依據經修正 1972 年海上避碰國際規則採取行動以避免與他船逼近或碰撞 Action taken to avoid a close encounter or collision with another vessel is in accordance with the International Regulations for Preventing Collisions at Sea, 1972, as amended</p>

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適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>使用 ECDIS 與相關之導航系統，協助作指揮決策以保持航行安全</u> Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision making</p> <p><u>註：使用 ECDIS 與相關導航系統訓練與評估，對專門在無ECDIS船上之人員而言，不必要求此限制，但應對該有關航海人員所簽發之加簽上註明</u> Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on ships not fitted with ECDIS.</p> <p>This limitation shall be reflected in the endorsement issued to the seafarer concerned</p>	<p><u>操作程式、系統檔與數據之管理，包括：</u> Management of operational procedures, system files and data, including:</p> <p><u>.1 管理海圖數據與系統軟體之獲取、許可及更新，以符合既定之程式</u> .1 manage procurement, licensing and updating of chart data and system software to conform to established procedures</p> <p><u>.2 系統與資料更新，包括依據廠商產品開發更新ECDIS系統版本之能力</u> .2 system and information updating, including the ability to update ECDIS system version in accordance with vendor's product development</p> <p><u>.3 建立與保持系統之配置與備份檔</u> .3 create and maintain system configuration and backup files</p> <p><u>.4 依據既定之程式建立與保持航行日誌檔案</u> .4 create and maintain log files in accordance with established procedures</p> <p><u>.5 依據既定的程式建立與保持航路計畫文件</u> .5 create and maintain route plan files in accordance with established procedures</p> <p><u>.6 使用ECDIS日誌與航跡紀錄功能，檢查系統功能、報警設定與用戶反應</u> .6 use ECDIS log-book and track history functions for inspection of system functions, alarm settings and user responses</p> <p><u>使用 ECDIS 重播功能進行航行檢討、航路計畫與系統功能之檢討</u> Use ECDIS playback functionality for passage review, route planning and review of system functions</p>	<p><u>從所獲得下列之一項證據予以評估：</u> Assessment of evidence obtained from one of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之ECDIS模擬機訓練</u> .3 approved ECDIS simulator training</p>	<p><u>使用 ECDIS 之操作程式得以建立、應用與監控</u> Operational procedures for using ECDIS are established, applied, and monitored</p> <p><u>採取儘可能減少航行安全風險之行動</u> Actions taken to minimize risk to safety of navigation</p>

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天氣預報及海況 Forecast weather and oceanographic conditions	<p>考慮及當地天氣情況及所收到之氣象傳真資料，瞭解並解釋天氣圖及預報區域天氣之能力 Ability to understand and interpret a synoptic chart and to forecast area weather, taking into account local weather conditions and information received by weather fax</p> <p>各種天氣系統特性之知識，包括熱帶風暴及避開風暴中心與危險象限之知識 Knowledge of the characteristics of various weather systems, including tropical revolving storms and avoidance of storm centres and the dangerous quadrants</p> <p>洋流系統之知識 Knowledge of ocean current systems</p> <p>計算潮汐情況之能力 Ability to calculate tidal conditions</p> <p>使用所有適當之與潮汐及海流有關之航海刊物 Use all appropriate nautical publications on tides and currents</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之實驗設備訓練 .2 approved laboratory equipment training</p>	<p>基於所有可用之資料，預測某既定時間之天氣狀況 The likely weather conditions predicted for a determined period are based on all available information</p> <p>採取行動以維持航行安全，減少對船舶安全之任何危險 Actions taken to maintain safety of navigation minimize any risk to safety of the ship</p> <p>擬採取之行動係依統計資料及實際天氣情況觀測 Reasons for intended action are backed by statistical data and observations of the actual weather conditions</p>
航行之應急反應 Respond to navigational emergencies	<p>船舶擱淺時之注意事項 Precautions when beaching a ship</p> <p>即將擱淺及擱淺後所採取之行動 Action to be taken if grounding is imminent, and after grounding</p> <p>在有協助或無協助之下使擱淺船重新浮起 Refloating a grounded ship with and without assistance</p> <p>即將發生碰撞及發生碰撞後、或任何原因造成船體水密完整性損害時所採取之行動 Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause</p> <p>損害管制之評估 Assessment of damage control</p> <p>應急操舵 Emergency steering</p> <p>應急拖帶安排及拖帶程式 Emergency towing arrangements and towing procedure</p>	<p>測驗及從所獲得之實作講授、在職經驗及應急程式實際演習之證據予以評估 Examination and assessment of evidence obtained from practical instruction, in-service experience and practical drills in emergency procedures</p>	<p>迅速確定任何問題之型式及範圍，作出決定並採取行動以減少船舶系統任何故障所造成之影響 The type and scale of any problem is promptly identified and decisions and actions minimize the effects of any malfunction of the ship's systems</p> <p>有效之通信，並符合所建立之程式 Communications are effective and comply with established procedures</p> <p>作出決定並採取行動以增進船上人員安全 Decisions and actions maximize safety of persons on board</p>

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在各種情況下操縱及操作船舶 Manoeuvre and handle a ship in all conditions	<p>在各種情況下操縱及操作船舶，包括下列各項： Manoeuvring and handling a ship in all conditions, including:</p> <ol style="list-style-type: none"> .1 在接近引水站及引水人上下船之操縱，尤應注意天氣、潮汐、艏接近及停止距離 .1 manoeuvres when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, headreach and stopping distances .2 在河道、河口及限制水域操作船舶，注意及海流、風及限制水域對舵效之影響 .2 handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response .3 固定迴旋速率技術之應用 .3 application of constant-rate-of-turn techniques .4 在淺水操縱船舶，包括由於艏坐、橫搖及縱搖之影響，減少餘裕水深 .4 manoeuvring in shallow water, including the reduction in under-keel clearance caused by squat, rolling and pitching .5 相會船舶間及本船與附近岸邊間之相互作用(運河效應) .5 interaction between passing ships and between own ship and nearby banks (canal effect) .6 在各種不同之風、潮汐及海流情況下，使用或不使用拖船離靠泊位 .6 berthing and unberthing under various conditions of wind, tide and current with and without tugs .7 船與拖船之相互作用 .7 ship and tug interaction .8 使用推進系統及操縱系統 .8 use of propulsion and manoeuvring systems 	<p>測驗從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> .1 認可之在職經驗 .1 approved in-service experience .2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate .3 認可之有人操縱縮小船模之訓練(適當時) .3 approved manned scale ship model, where appropriate 	<p>有關靠泊及錨泊之所有決定係基於船舶操縱性、機器特性及靠泊或錨泊時可能產生之力量 All decisions concerning berthing and anchoring are based on a proper assessment of the ship's manoeuvring and engine characteristics and the forces to be expected while berthed alongside or lying at anchor</p> <p>航行中，全面評估淺水與限制水域、浮冰、岸邊、潮汐情況、從旁駛過之船舶以及本船之艏波及艉波之可能影響；因而能在各種裝載與天氣情況下安全操縱船舶 While under way, a full assessment is made of possible effects of shallow and restricted waters, ice, banks, tidal conditions, passing ships and own ship's bow and stern wave so that the ship can be safely manoeuvred under various conditions of loading and weather</p>

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在各種情況下操縱及操作船舶(續) Manoeuvre and handle a ship in all conditions (continued)	<p>.9 錨地選擇；在受限錨地內使用單錨或雙錨錨泊及在決定擬使用錨鍊長度之有關因素</p> <p>.9 choice of anchorage; anchoring with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used</p> <p>.10 走錨；解開糾纏之錨鍊</p> <p>.10 dragging anchor; clearing fouled anchors</p> <p>.11 在船舶有損害及無損害情況下進乾塢</p> <p>.11 dry-docking, both with and without damage</p> <p>.12 在惡劣天氣下操縱及操作船舶，包括救助遇險船或飛機、拖帶作業、使失控船舶脫離浪穀之方法，減少漂流與使用鎮浪油等</p> <p>.12 management and handling of ships in heavy weather, including assisting a ship or aircraft in distress; towing operations; means of keeping an unmanageable ship out of trough of the sea, lessening drift and use of oil</p> <p>.13 在惡劣天氣下釋放救難艇或救生艇筏之操縱注意事項</p> <p>.13 precautions in manoeuvring to launch rescue boats or survival craft in bad weather</p> <p>.14 從救難艇及救生艇筏上將生還者救上船之方法</p> <p>.14 methods of taking on board survivors from rescue boats and survival craft</p> <p>.15 決定一般型式船舶之操縱及推進特性之能力，特別注意船舶在各種吃水及航速下停止距離及迴旋圈</p> <p>.15 ability to determine the manoeuvring and propulsion characteristics of common types of ships, with special reference to stopping distances and turning circles at various draughts and speeds</p>		

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在各種情況下操縱及操作船舶(續) Manoeuvre and handle a ship in all conditions (continued)	.16 減速航行以避免因本船之艏波及艉波造成損壞之重要性 .16 importance of navigating at reduced speed to avoid damage caused by own ship's bow wave and stern wave .17 航行於冰區或接近冰區，或船上積冰之情況應採取之實際措施 .17 practical measures to be taken when navigating in or near ice or in conditions of ice accumulation on board .18 在使用分道航行制及船舶交通服務區域及其附近區域時之操縱與使用 .18 use of, and manoeuvring in and near, traffic separation schemes and in vessel traffic service (VTS) areas		
操作推進裝置及輪機系統與設施之遙控 Operate remote controls of propulsion plant and engineering systems and services	船舶動力裝置之操作原理 Operating principles of marine power plants 船舶輔機 Ships' auxiliary machinery 輪機術語之一般知識 General knowledge of marine engineering terms	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate.	隨時依據技術規範，並在安全操作之限制內，操作裝置、輔機及設備 Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times

專長：貨物裝載(管理級)

Function: Cargo handling and stowage at the management level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
計畫並確保全全裝貨、積載、繫固航行中照料及卸貨 Plan and ensure safe loading, stowage, securing, are during the voyage and unloading of cargoes	<p>應用有關安全裝卸、積載、繫固及運輸貨物之國際規則、章程與標準之知識與能力 Knowledge of and ability to apply relevant international regulations, codes and standards concerning the safe handling, stowage, securing and transport of cargoes</p> <p>貨物及貨物操作對俯仰及穩度影響之知識 Knowledge of the effect on trim and stability of cargoes and cargo operations</p> <p>使用穩度及俯仰圖表及應力計算設備，包括自動化數據(ADB)設備，及為保持船體應力在可接受之限度內而裝貨及壓載之知識 Use of stability and trim diagrams and stress-calculating equipment, including automatic data-based (ADB) equipment, and knowledge of loading cargoes and ballasting in order to keep hull stress within acceptable limits</p> <p>在船上積載及繫固貨物，包括裝卸貨設備及繫固與拉緊設備 Stowage and securing of cargoes on board ships, including cargo-handling gear and securing and lashing equipment</p> <p>裝卸操作，尤應注意「貨物積載及繫固安全操作章程」所述之貨物運輸 Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing</p>	<p>測驗及從所獲得下列之一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate</p> <p>使用穩度、俯仰與應力圖表，及應力計算設備 using stability, trim and stress tables, diagrams and stress-calculating equipment</p>	<p>監督貨物狀況之頻度及程度係適於其性質及當時情況 The frequency and extent of cargo condition monitoring is appropriate to its nature and prevailing conditions</p> <p>迅速辨識貨物情況或規格之不可接受或難以預知之變化，並即時採取補救措施並設計，以保證船舶及船上人貨之安全 Unacceptable or unforeseen variations in the condition or specification of the cargo are promptly recognized and remedial action is immediately taken and designed to safeguard the safety of the ship and those on board</p> <p>依所制定之程式及法定之要求，計畫並執行貨物操作 Cargo operations are planned and executed in accordance with established procedures and legislative requirements Stowage and securing of</p> <p>貨物之積載及繫固確保航行中穩度與應力狀況始終在安全限度內 cargoes ensures that stability and stress conditions remain within safe limits at all times during the voyage</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
計畫並確保全全裝貨、積載、繫固航行中照料及卸貨(續) Plan and ensure safe loading, stowage, securing, are during the voyage and unloading of cargoes (continued)	<p>液貨船及液貨船操作之一般知識 General knowledge of tankers and tanker operations</p> <p>散裝貨船操作與設計限制之知識 Knowledge of the operational and design limitations of bulk carriers</p> <p>使用船上所有可資利用有關散裝貨裝載、管理與卸載資料之能力 Ability to use all available shipboard data related to loading, care and unloading of bulk cargoes</p> <p>依據有關文書如 BC 章程、IMDG 章程、<u>IMSBC 章程</u>、MARPOL 73/78 附錄 III 與 V 及其他有關資訊建立貨物安全操作程式之能力 Ability to establish procedures for safe cargo handling in accordance with the provisions of the relevant instruments such as IMDG Code, IMSBC Code, MARPOL 73/78 Annexes III and V and other relevant information</p> <p>闡述在船岸間建立有效通信及改善工作關係基本原則之能力 Ability to explain the basic principles for establishing effective communications and improving working relationship between ship and terminal personnel</p>		

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
對貨艙間、艙口蓋與壓艙櫃所作之缺點報告予以評估並採取適當措施 Assess reported defects and damage to cargo spaces, hatch covers and ballast tanks and take appropriate action	對標準散裝貨船重要構件強度限制之知識，及對所給圖件詮釋彎曲力矩與剪力之能力 Knowledge of the limitations on strength of the vital constructional parts of a standard bulk carrier and ability to interpret given figures for bending moments and shear forces 闡述如何避免對散裝貨船不利影響之腐蝕、疲乏及不當之貨物操作之能力 Ability to explain how to avoid the detrimental effects on bulk carriers of corrosion, fatigue and inadequate cargo handling	測驗及從所獲得下列之一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate 使用穩度、俯仰與應力圖表，及應力計算設備 using stability, trim and stress tables, diagrams and stress-calculating equipment	以可接受之原則、合理之證明及正確之施行予以評審。考慮及船舶之安全與一般之狀況，可接受所作之決定 Evaluations are based on accepted principles, well-founded arguments and correctly carried out. The decisions taken are acceptable, taking into consideration the safety of the ship and the prevailing conditions
危險貨物載運 Carriage of dangerous goods	有關危險貨物載運之國際規則、標準、章程及建議，包括國際海運危險品章程(IMDG Code)及國際海運散裝固體貨物章程(IMSBC Code) International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and the International Maritime Solid Bulk Cargoes (IMSBC) Code 危險及有害貨物之載運；裝卸期間之注意事項及航行中之照料 Carriage of dangerous, hazardous and harmful cargoes; precautions during loading and unloading and care during the voyage	測驗及從所獲得下列之一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之模擬設施訓練(適當時) .2 approved simulator training, where appropriate .3 認可之專業訓練 .3 approved specialist training	貨物之配載計畫係基於可信賴之資料及依所制定之準則及法定之要求 Planned distribution of cargo is based on reliable information and is in accordance with established guidelines and legislative requirements 有關危險之資料與特別之要求係記載於在意外事故發生時易於參考之表格中 Information on dangers, hazards and special requirements is recorded in a format suitable for easy reference in the event of an incident

專長：控制船舶操作及船上人員管理(管理級)

Function: Controlling the operation of the ship and care for persons on board at the management level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
俯仰、穩度及應力之控制 Control trim, stability and stress	瞭解船舶構造之基本原理及影響俯仰及穩度之理論與因素，及保持俯仰及穩度之必要措施 Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability 船舶某艙區受損並連續泛水時對船舶俯仰及穩度影響之知識，以及應採取之因應措施 Knowledge of the effect on trim and stability of a ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken IMO 有關船舶穩度建議案之知識 Knowledge of IMO recommendations concerning ship stability	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate	穩度及應力狀況始終保持於安全限度內 Stability and stress conditions are maintained within safe limits at all times
監督及控制對法定要求之遵守及確保海上人命安全與保護海上環境之措施 Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	包含於國際協議及公約內之有關國際海事法規之知識 Knowledge of international maritime law embodied in international agreements and conventions 特別應注意下列各項： Regard shall be paid especially to the following subjects: .1 國際公約所要求隨船攜備之證書及其他檔、如何取得該等證件及其有效期限 .1 certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity .2 國際載重線公約有關要求之責任 .2 responsibilities under the relevant requirements of the International Convention on Load Lines	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設備訓練(適當時) .3 approved simulator training, where appropriate	監管操作及維護之程式符合法定要求 Procedures for monitoring operations and maintenance comply with legislative requirements 迅速並完全確認潛在之不符 Potential non-compliance is promptly and fully identified 計畫換新證書及將證書予以延期以確保各應檢驗項目及設備繼續有效 Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
	.3 海上人命安全國際公約有關要求之責任 .3 responsibilities under the relevant requirements of the International Convention for the Safety of Life at Sea .4 防止船舶污染國際公約有關要求之責任 .4 responsibilities under the International Convention for the Prevention of Pollution from Ships .5 海員健康申報書及國際健康規則之要求 .5 maritime declarations of health and the requirements of the International Health Regulations .6 影響船舶、旅客、船員及貨物安全之國際法令檔所要求之責任 .6 responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo .7 防止船舶污染環境之方法及設備 .7 methods and aids to prevent pollution of the marine environment by ships .8 執行國際協議及公約之國內立法知識 .8 national legislation for implementing international agreements and conventions		

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
維持船舶船員與旅客安全及救生、滅火與其他安全系統之操作狀況 Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems	<p>救生設備規則(海上人命安全國際公約)之全面知識 Thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)</p> <p>組織滅火演習及棄船演習 Organization of fire drills and abandon ship drills</p> <p>維持救生、滅火及其他安全系統之操作情況 Maintenance of operational condition of life-saving, fire-fighting and other safety systems</p> <p>在緊急情況下保護與防護船上人員安全所採取之行動 Actions to be taken to protect and safeguard all persons on board in emergencies</p> <p>在失火、爆炸、碰撞及擱淺後，降低損害及搶救船舶之行動 Actions to limit damage and save the ship following a fire, explosion, collision or grounding</p>	<p>測驗及從認可之在職訓練與經驗獲得實際指導證據予以評估 Examination and assessment of evidence obtained from practical instruction and approved in-service training and experience</p>	<p>監視探火及安全系統之程式，確保迅速偵測到所有警報，並按所制定之應急程式採取措施 Procedures for monitoring fire-detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures</p>
研訂應急及損害管制計畫，並處置緊急情況 Develop emergency and damage control plans and handle emergency situations	<p>製備應急計畫以反應應急情況 Preparation of contingency plans for response to emergencies</p> <p>船舶構造、包括損害管制 Ship construction, including damage control</p> <p>防火、探火及滅火之方法及設備 Methods and aids for fire prevention, detection and extinction</p> <p>救生設備之功能及使用 Functions and use of life-saving appliances</p>	<p>測驗及從認可之在職訓練與經驗獲得證據予以評估 Examination and assessment of evidence obtained from approved in-service training and experience</p>	<p>應急程式係依所制訂應急情況用之計畫 Emergency procedures are in accordance with the established plans for emergency situations</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>領導與管理技巧之運用</u> Use of leadership and managerial skill	<p>船上人事管理與訓練之知識 Knowledge of shipboard personnel management and training</p> <p>有關國際海事公約與建議案，及國內法之知識 A knowledge of related international maritime conventions and recommendations, and national legislation</p> <p><u>應用任務與工作量管理之能力，包括：</u> Ability to apply task and workload management, including:</p> <p><u>.1 計劃與協調</u> .1 planning and co-ordination</p> <p><u>.2 人員分派</u> .2 personnel assignment</p> <p><u>.3 時間與資源的制約</u> .3 time and resource constraints</p> <p><u>.4 優先順序</u> .4 prioritization</p> <p><u>應用有效資源管理之知識與能力：</u> Knowledge and ability to apply effective resource management:</p> <p>.1 資源之分配、分派與優先順序 .1 allocation, assignment, and prioritization of resources</p> <p><u>.2 有效之船岸通信</u> .2 effective communication on board and ashore</p> <p><u>.3 所作決策反映尊重團隊之經驗</u> .3 decisions reflect consideration of team experiences</p> <p><u>.4 決斷與領導，包括推動</u> .4 assertiveness and leadership, including motivation</p> <p><u>.5 獲取並保持處境認識</u> .5 obtaining and maintaining situation awareness</p>	<p>測驗及從<u>所獲得下列一項或多項</u>證據予以評估： Assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之訓練</u> .1 approved training</p> <p><u>.2 認可之在職經驗</u> .2 approved in-service experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p>	<p><u>分派船員之任務並告知適於各有關人員之預期行為方式與工作標準</u> The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned</p> <p><u>訓練之目標與活動係基於對目前適任性與能力及操作要求之評估</u> Training objectives and activities are based on assessment of current competence and capabilities and operational requirements</p> <p><u>證明係依可適用之規則操作</u> Operations are demonstrated to be in accordance with applicable rules</p> <p><u>依計畫操作而資源係依完成必要任務之所需作正確優先順序之分派</u> Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks</p> <p><u>清晰及明確的溝通</u> Communication is clearly and unambiguously given and received</p> <p><u>經證實具有有效之領導行為</u> Effective leadership behaviours are demonstrated</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>領導與管理技巧之運用 (續)</u> Use of leadership and managerial skill (continued)	<u>應用作出決策技術之知識與能力：</u> Knowledge and ability to apply decision-making techniques: <u>.1 處境與風險之評估</u> .1 situation and risk assessment <u>.2 確定與考慮所應作之選擇</u> .2 identify and generate options <u>.3 選擇行動之方針</u> .3 selecting course of action <u>.4 評估結果之有效性</u> .4 evaluation of outcome effectiveness <u>制定、履行與監督標準操作程式</u> Development, implementation, and oversight of standard operating procedures		<u>必要之團隊人員分別瞭解現有與預期船舶之操作情況與外部環境之狀況</u> Necessary team member(s) share accurate understanding of current and predicted vessel and operational status and external environment <u>所作之決策對處境非常有效</u> Decisions are most effective for the situation <u>證明操作係屬有效並符合可適用之規則</u> Operations are demonstrated to be effective and in accordance with applicable rules
組織與管理船上之醫護 Organize and manage the provision of medical care on board	下列刊物之使用及內容之全面知識* A thorough knowledge* of the use and contents of the following publications: .1 國際船舶醫護指南或同等之國內刊物； .1 International Medical Guide for Ships or equivalent national publications .2 國際信號代碼之醫護部分； .2 medical section of the International Code of Signals .3 涉及危險品事故所使用之醫療急救指南 .3 Medical First Aid Guide for Use in Accidents Involving Dangerous Goods	測驗及從認可之訓練獲得證據予以評估 Examination and assessment of evidence obtained from approved training	正確地採取行動並遵照程式，應用並完全使用可獲得之建議 Actions taken and procedures followed correctly apply and make full use of advice available

*相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

第 A-II/3 節

在總噸位未滿 500 從事近岸航程船舶負責航行當值之甲級船員及船長發證之強制性最低要求

Section A-II/3

Mandatory minimum requirements for certification of officers in charge of a navigational watch and of masters on ships of less than 500 gross tonnage, engaged on near-coastal voyages

負責航行當值之甲級船員

OFFICER IN CHARGE OF A NAVIGATIONAL WATCH

適任標準

Standard of competence

1 凡申請發證者應：

1 Every candidate for certification shall:

.1 應要求證明其能力能承擔表 A-II/3 第 1 欄所列操作級之任務、職責及責任；

.1 be required to demonstrate the competence to undertake, at operational level, the tasks, duties and responsibilities listed in column 1 of table A-II/3;

.2 至少持有依據無線電規則所要求之適當證書以執行特高頻無線電通信；及

.2 at least hold the appropriate certificate for performing VHF radiocommunications in accordance with the requirements of the Radio Regulations; and

.3 如經指定在遇險事故時負有無線電通信之主要責任，則持有依無線電規則規定所簽發或認可之適當證書。

.3 if designated to have primary responsibility for radiocommunications during distress incidents, hold the appropriate certificate issued or recognized under the provisions of the Radio Regulations.

2 發證所要求之最低知識、瞭解及熟練如表 A-II/3 第 2 欄所列。

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/3.

3 表 A-II/3 第 2 欄所列各科目之知識水準，應足以使申請發證者在負責航行當值甲級船員之職務上服務。

3 The level of knowledge of the subjects listed in column 2 of table A-II/3 shall be sufficient to enable the candidate to serve in the capacity of officer in charge of a navigational watch.

4 為達到所需水準之理論知識、瞭解及熟練之訓練及經驗，應以第 A-VIII/2 節第 4-1

部分「航行當值應遵守之基本原則」為基礎，並應考慮及本部分之有關要求及本章程 B 篇所列之準則。

4 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall be based on section A-VIII/2, part 4-1 – Principles to be observed in keeping a navigational watch, and shall also take into account the relevant requirements of this part and the guidance given in part B of this Code.

5 凡申請發證者應要求其依表 A-II/3 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供以達到所要求之適任標準之證據。

5 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/3.

特殊訓練

Special training

6 凡申請發證為總噸位未滿 500 從事近岸航程船舶為負責航行當值之甲級船員，依規則 II/3 第 4.2.1 項完成特殊訓練者，應參加經認可之船上訓練計畫，該計畫：

6 Every candidate for certification as officer in charge of a navigational watch on ships of less than 500 gross tonnage, engaged on near-coastal voyages, who, in accordance with paragraph 4.2.1 of regulation II/3, is required to have completed special training, shall follow an approved programme of onboard training which:

- .1 確保申請發證者在要求之海勤資歷期間，考慮及本章程第 B-II/1 節所列之準則，在負責航行當值甲級船員之任務、職責及責任中，接受有系統之實作訓練及經驗；及
- .1 ensures that, during the required period of seagoing service, the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch, taking into account the guidance given in section B-II/1 of this Code;
- .2 在其執行認可之海勤資歷時受到船上適任甲級船員嚴密之指導與監督；及
- .2 is closely supervised and monitored by qualified officers on board the ships in which the approved seagoing service is performed; and
- .3 在訓練記錄簿或類似之文件中適當記載之。^{*}
- .3 is adequately documented in a training record book or similar document^{*}.

^{*}相關之 IMO 典型課程及國際航運聯盟(ISF)所制定之類似檔可能有助於課程之準備。

^{*}The relevant IMO Model Course(s) and a similar document produced by the International Shipping Federation may be of assistance in the preparation of training record books.

船長

MASTER

7 凡申請發證為總噸位未滿 500 從事近岸航程船舶之船長者，應符合下列負責航行當值甲級船員之要求，此外，尚應要求其提供執行該船長職責之知識及能力之證據。

7 Every candidate for certification as master on ships of less than 500 gross tonnage, engaged on near-coastal voyages, shall meet the requirements for an officer in charge of a navigational watch set out below and, in addition, shall be required to provide evidence of knowledge and ability to carry out all the duties of such a master.

表 A-II/3

在總噸位未滿 500 從事近岸航程船舶負責航行當值之甲級船員及船長
之最低適任標準規範

Table A-II/3

Specification of minimum standard of competence for officers in charge of
a navigational watch and for masters on ships of less than 500 gross tonnage engaged on
near-coastal voyages

專長：航海(操作級)

Function: Navigation at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p>近岸航程計畫、執行與定位 Plan and conduct a coastal passage and determine position</p> <p>註：使用 ECDIS 與相關導航系統訓練與評估，對專門在無 ECDIS 船上人員而言，不必要求此限制，但應對該有關航海人員所簽發之加簽上註明</p> <p>Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on ships not fitted with ECDIS. These limitations shall be reflected in the endorsement issued to the seafarer concerned</p>	<p>航海 Navigation</p> <p>使用下列各項確定船位之能力： Ability to determine the ship's position by the use of:</p> <p>.1 陸標 .1 landmarks</p> <p>.2 燈塔、示標及浮標等助航標誌 .2 aids to navigation, including lighthouses, beacons and buoys</p> <p>.3 考慮風、潮汐、海流及估計航速推算船位 .3 dead reckoning, taking into account winds, tides, currents and estimated speed</p> <p>使用海圖及航海刊物，諸如航路指南、潮汐表、航行通告、無線電航行警告及船舶航路資料等詳盡之知識及能力 Thorough knowledge of and ability to use nautical charts and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routing information</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p>.4 認可之實驗設備經驗 .4 approved laboratory equipment training</p> <p>使用海圖目錄、海圖、航海刊物、無線電航行警告、六分儀、方位儀、電子導航設備、回聲測深儀、羅經 using chart catalogues, charts, nautical publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo-sounding equipment, compass</p>	<p>從海圖及航海刊物獲取資料，正確地解釋並適當地應用 Information obtained from nautical charts and publications is relevant, interpreted correctly and properly applied</p> <p>主要船舶定位方法最適合於當時環境及狀況 The primary method of fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p> <p>確定之船位係在公認之儀器/系統誤差內 The position is determined within the limits of acceptable instrument/system errors</p> <p>主要定位方法所獲得資料之信賴度已每隔適當之時間予以查核 The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals</p> <p>航海資料之計算及量測係屬精確的 Calculations and measurements of navigational information are accurate</p> <p>所選用之海圖及刊物為適於航行區域所用之最大比例者，且海圖已依可用之最新資料予以改正 Charts and publications selected are the largest scale on board suitable for the area of navigation and charts are corrected in accordance with the latest information available</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
近岸航程計畫、執行與定位(續) Plan and conduct a coastal passage and determine position (continued)	<p>依據船舶報告系統之<u>一般原則及 VTS 程式進行報告</u> Reporting in accordance with General Principles for Ship Reporting Systems and with VTS procedures</p> <p><u>註：本項僅對申請船長證書者要求之</u> Note: This item is only required for certification as master</p> <p><u>以可接受之標繪沿海航路之方法制定航程計畫及各種狀況下之航行，並考慮，例如：</u> Voyage planning and navigation for all conditions by acceptable methods of plotting coastal tracks, taking into account, e.g.:</p> <p><u>.1 受限水域</u> .1 restricted waters</p> <p><u>.2 氣象條件</u> .2 meteorological conditions</p> <p><u>.3 冰況</u> .3 ice</p> <p><u>.4 能見度不良</u> .4 restricted visibility</p> <p><u>.5 分道航行制</u> .5 traffic separation schemes</p> <p><u>.6 船舶交通服務(VTS)區域</u> .6 vessel traffic service (VTS) areas</p> <p><u>.7 潮汐影響大之區域</u> .7 areas of extensive tidal effects</p> <p><u>註：本項僅對申請船長證書者提出要求</u> Note: This item is only required for certification as master</p> <p><u>使用 ECDIS 之全面知識與能力</u> Thorough knowledge of and ability to use ECDIS</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之訓練船上經驗</u> .1 approved training ship experience</p> <p><u>.2 認可之 ECDIS 模擬設施訓練</u> .2 approved ECDIS simulator training</p>	

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
近岸航程計畫、執行與定位(續) Plan and conduct a coastal passage and determine position (continued)	<p>導航儀器及設備 <i>Navigational aids and equipment</i></p> <p>使用有關船舶上一般所安裝之所有導航儀器及設備，安全操作並決定船位之能力 Ability to operate safely and determine the ship's position by use of all navigational aids and equipment commonly fitted on board the ships concerned</p> <p>羅經 <i>Compasses</i></p> <p>磁羅經誤差與校正之知識 Knowledge of the errors and corrections of magnetic compasses</p> <p>利用地文航海方法決定羅經誤差，並考慮此等誤差之能力 Ability to determine errors of the compass, using terrestrial means, and to allow for such errors</p> <p>自動操舵 <i>Automatic pilot</i></p> <p>自動操舵系統及程式、人工控制變換成自動控制(反之亦然)、調整控制至最佳性能之知識 Knowledge of automatic pilot systems and procedures; change-over from manual to automatic control and vice versa; adjustment of controls for optimum performance</p> <p>氣象學 <i>Meteorology</i></p> <p>使用及解釋從船上氣象儀所獲取資料之能力 Ability to use and interpret information obtained from shipborne meteorological instruments</p> <p>各種天氣系統特性、報告程式及記錄系統之知識 Knowledge of the characteristics of the various weather systems, reporting procedures and recording systems</p> <p>應用現有氣象資料之能力 Ability to apply the meteorological information available</p>	<p>從認可之雷達模擬設施獲得證據予以評估 Assessment of evidence obtained from approved radar navigation and ARPA simulator training</p>	<p>符合廠家之建議、良好之航海習慣及 IMO 關於導航設備性能標準之決議案，查核並測試導航系統之性能 Performance checks and tests of navigation systems comply with manufacturer's recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>依據公認之航海習慣解釋及分析從雷達獲得之資料，並考慮及雷達之限制及精確水準 Interpretation and analysis of information obtained from radar is in accordance with accepted navigational practice and takes account of the limits and accuracy levels of radar</p> <p>確定磁羅經之誤差，並正確應用於航向及方位中 Errors in magnetic compasses are determined and applied correctly to courses and bearings</p> <p>所選擇之操舵模式，最適於當時天氣、海況及交通狀況及擬採用之操船方式 Selection of the mode of steering is the most suitable for prevailing weather, sea and traffic conditions and intended manoeuvres</p> <p>天氣狀況之量測與觀測係精確的且適於其航程 Measurements and observations of weather conditions are accurate and appropriate to the passage</p> <p>評估並應用氣象資料以維持船舶安全航行 Meteorological information is evaluated and applied to maintain the safe passage of the vessel</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
維持安全之航行當值 Maintain a safe navigational watch	<p><u>當值</u> <i>Watchkeeping</i></p> <p>關於<u>經修正 1972 年海上避碰國際規則</u>之內容、應用及企圖之全面知識 Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, as amended</p> <p>維持航行當值應遵守之原則之全面知識 Knowledge of content of the Principles to be observed in keeping a navigational watch</p> <p>依據船舶航路之一般規定所使用之航路 Use of routeing in accordance with the General Provisions on Ships' Routeing</p> <p><u>依據船舶報告系統之一般原則及 VTS 程式進行報告</u> Use of reporting in accordance with the General Principles for Ship Reporting Systems and with VTS procedures</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p>.4 認可之實驗設備經驗 .4 approved laboratory equipment training</p>	<p>按照公認之原則及程式當值、交班及接班 The conduct, handover and relief of the watch conforms with accepted principles and procedures</p> <p>隨時維持<u>正規之瞭望，遵守公認之原則及程式</u> A proper look-out is maintained at all times and in conformity with accepted principles and procedures</p> <p>號燈、號標及音響<u>信號</u>遵守<u>經修正 1972 年海上避碰國際規則</u>之要求，並正確予以識別 Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea, 1972, as amended and are correctly recognized</p> <p>監視交通、船舶及環境之頻度及程度與公認之原則及程式相符 The frequency and extent of monitoring of traffic, the ship and the environment conform with accepted principles and procedures</p> <p>依據<u>經修正 1972 年海上避碰國際規則</u>採取行動以避免接近他船或與他船碰撞 Action to avoid close encounters and collision with other vessels is in accordance with the International Regulations for Preventing Collisions at Sea, 1972, as amended</p> <p>修正航向及/或航速之決定應即時，並符合公認之航海慣例 Decisions to adjust course and/or speed are both timely and in accordance with accepted navigation procedures</p> <p>有關船舶航行之舉措<u>動態</u>維持正常之紀錄 A proper record is maintained of movements and activities relating to the navigation of the ship</p> <p>隨時清楚地界定安全航行之責任，包括船長在駕駛台期間及正在領航期間 Responsibility for safe navigation is clearly defined at all times, including periods when the master is on the bridge and when under pilotage</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
應急之反應 Respond to emergencies	<p>應急程式包括： Emergency procedures, including:</p> <ol style="list-style-type: none"> .1 緊急情況下旅客之防護措施及安全 .1 precautions for the protection and safety of passengers in emergency situations .2 損害及損害管制之最初評估 .2 initial assessment of damage and damage control .3 碰撞後應採取之行動 .3 action to be taken following a collision .4 擱淺後應採取之行動 .4 action to be taken following a grounding <p>此外，對申請船長證書者，應包括下列內容： In addition, the following material should be included for certification as master:</p> <ol style="list-style-type: none"> .1 應急操舵 .1 emergency steering .2 拖帶及被拖帶之安排 .2 arrangements for towing and for being taken in tow .3 從海中救助人員 .3 rescuing persons from the sea .4 協助遇險中之船舶 .4 assisting a vessel in distress .5 在港內發生緊急情況應採取之適當行動 .5 appreciation of the action to be taken when emergencies arise in port 	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設施訓練，(適當時) .3 approved simulator training, where appropriate .4 實作講授 .4 practical instruction 	<p>迅速確定應急情況之型式及範圍 The type and scale of the emergency is promptly identified</p> <p>最初行動及船舶操縱(適當時)應急事故計畫，並適於緊急情況及緊急性質 Initial actions and, if appropriate, manoeuvring are in accordance with contingency plans and are appropriate to the urgency of the situation and the nature of the emergency</p>
對海上遇險信號之反應 Respond to a distress signal at sea	<p><i>搜索與救助</i> <i>Search and rescue</i></p> <p><u>國際航空與海上搜救手冊 (IAMSAR)</u>內容之知識 Knowledge of the contents of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual</p>	<p>測驗及從實作講授或認可之模擬設施訓練(適當時)所獲得證據，予以評估 Examination and assessment of evidence obtained from practical instruction or approved simulator training, where appropriate</p>	<p>立即識別遇險及緊急信號 The distress or emergency signal is immediately recognized</p> <p>執行並符合應急計畫及標準作業程式之指導 Contingency plans and instructions in standing orders are implemented and complied with</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操縱船舶及 操作小船動 力裝置 Manoeuvre the ship and operate small ship power plants	<p>船舶操縱及操作 <i>Ship manoeuvring and handling</i></p> <p>響安全操縱及操作因素之知識 Knowledge of factors affecting safe manoeuvring and handling</p> <p>小船動力裝置及輔機之操作 The operation of small ship power plants and auxiliaries</p> <p>錨泊及繫泊之適當程式 Proper procedures for anchoring and mooring</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p>	<p>在正常之操縱中，船舶推進、操舵及動力系統不超出安全操作限制 Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>調整船舶之航向及航速以維持航行安全 Adjustments made to the ship's course and speed maintain safety of navigation</p> <p>依據技術規範始終在安全操作之限制內操作動力裝置、輔機及設備 Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times</p>

專長：貨物裝載(操作級)

Function: Cargo handling and stowage at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
監督裝貨、積載、繫固及卸貨，暨航行中照料 Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage	貨物裝卸、積載及繫固 <i>Cargo handling, stowage and securing</i> 安全裝卸、積載及繫固貨物之知識(包括危險與有害貨物及其對人命與船舶安全之影響) Knowledge of safe handling, stowage and securing of cargoes, including dangerous, hazardous and harmful cargoes, and their effect on the safety of life and of the ship 國際海運危險品章程 (IMDG Code) 之使用 Use of the International Maritime Dangerous Goods (IMDG) Code	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate	依據貨物積載圖與其他檔、所制定之安全規則、設備操作手冊及船舶積載限制，進行貨物操作 Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules/regulations, equipment operating instructions and shipboard stowage limitations 遵照國際規則及認可之標準與安全操作章程裝卸危險及有害貨物 The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognized standards and codes of safe practice

專長：控制船舶操作及船上人員管理(操作級)

Function: Controlling the operation of the ship and care for persons on board at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
確保符合防止污染要求 Ensure compliance with pollution-prevention requirements	防止海上環境污染及防污染程式 <i>Prevention of pollution of the marine environment and anti-pollution procedures</i> 防止海上環境污染應採取之預防措施及防止污染程式之知識 Knowledge of the precautions to be taken to prevent pollution of the marine environment 防止污染程式及所有相關設備 Anti-pollution procedures and all associated equipment	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience	監督船上操作程式，並確保完全遵守 MARPOL 公約之要求 Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
維持船舶之適航性 Maintain seaworthiness of the ship	<p><i>船舶穩度</i> <i>Ship stability</i></p> <p>穩度、俯仰與應力圖表及應力計算設備之實際知識及應用 Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment</p> <p>瞭解一旦喪失部分完整浮力，應採取之基本行動 Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy</p> <p>瞭解水密完整性之基本知識 Understanding of the fundamentals of watertight integrity</p> <p><i>船舶構造</i> <i>Ship construction</i></p> <p>船舶主要結構構件之一般知識及各部構件之正確名稱 General knowledge of the principal structural members of a ship and the proper names for the various parts</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p>.4 認可之實驗設備訓練 .4 approved laboratory equipment training</p>	<p>在各種裝載情況下之穩度符合 IMO 完整穩度標準 The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>依據公認之慣例採取確保並維持水密完整性之行動 Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>
船上防火、控制火災及滅火 Prevent, control and fight fires on board	<p><i>防火及滅火設備</i> <i>Fire prevention and fire-fighting appliances</i></p> <p>組織滅火演習之能力 Ability to organize fire drills</p> <p>火災之種類及其化學性質之知識 Knowledge of classes and chemistry of fire</p> <p>滅火系統之知識 Knowledge of fire-fighting systems</p> <p>一旦失火包括油料系統著火時，應採取行動之知識 Knowledge of action to be taken in the event of fire, including fires involving oil systems</p>	<p>從第 A-VI/3 節所規定認可之滅火訓練及經驗中獲得證據予以評估 Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3</p>	<p>迅速確認問題之型式及範圍，其最初行動與應急程式及船上應急計畫相符 The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the ship</p> <p>撤離、緊急關閉及隔離程序適於應急情況之性質，並迅速予以執行 Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p>優先順序，及作出報告與通知船上人員之程度與時間表，係與緊急情況之性質相關，並反映出問題之緊急程度 The order of priority and the levels and time-scales of making reports and informing personnel on board are relevant to the nature of the emergency and reflect the urgency of the problem</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操作救生設備 Operate life-saving appliances	<p>救生 <i>Life-saving</i></p> <p>組織棄船演習之能力及操作救生艇筏與救難艇及其下水設備與佈置，及其設備(包括無線電救生設備、衛星應急指位無線電示標、搜救雷達詢答機、浸水衣與保暖設備)之知識 Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids</p>	<p>從第 A-VI/2 節第 1 至 4 項所規定認可之訓練及經驗中獲得證據予以評估 Assessment of evidence obtained from approved training and experience as set out in section A-VI/2, paragraphs 1 to 4</p>	<p>對棄船及求生狀況所為之反應行動適於當時環境及情況，並符合公認之安全習慣及標準 Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards</p>
在船上應用醫療急救 Apply medical first aid on board ship	<p>醫護 <i>Medical aid</i></p> <p>醫護指南及無線電諮詢之實際應用，包括在船上對可能發生事故或疾病，根據該等知識所採取有效行動之能力 Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship</p>	<p>從第 A-VI/4 節第 1 至 3 項所規定認可訓練獲得證據予以評估 Assessment of evidence obtained from approved training as set out in section A-VI/4, paragraphs 1 to 3</p>	<p>迅速確認傷害或病況之可能原因、性質及程度，並予治療以減低對生命之立即威脅 The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life</p>
監督符合法定要求 Monitor compliance with legislative requirements	<p>與海上人命安全及保護海洋環境有關之 IMO 有關公約之基本實用知識 Basic working knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment</p>	<p>從測驗或認可訓練中獲得證據予以評估 Assessment of evidence obtained from examination or approved training</p>	<p>正確確認有關海上人命安全及保護海洋環境之法定要求 Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於船舶與人員之安全 Contribute to the safety of personnel and ship	<u>人員求生技能之知識</u> Knowledge of personal survival techniques <u>防火之知識與滅火之能力</u> Knowledge of fire prevention and ability to fight and extinguish fires <u>基本急救之知識</u> Knowledge of elementary first aid <u>人員安全與社會責任之知識</u> Knowledge of personal safety and social responsibilities	<u>從第 A-VI/I 節第 2 項所規定之認可訓練與經驗獲得證據予以評估</u> Assessment of evidence obtained from approved training and experience as set out in section A-VI/1, paragraph 2	<u>正確利用適當之安全與防護設備</u> Appropriate safety and protective equipment is correctly used <u>經常注意指定用以保護船舶與人員之程式與安全工作實務</u> Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times <u>經常注意指定用以保護環境之程式</u> Procedures designed to safeguard the environment are observed at all times <u>在察覺緊急情況時依據所建立之應急回應程式展開及嗣後之行動</u> Initial and follow-up action on becoming aware of an emergency conforms with established emergency response procedures

第 A-II/4 節

構成航行當值一部分之乙級船員發證之強制性最低要求

Section A-II/4

Mandatory minimum requirements for certification of ratings forming part of a navigational watch

適任標準

Standard of competence

1 凡在總噸位 500 以上航行船舶構成航行當值一部分之乙級船員，應要求證明其能力能執行表 A-II/4 第 1 欄所列助理級之航海專長。

1 Every rating forming part of a navigational watch on a seagoing ship of 500 gross tonnage or more shall be required to demonstrate the competence to perform the navigation function at the support level, as specified in column 1 of table A-II/4.

2 對總噸位 500 以上航行船舶構成航行當值一部分之乙級船員所要求之最低知識、瞭解及熟練如表 A-II/4 第 2 欄所列。

2 The minimum knowledge, understanding and proficiency required of ratings forming part of a navigational watch on a seagoing ship of 500 gross tonnage or more is listed in column 2 of table A-II/4.

3 凡申請發證者應要求其依表 A-II/4 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供已達到所要求之適任標準之證據。第 3 欄中之「實作測試」得包括對學員在認可之岸上訓練中所實施之實作測試。

3 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence specified in columns 3 and 4 of table A-II/4. The reference to “practical test” in column 3 may include approved shore-based training in which the students undergo practical testing.

4 助理級有關某些專長之適任性並未以表列，指派在該助理級執行各項專長之人員，其適當之訓練、評估及發證要求有待主管機關負責決定之。

4 Where there are no tables of competence for the support level in respect to certain functions, it remains the responsibility of the Administration to determine the appropriate training, assessment and certification requirements to be applied to personnel designated to perform those functions at the support level.

表 A-II/4

構成航行當值一部分之乙級船員之最低適任標準規範

Table A-II/4

Specification of minimum standard of competence for ratings
forming part of a navigational watch

專長：航海(助理級)

Function: Navigation at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操舵並符合舵令(包括英語之舵令) Steer the ship and also comply with helm orders in the English language	使用磁羅經及電羅經 Use of magnetic and gyro-compasses 舵令 Helm orders 從自動操舵轉換為人工操舵(反之亦然) Change-over from automatic pilot to hand steering and vice versa	從下列所獲證據予以評估： Assessment of evidence obtained from: .1 實作測試，或 .1 practical test, or .2 認可之在職經驗或 .2 approved in-service experience, or .3 認可之訓練船上經驗 .3 approved training ship experience	在可接受之限度內操舵以保持穩定之航向，並注意及航行區域及當時海況。航向之改變平順並予控制 A steady course is steered within acceptable limits, having regard to the area of navigation and prevailing sea state. Alterations of course are smooth and controlled 不論何時其溝通應清晰簡明且舵令以海員方式確認 Communications are clear and concise at all times and orders are acknowledged in a seamanlike manner
以視覺及聽覺保持正常之瞭望 Keep a proper look-out by sight and hearing	瞭望人員之責任，包括報告音響信號、燈號之大致方位，或其他目標之度數及羅經方位 Responsibilities of a look-out, including reporting the approximate bearing of a sound signal, light or other object in degrees or points	從下列所獲證據予以評估： Assessment of evidence obtained from: .1 實作測試，或 .1 practical test, or .2 認可之在職經驗或 .2 approved in-service experience, or .3 認可之訓練船上經驗 .3 approved training ship experience	迅速探測音響信號、燈號及其他目標，及以度數或羅經方位向當值甲級船員報告其大致之方位 Sound signals, lights and other objects are promptly detected and their appropriate bearing, in degrees or points, is reported to the officer of the watch

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於監測及控制安全當值 Contribute to monitoring and controlling a safe watch	<p>船上術語及定義 Shipboard terms and definitions</p> <p>使用適當之船內通信及警報系統 Use of appropriate internal communication and alarm systems</p> <p>瞭解舵令能力，及將有關當值職責之事宜與當值甲級船員進行溝通 Ability to understand orders and to communicate with the officer of the watch in matters relevant to watchkeeping duties</p> <p>接班、值班及交班程式 Procedures for the relief, maintenance and handover of</p> <p>維持安全當值所需之資料 Information required to maintain a safe watch</p> <p>基本之環境保護程式 Basic environmental protection procedures</p>	<p>從認可之在職經驗或認可之訓練船上經驗獲取證據予以評估 Assessment of evidence obtained from approved in-service experience or approved training ship experience</p>	<p>語言溝通清晰簡明；在當值資訊或指示不能明白瞭解時，尋求甲級船員之意見/澄清 Communications are clear and concise and advice/clarification is sought from the officer on watch where watch information or instructions are not clearly understood</p> <p>值班、交班及接班係依公認之原則及程式 Maintenance, handover and relief of the watch is in conformity with accepted practices and procedures</p>
操作應急設備及使用應急程式 Operate emergency equipment and apply emergency procedures	<p>應急職責及警報信號之知識 Knowledge of emergency duties and alarm signals</p> <p>煙火遇險信號、衛星應急指位無線電示標及搜救雷達詢答機之知識 Knowledge of pyrotechnic distress signals; satellite EPIRBs and SARTs</p> <p>防止虛假遇險警報，及一旦不慎發出時應採取之行動 Avoidance of false distress alerts and action to be taken in event of accidental activation</p>	<p>從示範及認可之在職訓練或認可之訓練船上經驗獲取證據予以評估 Assessment of evidence obtained from demonstration and approved in-service experience or approved training ship experience</p>	<p>得知緊急或異常情況後所採取之初步行動係與業已建立之慣例及程式相符 Initial action on becoming aware of an emergency or abnormal situation is in conformity with established practices and procedures</p> <p>不論何時言語溝通清晰簡明，舵令係以海員方式確認 Communications are clear and concise at all times and orders are acknowledged in a seamanlike manner</p> <p>隨時維持緊急及遇險警報系統之完整性 The integrity of emergency and distress alerting systems is maintained at all times</p>

第 A-II/5 節

幹練水手發證之強制性最低要求

Section A-II/5

Mandatory minimum requirements for certification of ratings as able seafarer deck

適任標準

Standard of competence

1 凡在總噸位 500 以上航行船舶服務之幹練水手，應要求證明其能力能執行表 A-II/5 第 1 欄所列之助理級之專長。

1 Every able seafarer deck serving on a seagoing ship of 500 gross tonnage or more shall be required to demonstrate the competence to perform the functions at the support level, as specified in column 1 of table A-II/5.

2 對總噸位 500 以上航行船舶服務之幹練水手所要求之最低知識、瞭解及熟練如表 A-II/5 第 2 欄所列。

2 The minimum knowledge, understanding and proficiency required of an able seafarer deck serving on a seagoing ship of 500 gross tonnage or more is listed in column 2 of table A-II/5.

3 凡申請發證者應要求其依表 A-II/5 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供已達到所要求之適任標準之證據。

3 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence specified in columns 3 and 4 of table A-II/5.

表 A-II/5

幹練水手之最低適任標準規範

Table A-II/5

Specification of minimum standard of competence of ratings as able seafarer deck

專長：航海(助理級)

Function: Navigation at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於航行安全當值 Contribute to a safe navigational watch	瞭解命令的能力，及將有關當值職責之事宜與當值甲級船員進行溝通 Ability to understand orders and to communicate with the officer of the watch in matters relevant to watchkeeping duties <u>接班、值班及交班程式</u> Procedures for the relief, maintenance and handover of a watch <u>維持安全當值所需之資訊</u> Information required to maintain a safe watch	從在職經驗或實作之測試中獲取證據予以評估 Assessment of evidence obtained from in-service experience or practical test	<u>溝通清晰簡潔</u> Communications are clear and concise <u>值班、交班與接班符合公認之方法與程式</u> Maintenance, handover and relief of the watch is in conformity with acceptable practices and procedures
致力於靠泊、錨泊與其他繫泊操作 Contribute to berthing, anchoring and other mooring operations	<u>繫泊系統與相關程式之工作知識，包括：</u> Working knowledge of the mooring system and related procedures, including: <u>.1 繫纜與拖船纜之功能及各纜如何作為整體系統一部分的功能</u> .1 the function of mooring and tug lines and how each line functions as part of an overall system <u>.2 繫泊設備之能力、安全工作負載及斷裂強度，包括繫泊鋼纜、合成纖維纜、絞機、錨機、絞盤、繫纜柱、導纜器與繫纜樁</u> .2 the capacities, safe working loads, and breaking strengths of mooring equipment, including mooring wires, synthetic and fibre lines, winches, anchor windlasses, capstans, bitts, chocks and bollards	從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience <u>.5 認可之模擬設施訓練(適當時)</u> .5 approved simulator training, where appropriate	<u>依據既定安全措施與設備操作規範進行操作</u> Operations are carried out in accordance with established safety practices and equipment operating instructions

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
	<p><u>.3 繫住與解掉繫纜與拖船纜與鋼纜並包括拖纜之程式與事件順序</u></p> <p>.3 the procedures and order of events for making fast and letting go mooring and tug lines and wires, including towing lines</p> <p><u>.4 在各種不同操作中用錨之程式與事件順序</u></p> <p>.4 the procedures and order of events for the use of anchors in various operations</p> <p><u>相關繫泊於一個或多個浮筒之程式與事件順序之工作知識</u></p> <p>Working knowledge of the procedures and order of events associated with mooring to a buoy or buoys</p>		

專長：貨物裝載(助理級)

Function: Cargo handling and stowage at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>致力於貨物與物料之裝卸</u></p> <p>Contribute to the handling of cargo and stores</p>	<p><u>安全裝卸、積載與繫固貨物與物料之程式及知識，包括危險與有害物質及液體</u></p> <p>Knowledge of procedures for safe handling, stowage and securing of cargoes and stores, including dangerous, hazardous and harmful substances and liquids</p> <p><u>對特定型式之貨物及其識別IMDG 標籤有關之基本知識及應遵循之預防措施</u></p> <p>Basic knowledge of and precautions to observe in connection with particular types of cargo and identification of IMDG labelling</p>	<p><u>從所獲得下列一項或多項證據予以評估：</u></p> <p>Assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u></p> <p>.1 approved in-service experience</p> <p><u>.2 實作之訓練</u></p> <p>.2 practical training</p> <p><u>.3 測驗</u></p> <p>.3 examination</p> <p><u>.4 認可之訓練船上經驗</u></p> <p>.4 approved training ship experience</p> <p><u>.5 認可之模擬設施訓練(適當時)</u></p> <p>.5 approved simulator training, where appropriate</p>	<p><u>依據既定之安全程式與設備操作規範進行貨物與物料操作</u></p> <p>Cargo and stores operations are carried out in accordance with established safety procedures and equipment operating instructions</p> <p><u>危險與有害物質貨物或物料之裝卸符合既定的安全措施</u></p> <p>The handling of dangerous, hazardous and harmful cargoes or stores complies with established safety practices</p>

專長：船舶作業管制與船上人員之管理(助理級)

Function: Controlling the operation of the ship and care for persons on board at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於甲板設備與機械之安全操作 Contribute to the safe operation of deck equipment and machinery	<p>甲板設備之知識，包括： Knowledge of deck equipment, including:</p> <p><u>.1 閥與泵、升降機、起重機、吊桿與相關設備之功能與使用</u> .1 function and uses of valves and pumps, hoists, cranes, booms, and related equipment</p> <p><u>.2 絞機、錨機、絞盤、與相關設備之功能與使用</u> .2 function and uses of winches, windlasses, capstans and related equipment</p> <p><u>.3 艙口、水密門、舷窗與相關設備</u> .3 hatches, watertight doors, ports, and related equipment</p> <p><u>.4 纖維與鋼絲索、纜索與鏈條，包括其構造、使用、標誌、保養與正確之儲存</u> .4 fibre and wire ropes, cables and chains, including their construction, use, markings, maintenance and proper stowage</p> <p><u>.5 使用與瞭解操作設備基本信號之能力，包括絞機、錨機、起重機與升降機</u> .5 ability to use and understand basic signals for the operation of equipment, including winches, windlasses, cranes, and hoists</p> <p><u>.6 在各種不同情況下操作錨泊設備之能力，例如錨泊、起錨、海上固定以及緊急情況</u> .6 ability to operate anchoring equipment under various conditions, such as anchoring, weighing anchor, securing for sea, and in emergencies</p>	<p>從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 實作之訓練</u> .2 practical training</p> <p><u>.3 測驗</u> .3 examination</p> <p><u>.4 認可之訓練船上經驗</u> .4 approved training ship experience</p> <p>從實作操作示範所獲得之證據予以評估 Assessment of evidence obtained from practical demonstration</p> <p>從實作操作示範所獲得之證據予以評估 Assessment of evidence obtained from practical demonstration</p>	<p>按照既定的安全措施與設備之操作規範進行操作 Operations are carried out in accordance with established safety practices and equipment operating instructions</p> <p>在操作者責任範圍內之語言能順利溝通 Communications within the operator's area of responsibility are consistently successful</p> <p>設備之操作係依既定之程式安全進行 Equipment operation is safely carried out in accordance with established procedures</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>致力於甲板設備與機械之安全操作 (續)</u></p> <p>Contribute to the safe operation of deck equipment and machinery (continued)</p>	<p><u>下列程式與能力之知識：</u> Knowledge of the following procedures and ability to:</p> <p><u>.1 裝置與拆卸工作吊板與外舷踏板</u> .1 rig and unrig bosun's chairs and staging</p> <p><u>.2 裝置與拆卸引水人繩梯、升降機、鼠擋與舷梯</u> .2 rig and unrig pilot ladders, hoists, rat-guards and gangways</p> <p><u>.3 使用擴索錐之船藝技能，包括適當之使用繩結、插接與制索器</u> .3 use marlin spike seamanship skills, including the proper use of knots, splices and stoppers</p> <p><u>使用與操作甲板與貨物裝卸裝置與設備：</u> Use and handling of deck and cargo-handling gear and equipment:</p> <p><u>.1 登船裝置、艙口與艙口蓋板、跳板、舷側/船首/船尾門或升降梯</u> .1 access arrangements, hatches and hatch covers, ramps, side/bow/stern doors or elevators</p> <p><u>.2 管路系統-抽水與壓載水吸入口與污水井</u> .2 pipeline systems – bilge and ballast suctions and wells</p> <p><u>.3 起重機、吊桿、絞機</u> .3 cranes, derricks, winches</p> <p><u>升降旗與主要單旗信號 (A,B,G,H,O,P,Q)之知識</u> Knowledge of hoisting and dipping flags and the main single-flag signals. (A, B, G, H, O, P, Q)</p>	<p><u>從實作操作示範所獲得之證據予以評估</u> Assessment of evidence obtained from practical demonstration</p>	<p><u>顯示安裝與拆卸係依安全之工業常規之適當方法</u> Demonstrate the proper methods for rigging and unrigging in accordance with safe industry practice</p> <p><u>展示繩結、插接與制索器、繩頭繫束、捲纏製作與使用以及帆布的操作係屬適當</u> Demonstrate the proper creation and use of knots, splices, stoppers, whippings, servings as well as proper canvas handling</p> <p><u>展示滑車及轆轤的適當使用</u> Demonstrate the proper use of blocks and tackle</p> <p><u>展示纜繩、鋼索、繩索及鏈索之適當操作方法</u> Demonstrate the proper methods for handling lines, wires, cables and chains</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
應用職業健康與安全之預防措施 Apply occupational health and safety precautions	<p>安全工作實務與人員在船安全之工作知識，包括：</p> <p>Working knowledge of safe working practices and personal shipboard safety including:</p> <p>.1 高空作業 .1 working aloft</p> <p>.2 舷外作業 .2 working over the side</p> <p>.3 封閉空間作業 .3 working in enclosed spaces</p> <p>.4 作業許可制度 .4 permit to work systems</p> <p>.5 帆纜操作 .5 line handling</p> <p>.6 舉重之技巧與防止背部受傷之方法 .6 lifting techniques and methods of preventing back injury</p> <p>.7 電機安全 .7 electrical safety</p> <p>.8 機械安全 .8 mechanical safety</p> <p>.9 化學與生物危害安全 .9 chemical and biohazard safety</p> <p>.10 個人安全設備 .10 personal safety equipment</p>	<p>從所獲得下列一項或多項證據予以評估：</p> <p>Assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 實作之訓練 .2 practical training</p> <p>.3 測驗 .3 examination</p> <p>.4 認可之訓練船上經驗 .4 approved training ship experience</p>	<p>隨時遵守為保護人員與船舶所制定之程式 Procedures designed to safeguard personnel and the ship are observed at all times</p> <p>隨時遵守安全工作做法並正確使用適當之防護設備 Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times</p>
應用預防措施並致力於海洋環境污染之防止 Apply precautions and contribute to the prevention of pollution of the marine environment	<p>採取預防措施以防止海洋環境污染之知識 Knowledge of the precautions to be taken to prevent pollution of the marine environment</p> <p>防污染設備使用與操作之知識 Knowledge of the use and operation of anti-pollution equipment</p> <p>認可處置海洋污染物方法之知識 Knowledge of the approved methods for disposal of marine pollutants</p>	<p>從所獲得下列一項或多項證據予以評估：</p> <p>Assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 實作之訓練 .2 practical training</p> <p>.3 測驗 .3 examination</p> <p>.4 認可之訓練船上經驗 .4 approved training ship experience</p>	<p>隨時遵守為保護海洋環境所制定之程式 Procedures designed to safeguard the marine environment are observed at all times</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>操作救生艇筏與救難艇</u> Operate survival craft and rescue boats	<u>操作救生艇筏與救難艇及其下水設施與裝置及其設備之知識</u> Knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment <u>海上求生技能之知識</u> Knowledge of survival at sea techniques	<u>從第A-VI/2節第1至第4項所規定認可之訓練與經驗獲得之證據予以評估</u> Assessment of evidence obtained from approved training and experience as set out in section A-VI/2, paragraphs 1 to 4	<u>棄船與求生情況下之應急行動適於當時之環境與狀況，並符合公認之安全措施與標準</u> Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards

專長：維護與修理(助理級)

Function: Maintenance and repair at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於船上之維護與修理 Contribute to shipboard maintenance and repair	<p><u>使用油漆、潤滑和清潔材料與設備之能力</u> Ability to use painting, lubrication and cleaning materials and equipment</p> <p><u>瞭解與執行日常維護與修理程式的能力</u> Ability to understand and execute routine maintenance and repair procedures</p> <p><u>表面處理技術之知識</u> Knowledge of surface preparation techniques</p> <p><u>瞭解廠商之安全準則與船上之規範</u> Understanding manufacturer's safety guidelines and shipboard instructions</p> <p><u>安全處置廢料之知識</u> Knowledge of safe disposal of waste materials</p> <p><u>應用、保養與使用手動與電動工具之知識</u> Knowledge of the application, maintenance and use of hand and power tools</p>	<p><u>從實作操作示範所獲得之證據予以評估</u> Assessment of evidence obtained from practical demonstration</p> <p><u>從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 實作之訓練</u> .2 practical training</p> <p><u>.3 測驗</u> .3 examination</p> <p><u>.4 認可之訓練船上經驗</u> .4 approved training ship experience</p>	<p><u>依據技術、安全與程式規範進行維護與修理活動</u> Maintenance and repair activities are carried out in accordance with technical, safety and procedural specifications</p>

第三章
輪機部門之標準
CHAPTER III
Standards regarding engine department

第 A-III/1 節

在有人值守機艙負責當值之輪機員或指派在定期無人值守機艙為值勤輪機員發證之強制性最低要求

Section A-III/1

Mandatory minimum requirements for certification of officers in charge of an engineering watch in a manned engine-room or as designated duty engineers in a periodically unmanned engine-room

訓練

Training

1 規則 III/1 節第 2.4 項所要求之教育及訓練，應包括與輪機員職責有關之機械及電機工作間技能之訓練。

1 The education and training required by paragraph 2.4 of regulation III/1 shall include training in mechanical and electrical workshop skills relevant to the duties of an engineer officer.

船上訓練

Onboard training

2 凡申請發證為主機推進動力 750 瓩以上之航行船舶上，有人值守機艙之負責輪機當值之輪機員或指派在定期無人值守機艙之值勤輪機員，其海勤資歷依規則 III/1 第 2.2 款作為認可訓練計畫之一部分符合本節之規定者，應參加認可之船上訓練計畫。

2 Every candidate for certification as officer in charge of an engineering watch in a manned engine-room or as designated duty engineer in a periodically unmanned engine-room of ships powered by main propulsion machinery of 750 kW or more whose seagoing service, in accordance with paragraph 2.2 of regulation III/1, forms part of a training programme approved as meeting the requirements of this section shall follow an approved programme of onboard training which:

- .1 確保申請發證者在要求之海勤資歷期間，考慮及本章程第 B-III/1 節所述之準則，在負責機艙當值甲級船員之任務、職責及責任中，接受有系統之實作訓練及經驗；

- .1 ensures that, during the required period of seagoing service, the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of an engine-room watch, taking into account the guidance given in section B-III/1 of this Code;
- .2 在其執行認可之海勤資歷時受到船上適任並持證輪機員嚴密之指導及監督；
及
- .2 is closely supervised and monitored by a qualified and certificated engineer officer aboard the ships in which the approved seagoing service is performed; and
- .3 在訓練紀錄簿中適當記載之。
- .3 is adequately documented in a training record book.

適任標準

Standard of competence

3 凡申請發證為主機推進動力 750 瓩以上之航行船舶上，有人值守機艙負責輪機當值之輪機員或指派在定期無人值守機艙之值勤輪機員，應要求證明其能力能承擔表 A-III/1 第 1 欄所列操作級之任務、職責及責任。

3 Every candidate for certification as officer in charge of an engineering watch in a manned engine-room or as designated duty engineer in a periodically unmanned engine-room on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall be required to demonstrate ability to undertake, at the operational level, the tasks, duties and responsibilities listed in column 1 of table A-III/1.

4 發證所要求之最低知識、瞭解及熟練如表 A-III/2 第 2 欄所列。

4 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-III/1.

5 表 A-III/1 第 2 欄所列資料之知識水準，應足以使輪機員執行其當值職責。*

5 The level of knowledge of the material listed in column 2 of table A-III/1 shall be sufficient for engineer officers to carry out their watchkeeping duties.*

6 為達到所需水準之理論知識，瞭解及熟練之訓練及經驗，應以第 A-VIII/1 節第 4-2 部分“輪機當值應遵守之原則”為基礎，並應考慮及本部分之有關要求及本章程 B 篇所列之準則。

6 Training and experience to achieve the necessary theoretical knowledge, understanding and proficiency shall be based on section A-VIII/2, part 4-2 Principles to be observed in keeping an engineering watch, and shall take into account the relevant requirements of this part

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

and the guidance given in part B of this Code.

7 如申請發證在蒸汽鍋爐非為船上機器一部分之船上服務者，得刪減表 A-III/1 中之相關要求。除非輪機員符合表 A-III/1 中所刪減項目之適任標準，否則以此為基礎而授予之證書如在蒸汽鍋爐為機器一部分之船舶上服務則無效，任何此限制應在證書及加簽上記載之。

7 Candidates for certification for service in ships in which steam boilers do not form part of their machinery may omit the relevant requirements of table A-III/1. A certificate awarded on such a basis shall not be valid for service on ships in which steam boilers form part of a ship's machinery until the engineer officer meets the standard of competence in the items omitted from table A-III/1. Any such limitation shall be stated on the certificate and in the endorsement.

8 對於主推進機型式與其所裝置者迥異，主管機關得刪減其知識之要求，其所簽發之證書應認係有效。依此基礎所簽發之證書對於業已刪減所裝置之任何類別機器者，在該輪機員證明具有該知識要求前應屬無效。任何該限制應在證書及加簽上記載之。

8 The Administration may omit knowledge requirements for types of propulsion machinery other than those machinery installations for which the certificate to be awarded shall be valid. A certificate awarded on such a basis shall not be valid for any category of machinery installation which has been omitted until the engineer officer proves to be competent in these knowledge requirements. Any such limitation shall be stated on the certificate and in the endorsement.

9 凡申請發證者應要求其依表 A-III/1 第 3 欄及第 4 欄所列之適任性之證明方法及適任性之評估標準，提供已達到所要求適任標準之證據。

9 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-III/1.

近岸航程

Near-coastal voyages

10 規則 III/1 第 2.2 項至第 2.5 項有關列於表 III/1 第 2 欄各節之知識、瞭解及熟練所要求標準之規定，對主機推進動力裝置未滿 3,000 瓩從事近岸航程船舶之輪機員得予變更，但應考慮及可能在同一水域航行之所有船舶安全。任何該限制應在證書及加簽上記載之。

10 The requirements of paragraphs 2.2 to 2.5 of regulation III/1 relating to level of knowledge, understanding and proficiency required under the different sections listed in column 2 of table A-III/1 may be varied for engineer officers of ships powered by main propulsion machinery of less than 3,000 kW propulsion power engaged on near-coastal voyages, as considered necessary, bearing in mind the effect on the safety of all ships which may be operating in the same waters. Any such limitation shall be stated on the certificate and in the

endorsement.

表 A-III/1

在有人值守機艙負責輪機當值之輪機員
或指派在定期無人值守機艙之值勤輪機員之最低適任標準規範

Table A-III/1

Specification of minimum standard of competence for officers in charge of
an engineering watch in a manned engine-room or designated duty engineers
in a periodically unmanned engine-room

專長：輪機工程(操作級)

Function: Marine engineering at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
保持安全之輪機當值 Maintain a safe engineering watch	<p>輪機當值應遵守基本原則之全面知識 Thorough knowledge of Principles to be observed in keeping an engineering watch, including:</p> <ol style="list-style-type: none"> .1 與接班有關之職責 .1 duties associated with taking over and accepting a watch .2 當值期間所擔負之例行職責 .2 routine duties undertaken during a watch .3 保持輪機日誌及所記錄之意義 .3 maintenance of the machinery space logs and the significance of the readings taken .4 與交班有關之職責 .4 duties associated with handing over a watch <p>安全及應急程式；將所有遙控/自動系統轉換為現場控制系統 Safety and emergency procedures; change-over of remote/automatic to local control of all systems</p> <p>當值時須遵守之安全預防措施，及一旦發生火災或事故（特別是有關油料系統）時，應採取之立即措施 Safety precautions to be observed during a watch and immediate actions to be taken in the event of fire or accident, with particular reference to oil systems</p>	<p>從下列一項或多項所獲得證據予以評估： Assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate .4 認可之實驗設備經驗 .4 approved laboratory equipment training 	<p>當值之值班、交班及接班與公認之原則與程式一致 The conduct, handover and relief of the watch conforms with accepted principles and procedures</p> <p>監控輪機設備與系統之頻度及範圍符合廠家之建議、公認之原則及程式，包括輪機當值中應遵守之基本原則 The frequency and extent of monitoring of engineering equipment and systems conforms to manufacturers' recommendations and accepted principles and procedures, including Principles to be observed in keeping an engineering watch</p> <p>對有關船舶輪機系統之一舉一動保持適當記錄 A proper record is maintained of the movements and activities relating to the ship's engineering systems</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
保持安全之輪機當值 (續) Maintain a safe engineering watch (continued)	<u>機艙資源管理</u> <i>Engine-room resource management</i> <u>機艙資源管理原則之知識，包括：</u> Knowledge of engine-room resource management principles, including: <u>.1 資源的配置、分配與優先順序</u> .1 allocation, assignment, and prioritization of resources <u>.2 有效之通信</u> .2 effective communication <u>.3 決斷與領導</u> .3 assertiveness and Leadership <u>.4 獲取並保持處境之警覺性：</u> .4 obtaining and maintaining situational awareness <u>.5 尊重小組成員之經驗</u> .5 Consideration of team Experience	<u>從下列一項或多項所獲得證據予以評估：</u> Assessment of evidence obtained from one or more of the following: <u>.1 認可之訓練</u> .1 approved training <u>.2 認可之在職經驗</u> .2 approved in-service experience <u>.3 認可之模擬機訓練</u> .3 approved simulator training	<u>機艙資源係依需要配置並以正確之優先順序分配以完成必要之操作</u> Resources are allocated and assigned as needed in correct priority to perform necessary tasks <u>通信之收發清晰明白</u> Communication is clearly and unambiguously given and received <u>有疑問之決策及/或措施導致適當之質疑與反應</u> Questionable decisions and/or actions result in appropriate challenge and response <u>確認有效之領導行為</u> Effective leadership behaviours are identified <u>對當前與預期之機艙與相關系統之狀況與外在環境，與小組成員有共同之準確理解</u> Team member(s) share accurate understanding of current and predicted engine-room and associated systems state, and of external environment
以書面及口頭形式使用英語 Use English in written and oral form	<u>能使甲級船員使用輪機刊物並能執行輪機職責之足夠之英語知識</u> Adequate knowledge of the English language to enable the officer to use engineering publications and to perform engineering duties	<u>測驗及從實作講授中所獲得證據予以評估</u> Examination and assessment of evidence obtained from practical instruction	<u>正確解釋與輪機職責有關之英語刊物</u> English language publications relevant to engineering duties are correctly interpreted <u>語言溝通清晰並能被瞭解</u> Communications are clear and understood
內部通信系統之使用 Use internal communication systems	<u>在船上操作所有之內部通信系統</u> Operation of all internal communication systems on board	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate <u>.4 認可之實驗室設備訓練</u> .4 approved laboratory equipment training	<u>傳送或接收資訊確實成功</u> Transmission and reception of messages are consistently successful <u>通信紀錄完整、準確符合法令要求</u> Communication records are complete, accurate and comply with statutory requirements

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操作主機與 輔機及相關 控制系統 Operate main and auxiliary machinery and associated control systems	<p><u>機器系統之基本構造與操作原則，包括：</u> Basic construction and operation principles of machinery systems, including:</p> <p><u>.1 船用柴油機</u> .1 marine diesel engine</p> <p><u>.2 船用蒸汽渦輪機</u> .2 marine steam turbine</p> <p><u>.3 船用燃氣渦輪機</u> .3 marine gas turbine</p> <p><u>.4 船用鍋爐</u> .4 marine boiler</p> <p><u>.5 軸系裝置，包括推進器</u> .5 shafting installations, including propeller</p> <p><u>.6 其他輔機，包括各種泵、空氣壓縮機、淨油機、淡水機、熱交換器、冷凍機、空調與通風系統</u> .6 other auxiliaries, including various pumps, air compressor, purifier, fresh water generator, heat exchanger, refrigeration, air-conditioning and ventilation systems</p> <p><u>.7 舵機</u> .7 steering gear</p> <p><u>.8 自動控制系統</u> .8 automatic control systems</p> <p><u>.9 液體流動及潤滑油、燃油與冷凍系統之特性</u> .9 fluid flow and characteristics of lubricating oil, fuel oil and cooling systems</p> <p><u>.10 甲板機械</u> .10 deck machinery</p> <p><u>操作推進機包括控制系統之安全與應急程式</u> Safety and emergency procedures for operation of propulsion plant machinery, including control systems</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之實驗室設備訓練</u> .3 approved laboratory equipment training</p>	<p><u>能瞭解機械裝置之構造與操作並以圖說解釋</u> Construction and operating mechanisms can be understood and explained with drawings/instructions</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操作主機與輔機及相關控制系統 (續) Operate main and auxiliary machinery and associated control systems (continued)	<p><u>下列各項機器與控制系統之備便、操作、故障偵測及防止損壞之必要措施：</u> Preparation, operation, fault detection and necessary measures to prevent damage for the following machinery items and control systems:</p> <p><u>.1 主機與附屬之輔機</u> .1 main engine and associated auxiliaries</p> <p><u>.2 蒸汽鍋爐與附屬之輔機及蒸汽系統</u> .2 steam boiler and associated auxiliaries and steam systems</p> <p><u>.3 輔原動機與附屬之系統</u> .3 auxiliary prime movers and associated systems</p> <p><u>.4 其他輔機，包括冷凍機、空調與通風系統</u> .4 other auxiliaries, including refrigeration, air-conditioning and ventilation systems</p>	<p><u>測驗及從下列一項或多項所獲得證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate</p> <p><u>.4 認可之實驗室設備訓練</u> .4 approved laboratory equipment training</p>	<p><u>操作已予計劃，並係依據操作手冊，及為確保操作安全及防止海上環境污染所制定之規則及程式進行</u> Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution of the marine environment</p> <p><u>迅速發現異常情況</u> Deviations from the norm are promptly identified</p> <p><u>動力裝置及輪機系統之輸出始終符合需求，包括駕駛室指示航速與方位之改變</u> The output of plant and engineering systems consistently meets requirements, including bridge orders relating to changes in speed and direction</p> <p><u>迅速鑑定機器故障之原因，考慮及當時環境及條件，設計出措施以確保整體船舶及動力裝置之安全</u> The causes of machinery malfunctions are promptly identified and actions are designed to ensure the overall safety of the ship and the plant, having regard to the prevailing circumstances and conditions</p>
操作燃油、潤滑油、壓載水與其他泵送系統及相關控制系統 Operate fuel, lubrication, ballast and other pumping systems and associated control systems	<p><u>泵與管路系統包括控制系統之操作特性</u> Operational characteristics of pumps and piping systems, including control systems</p> <p><u>操作泵送系統</u> Operation of pumping systems:</p> <p><u>.1 泵之例行操作</u> .1 routine pumping operations</p> <p><u>.2 艙底水、壓載水及液貨泵送系統之操作</u> .2 operation of bilge, ballast and cargo pumping systems</p> <p><u>油水分離器（或類似設備）之要求與操作</u> Oily-water separators (or similar equipment) requirements and operation.</p>	<p><u>測驗及從下列一項或多項所獲得證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate</p> <p><u>.4 認可之實驗室設備訓練</u> .4 approved laboratory equipment training</p>	<p><u>操作已予計劃，並係依據操作手冊，及為確保操作安全及防止海上環境污染所制定之規則及程式進行</u> Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution of the marine environment</p> <p><u>迅速發現異常情況並採取適當之行動</u> Deviations from the norm are promptly identified and appropriate action is taken</p>

專長：電機、電子及控制工程（操作級）

Function: Electrical, electronic and control engineering at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
電機、電子操作及控制系統 Operate electrical, electronic and control systems	<p><u>下列電機、電子及控制系統之結構與操作原則：</u> Basic configuration and operation principles of the following electrical, electronic and control equipment:</p> <p><u>.1 電機設備:</u> .1 electrical equipment:</p> <p><u>.a 發電機與配電系統</u> .a generator and distribution systems</p> <p><u>.b 發電機之備便、啟動、併聯及轉換</u> .b preparing, starting, paralleling and changing over generators</p> <p><u>.c 電動機包括啟動方法</u> .c electrical motors including starting methodologies</p> <p><u>.d 高壓裝置</u> .d high-voltage installations</p> <p><u>.e 順序控制電路與附屬之系統設施</u> .e sequential control circuits and associated system devices</p> <p><u>.2 電子設備:</u> .2 electronic equipment:</p> <p><u>.a 基本電子電路元件之特性</u> .a characteristics of basic electronic circuit elements</p> <p><u>.b 自動與控制系統之流程圖</u> .b flowchart for automatic and control systems .</p> <p><u>.c 各項機器控制系統包括主推進機操作控制與鍋爐自動控制之功能，特性與特徵</u> .c functions, characteristics and features of control systems for machinery items, including main propulsion plant operation control and steam boiler automatic controls</p> <p><u>.3 控制系統:</u> .3 control systems:</p>	<p>測驗及從下列一項或多項所獲得證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate</p> <p><u>.4 認可之實驗室設備訓練</u> .4 approved laboratory equipment training</p>	<p><u>操作已予計劃，並係依操作手冊，及為確保操作安全所制定之規則及程式進行</u> Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations</p> <p><u>瞭解電機、電子及控制系統並能以圖說解釋</u> Electrical, electronic and control systems can be understood and explained with drawings/instructions</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
	<u>.a 各種自動控制方法與特性</u> .a various automatic control methodologies and characteristics <u>.b 比例-積分-微分 (PID) 控制特性與附屬之程式控制系統設施</u> .b Proportional-Integral-Derivative (PID) control characteristics and associated system devices for process control		
電機與電子設備之保養及維修 Maintenance and repair of electrical and electronic equipment	<u>船上電機系統之施工安全要求，包括電機設備之安全絕緣必需在允許人員於該等設備工作前要求之</u> Safety requirements for working on shipboard electrical systems, including the safe isolation of electrical equipment required before personnel are permitted to work on such equipment <u>電機系統設備、控制板、電動機、發電機及直流電機系統與設備之保養及維修</u> Maintenance and repair of electrical system equipment, switchboards, electric motors, generator and DC electrical systems and equipment <u>電機故障之偵測、故障之位置及防止損壞之措施</u> Detection of electric malfunction, location of faults and measures to prevent damage <u>電機測試與量測設備之構造與操作</u> Construction and operation of electrical testing and measuring equipment <u>下列設備與其構造之功能與性能試驗：</u> Function and performance tests of the following equipment and their configuration: <u>.1 監控系統</u> .1 monitoring systems <u>.2 自動控制設施</u> .2 automatic control devices <u>.3 防護設施</u> .3 protective devices <u>電機與簡單之電子線圖說明</u> The interpretation of electrical and simple electronic diagrams	<u>測驗及從下列一項或多項所獲得證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之工廠技能訓練</u> .1 approved workshop skills training <u>.2 認可之實作經驗與試驗</u> .2 approved practical experience and tests <u>.3 認可之在職經驗</u> .3 approved in-service experience <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	<u>工作之安全措施適當</u> Safety measures for working are appropriate <u>手工具、量測儀器及試驗設備之選擇與使用適當並說明其結果精確</u> Selection and use of hand tools, measuring instruments, and testing equipment are appropriate and interpretation of results is accurate <u>設備之拆解、檢查、修理與重組係依手冊與良好之慣例</u> Dismantling, inspecting, repairing and reassembling equipment are in accordance with manuals and good practice <u>重組與性能試驗係依手冊與良好之慣例</u> Reassembling and performance testing is in accordance with manuals and good practice

專長：保養及維修（操作級）

Function: Maintenance and repair at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>適當使用手工工具，機械工具及量測儀器以在船上裝配與修理</u> Appropriate use of hand tools, machine tools and measuring instruments for fabrication and repair on board	<u>船舶與設備之構造與修理所用材料之特性與限制</u> Characteristics and limitations of materials used in construction and repair of ships and equipment <u>裝配與修理所用程式之特性與限制</u> Characteristics and limitations of processes used for fabrication and repair <u>在系統與組件之裝配與修理中應考慮之特性與參數</u> Properties and parameters considered in the fabrication and repair of systems and components <u>施行應急/臨時安全修理之方法</u> Methods for carrying out safe emergency/temporary repairs <u>為確保安全全工作環境與使用手工工具、機械工具及量測儀器應採取之安全措施</u> Safety measures to be taken to ensure a safe working environment and for using hand tools, machine tools and measuring instruments <u>手工工具，機械工具及量測儀器之使用</u> Use of hand tools, machine tools and measuring instruments <u>各種不同型式密封物與襯墊之使用</u> Use of various types of sealants and packings	<u>測驗及從下列一項或多項所獲得證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>1 認可之工廠技能訓練</u> 1. approved workshop skills training <u>2 認可之實作經驗與試驗</u> 2. approved practical experience and tests <u>3 認可之在職經驗</u> 3. approved in-service experience <u>4 認可之訓練船上經驗</u> 4. approved training ship experience	<u>對典型船舶有關組件裝配之重要參數之鑑別適當</u> Identification of important parameters for fabrication of typical ship-related components is appropriate <u>材料之選擇適當</u> Selection of materials is appropriate <u>裝配達指定之餘裕</u> Fabrication is to designated tolerances <u>手工工具，機械工具及量測儀器之使用適當並安全</u> Use of equipment and hand tools, machine tools and measuring instruments is appropriate and safe
<u>船上機器及設備之保養與修理</u> Maintenance and repair of shipboard machinery and equipment	<u>採取安全之量測以進行修理與保養，包括船上機器與設備之安全絕緣必需在允許人員於該等機器或設備工作前要求之</u> Safety measures to be taken for repair and maintenance, including the safe isolation of shipboard machinery and equipment required before personnel are permitted to work on such machinery or equipment <u>適當之基本機械知識與技能</u> Appropriate basic mechanical knowledge and skills	<u>測驗及從下列一項或多項所獲得證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>1 認可之工廠技能訓練</u> 1. approved workshop skills training <u>2 認可之實作經驗與試驗</u> 2. approved practical experience and tests <u>3 認可之在職經驗</u> 3. approved in-service experience	<u>所採用之安全程式適當</u> Safety procedures followed are appropriate <u>工具與備用機具之選擇適當</u> Selection of tools and spare gear is appropriate

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
船上機器及設備之保養與修理 Maintenance and repair of shipboard machinery and equipment (continued)	<u>機器及設備之保養與修理，諸如拆解、調整及重組</u> Maintenance and repair, such as dismantling, adjustment and reassembling of machinery and equipment <u>特殊工具及量測儀器之適當使用</u> The use of appropriate specialized tools and measuring instruments <u>設備構造材料之設計特性與選擇</u> Design characteristics and selection of materials in construction of equipment <u>機器圖樣與手冊之解釋</u> Interpretation of machinery drawings and handbooks <u>管路、液力與氣力圖樣之說明</u> The interpretation of piping, hydraulic and pneumatic diagrams	<u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	<u>設備之拆解、檢查、修理及重組係依手冊與良好之慣例</u> Dismantling, inspecting, repairing and reassembling equipment is in accordance with manuals and good practice <u>再使用與性能試驗係依手冊與良好之慣例</u> Re-commissioning and performance testing is in accordance with manuals and good practice <u>材料與零組件之選擇適當</u> Selection of materials and parts is appropriate

專長：控制船舶操作及船上人員管理（操作級）

Function: Controlling the operation of the ship and care for persons on board at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
確保符合防止污染要求 Ensure compliance with pollution-prevention requirements	<u>防止海上環境污染</u> <i>Prevention of pollution of the marine environment</i> 防止海上環境污染應採取之預防措施之知識 Knowledge of the precautions to be taken to prevent pollution of the marine environment 防止污染程式及所有相關設備 Anti-pollution procedures and all associated equipment <u>採取保護措施防止海洋環境之重要性</u> Importance of proactive measures to protect the marine environment	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之訓練 .3 approved training	監督船上操作程式，並確保完全符合遵守 MARPOL 公約之要求 Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed <u>採取措施確保維持良好的環保聲譽</u> Actions to ensure that a positive environmental reputation is maintained

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
維持船舶之適航性 Maintain seaworthiness of the ship	<p>船舶穩度 <i>Ship stability</i></p> <p>穩度、俯仰與應力圖表及應力計算設備之實際知識及應用 Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment</p> <p>瞭解水密完整性之基本知識 Understanding of the fundamentals of watertight integrity</p> <p>瞭解一旦喪失部分完整浮力，應採取之基本行動 Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy</p> <p>船舶構造 <i>Ship construction</i></p> <p>船舶主要結構構件之一般知識及各部構件之正確名稱 General knowledge of the principal structural members of a ship and the proper names for the various parts</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>1 認可之在職經驗 .1 approved in-service experience</p> <p>2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p>4 認可之實驗設備訓練 .4 approved laboratory equipment training</p>	<p>在各種裝載情況下之穩度符合 IMO 完整穩度標準 The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>依據公認之慣例採取確保並維持水密完整性之行動 Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>
船上防火、控制火災及滅火 Prevent, control and fight fires on board	<p>防火及滅火設備 <i>Fire prevention and fire-fighting appliances</i></p> <p>組織滅火演習之能力 Ability to organize fire drills</p> <p>火災之種類及其化學性質之知識 Knowledge of classes and chemistry of fire</p> <p>滅火系統之知識 Knowledge of fire-fighting systems</p> <p>一旦失火包括油料系統著火時，應採取行動之知識 Knowledge of action to be taken in the event of fire, including fires involving oil systems</p>	<p>從第 A-VI/3 節第 1 至 3 項所規定認可之滅火訓練及經驗中獲得證據予以評估 Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3, paragraphs 1 to 3</p>	<p>迅速確認問題之型式及範圍，其最初行動與應急程式及船上應急計畫相符 The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the ship</p> <p>撤離、緊急關閉及隔離程序適於應急情況之性質，並迅速予以執行 Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p>優先順序，及作出報告與通知船上人員之程度與時間表，係與緊急情況之性質相關，並反映出問題之緊急程度 The order of priority and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操作救生設備 Operate life-saving appliances	<p>救生 <i>Life-saving</i></p> <p>組織棄船演習之能力及操作救生艇筏與救難艇及其下水設備與佈置，及其設備(包括無線電救生設備、衛星應急指位無線電示標、搜救雷達詢答機、浸水衣與保暖設備)之知識、海上求生技能之知識</p> <p>Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids</p>	<p>從第 A-VI/2 節第 1 至 4 項所規定認可之訓練及經驗中獲得證據予以評估</p> <p>Assessment of evidence obtained from approved training and experience as set out in section A-VI/2, paragraphs 1 to 4</p>	<p>對棄船及求生狀況所為之反應行動適於當時環境及情況，並符合公認之安全習慣及標準</p> <p>Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards</p>
在船上應用醫療急救 Apply medical first aid on board ship	<p>醫護 <i>Medical aid</i></p> <p>醫護指南及無線電諮詢之實際應用，包括在船上對可能發生事故或疾病，根據該等知識所採取有效行動之能力</p> <p>Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship</p>	<p>從第 A-VI/4 節第 1 至 3 項所規定認可訓練獲得證據予以評估</p> <p>Assessment of evidence obtained from approved training as set out in section A-VI/4, paragraphs 1 to 3</p>	<p>迅速確認傷害或病況之可能原因、性質及程度，並予治療以減低對生命之立即威脅</p> <p>Identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life</p>
監督符合法定要求 Monitor compliance with legislative requirements	<p>與海上人命安全及保護海洋環境有關之 IMO 有關公約之基本實用知識</p> <p>Basic working knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment</p>	<p>從測驗或認可訓練中獲得證據予以評估</p> <p>Assessment of evidence obtained from examination or approved training</p>	<p>正確確認有關海上人命安全及保護海洋環境之法定要求</p> <p>Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>領導與統禦技巧之運用</u> Application of leadership and teamworking skills	<u>船上人員管理與訓練之工作知識</u> Working knowledge of shipboard personnel management and training <u>有關國際海事公約與建議案及國內法規之知識</u> A knowledge of related international maritime conventions and recommendations, and national legislation <u>分派任務與管理工作量之能力，包括：</u> Ability to apply task and workload management, including: <ul style="list-style-type: none"> <u>.1 計劃與統合</u> .1 planning and co-ordination <u>.2 人員分配</u> .2 personnel assignment <u>.3 時間與資源之侷限</u> .3 time and resource Constraints <u>.4 優先順序</u> .4 prioritization 	<u>從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following: <ul style="list-style-type: none"> <u>.1 認可之訓練</u> .1 approved training <u>.2 認可之在職經驗</u> .2 approved in-service experience <u>.3 實作示範</u> .3 practical demonstration 	<u>分派船員之任務並告知適於各有關人員之預期行為方式與工作標準</u> The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned <u>訓練之目標與活動係基於對目前適任性與能力及操作要求之評估</u> Training objectives and activities are based on assessment of current competence and capabilities and operational requirements. <u>證明依係可適用之規則操作</u> Operations are demonstrated to be in accordance with applicable rules

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>領導與統禦技巧之運用 (續)</u> Application of leadership and teamworking skills <i>(continued)</i>	<u>有效應用資源管理之知識與能力：</u> Knowledge and ability to apply effective resource management: <u>.1 資源之分派、分配及優先順序</u> .1 allocation, assignment, and prioritization of resources <u>.2 有效之船岸通信</u> .2 effective communication onboard and ashore <u>.3 所作決策反映尊重團隊之經驗</u> .3 decisions reflect consideration of team experiences <u>.4 決斷與領導，包括推動</u> .4 assertiveness and leadership, including motivation <u>.5 獲取並保持處境認識</u> .5 obtaining and maintaining situational awareness <u>應用作出決策技術之知識與能力：</u> Knowledge and ability to apply decision-making techniques: <u>.1 處境與風險之評估</u> .1 Situation and risk assessment <u>.2 確定與考慮所應作之選擇</u> .2 Identify and consider generated options <u>.3 選擇行動之方針</u> .3 Selecting course of action <u>.4 評估結果之有效性</u> .4 Evaluation of outcome effectiveness		<u>依計畫操作而資源係依完成必要任務之所需作正確優先順序之分派</u> Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks <u>清晰及明確的溝通</u> Communication is clearly and unambiguously given and received <u>證明具有有效之領導行為</u> Effective leadership behaviours are demonstrated <u>必要之小組成員分別瞭解現有與預期船舶之操作情況與外部環境之狀況</u> Necessary team member(s) share accurate understanding of current and predicted vessel and operational status and external environment <u>所作之決策對處境非常有效</u> Decisions are most effective for the situation

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於船舶與人員之安全 Contribute to the safety of personnel and ship	<u>人員求生技能之知識</u> Knowledge of personal survival techniques <u>防火之知識與滅火之能力</u> Knowledge of fire prevention and ability to fight and extinguish fires <u>基本急救之知識</u> Knowledge of elementary first aid <u>人員安全與社會責任之知識</u> Knowledge of personal safety and social responsibilities	<u>從第 A-VI/I 節第 2 項所規定之認可訓練與經驗獲得證據予以評估</u> Assessment of evidence obtained from approved training and experience as set out in section A-VI/1, paragraph 2	<u>正確利用適當之安全與防護設備</u> Appropriate safety and protective equipment is correctly used <u>經常注意指定用以保護船舶與人員之程式與安全工作實務</u> Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times <u>經常注意指定用以保護環境之程式</u> Procedures designed to safeguard the environment are observed at all times <u>在察覺緊急情況時配合依據所建立之應急回應程式展開及嗣後之行動</u> Initial and follow-up action on becoming aware of an emergency conforms with established emergency response procedures

第 A-III/2 節

在主機推進動力 3,000 瓩以上船舶之輪機長及大管輪發證之強制性最低要求

Section A-III/2

Mandatory minimum requirements for certification of chief engineer officers and second engineer officers on ships powered by main propulsion machinery of 3,000 kW propulsion power or more

適任標準

Standard of competence

1 凡申請發證為主機推進動力 3,000 瓩以上之航行船舶上輪機長及大管輪者，應要求證明其能力能承擔表 A-III/2 第 1 欄所列之管理級任務、職責及責任。

1 Every candidate for certification as chief engineer officer and second engineer officer of seagoing ships powered by main propulsion machinery of 3,000 kW power or more shall be required to demonstrate ability to undertake, at the management level, the tasks, duties and responsibilities listed in column 1 of table A-III/2.

2 發證所要求之最低知識、瞭解及熟練如表 A-III/2 第 2 欄所列。其內容合併、擴大並加深了表 A-III/1 第 2 欄所列對負責輪機當值甲級船員所要求之科目。

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-III/2. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-III/1 for officers in charge of an engineering watch.

3 切記大管輪應處於隨時承擔輪機長責任之職位，因此對該等科目之評估應予以設計、以測試申請發證者，對影響船舶機械操作安全及保護海上環境之一切可用之資料有能力吸收瞭解。

3 Bearing in mind that a second engineer officer shall be in a position to assume the responsibilities of the chief engineer officer at any time, assessment in these subjects shall be designed to test the candidate's ability to assimilate all available information that affects the safe operation of the ship's machinery and the protection of the marine environment.

4 表 A-III/2 第 2 欄所列各科目之知識水準，應足以使申請發證者在輪機長或大管輪之職務上服務。*

4 The level of knowledge of the subjects listed in column 2 of table A-III/2 shall be sufficient to enable the candidate to serve in the capacity of chief engineer officer or second engineer officer.*

*相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

5 為達到所需水準之理論知識，瞭解及熟練之訓練及經驗，應考慮及本部分之有關要求及本章程 B 篇所列出之準則。

5 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take into account the relevant requirements of this part and the guidance given in part B of this Code.

6 對於推進機型式之知識並非所發有效證書機器裝置所要求者，主管機關得刪減之。依此所授與之證書，除非輪機員已取得所刪減知識之適任證明，否則對業已刪減任何類型機械裝置者應屬無效。任何此等限制應在證書上及加簽上記載之。

6 The Administration may omit knowledge requirements for types of propulsion machinery other than those machinery installations for which the certificate to be awarded shall be valid. A certificate awarded on such a basis shall not be valid for any category of machinery installation which has been omitted until the engineer officer proves to be competent in these knowledge requirements. Any such limitation shall be stated on the certificate and in the endorsement.

7 凡申請發證者應要求依表 A-III/2 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供已達到所要求適任標準之證據。

7 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-III/2.

近岸航程

Near-coastal voyages

8 表 A-III/2 第 2 欄各項對知識、瞭解及熟練之程度要求，必要時，對推進動力受限制且從事近岸航程船舶之輪機員得變更之，但應考慮及可能在同一水域航行之所有船舶安全。任何該等限制應在證書及加簽上記載之。

8 The level of knowledge, understanding and proficiency required under the different sections listed in column 2 of table A-III/2 may be varied for engineer officers of ships powered by main propulsion machinery with limited propulsion power engaged on near-coastal voyages, as considered necessary, bearing in mind the effect on the safety of all ships which may be operating in the same waters. Any such limitation shall be stated on the certificate and in the endorsement.

表 A-III/2

在主機推進動力 3,000 瓩以上船舶之輪機長及大管輪
發證之強制性最低要求規範

Table A-III/2

Specification of minimum standard of competence for chief engineer officers
and second engineer officers on ships powered by main propulsion
machinery of 3,000 kW propulsion power or more

專長：輪機(管理級)

Function: Marine engineering at the management level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>推進機之操作管理</u> Manage the operation of propulsion plant machinery	<u>下列機器與附屬輔機設計特性與作動機構：</u> Design features, and operative mechanism of the following machinery and associated auxiliaries: <u>.1 船用柴油機</u> .1 marine diesel engine <u>.2 船用蒸汽渦輪機</u> .2 marine steam turbine <u>.3 船用燃氣渦輪機</u> .3 marine gas turbine <u>.4 船用鍋爐</u> .4 marine steam boiler	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之實驗設備訓練</u> .3 approved laboratory equipment training <u>.4 認可之模擬設施訓練(適當時)</u> .4 approved simulator training, where appropriate	<u>對設計特性與作動機構能適當之說明與瞭解</u> Explanation and understanding of design features and operating mechanisms are appropriate

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
計劃及安排 操作 Plan and schedule operations	<p><u>理論知識</u> <i>Theoretical knowledge</i></p> <p>熱力學及熱傳學 Thermodynamics and heat transmission</p> <p>力學及流體力學 Mechanics and hydromechanics</p> <p><u>柴油機、蒸汽渦輪機與燃氣渦輪機之推進特性，包括速率、輸出與燃油消耗</u> Propulsive characteristics of diesel engines, steam and gas turbines, including speed, output and fuel consumption</p> <p>Heat cycle, thermal efficiency and heat balance of the following:</p> <p><u>下列機器之熱循環、熱效率與熱平衡：</u></p> <p><u>.1 船用柴油機</u> .1 marine diesel engine</p> <p><u>.2 船用蒸汽渦輪機</u> .2 marine steam turbine</p> <p><u>.3 船用燃氣渦輪機</u> .3 marine gas turbine</p> <p><u>.4 船用鍋爐</u> .4 marine steam boiler</p> <p><u>冷凍機與冷凍循環</u> Refrigerators and refrigeration cycle</p> <p>燃油及潤滑油之物理及化學性質 Physical and chemical properties of fuels and lubricants</p> <p>工程材料學 Technology of materials</p> <p>造船學及船舶構造，包括損害管制 Naval architecture and ship construction, including damage control</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p><u>.4 認可之實驗設備訓練</u> .4 approved laboratory equipment training</p>	<p>操作計劃及準備適於動力裝置之設計參數及航程要求 The planning and preparation of operations is suited to the design parameters of the power installation and to the requirements of the voyage</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>推進裝置及輔機之操作、監視、性能評估及保養之安全</u> Operation, surveillance, performance assessment and maintaining safety of propulsion plant and auxiliary machinery	<u>實作知識</u> <i>Practical knowledge</i> <u>啓動與關閉主推進及輔機，包括附屬之系統</u> Start up and shut down main propulsion and auxiliary machinery, including associated systems <u>推進裝置之操作限制</u> Operating limits of propulsion plant <u>推進裝置及輔機之有效操作、監視、性能評估及保養之安全</u> The efficient operation, surveillance, performance assessment and maintaining safety of propulsion plant and auxiliary machinery <u>主機自動控制之功能與機構</u> Functions and mechanism of automatic control for main engine <u>輔機自動控制之功能與機構，包括但不限於下列：</u> Functions and mechanism of automatic control for auxiliary machinery including but not limited to: <u>.1 發電機配電系統</u> .1 generator distribution systems <u>.2 蒸汽鍋爐</u> .2 steam boilers <u>.3 淨油機</u> .3 oil purifier <u>.4 冷凍系統</u> .4 refrigeration system <u>.5 泵及管路系統</u> .5 pumping and piping systems <u>.6 操舵系統</u> .6 steering gear system <u>.7 貨物裝卸設備與甲板機械</u> .7 cargo-handling equipment and deck machinery	<u>測驗及從下列一項或多項所獲得證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate <u>.4 認可之實驗室設備訓練</u> .4 approved laboratory equipment training	準備啓動、備便燃油、潤滑油、冷卻水及壓縮空氣之方法是最合適的 The methods of preparing for the start-up and of making available fuels, lubricants, cooling water and air are the most appropriate 啓動及暖機期間之壓力、溫度及轉速之查核係依技術說明書及議定之工作計畫 Checks of pressures, temperatures and revolutions during the start-up and warmup period are in accordance with technical specifications and agreed work plans 主推進裝置及輔機系統之監測足以維持安全操作狀況 Surveillance of main propulsion plant and auxiliary systems is sufficient to maintain safe operating conditions <u>準備關閉及監測引擎冷卻之方法是最合適的</u> The methods of preparing the shutdown and of supervising the cooling down of the engine are the most appropriate <u>測定引擎負載容量之方法係依技術說明書</u> The methods of measuring the load capacity of the engines are in accordance with technical specifications <u>按照駕駛台指令查核機器性能</u> Performance is checked against bridge orders <u>性能等級係依技術說明書</u> Performance levels are in accordance with technical specifications

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
管理燃油及壓艙水操作 Manage fuel, lubrication and ballast operations	機器，包括泵及管路系統之操作及保養 Operation and maintenance of machinery, including pumps and piping systems	測驗及從下列一項或多項所獲得證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate	燃油及壓艙水操作符合操作要求，並能防止海上環境污染 Fuel and ballast operations meet operational requirements and are carried out so as to prevent pollution of the marine environment

專長：電機、電子及控制工程(管理級)

Function: Electrical, electronic and control engineering at the management level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>管理</u>操作電機及電子控制設備 Manage operation of electrical and electronic control equipment</p>	<p><u>理論知識</u> Theoretical knowledge</p> <p>船舶電工學、電子學、<u>大功率電子及自動控制工程與安全設施</u> Marine electrotechnology, electronics, power electronics, automatic control engineering and safety devices</p> <p><u>下列自動控制設備與安全設施之設計特徵與系統結構：</u> Design features and system configurations of automatic control equipment and safety devices for the following:</p> <p><u>.1 主機</u> .1 main engine</p> <p><u>.2 發電機與配電系統</u> .2 generator and distribution system</p> <p><u>.3 蒸汽鍋爐</u> .3 steam boiler</p> <p><u>電動機操作控制系統之設計特徵與系統結構</u> Design features and system configurations of operational control equipment for electrical motors</p> <p><u>高壓裝置之設計特徵</u> Design features of high-voltage installations</p> <p><u>液力與氣力控制設備之特徵</u> Features of hydraulic and pneumatic control equipment</p>	<p>測驗及從下列一項或多項所獲得證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p>.4 認可之實驗室設備訓練 .4 approved laboratory equipment training</p>	<p>設備及系統操作係依操作手冊 Operation of equipment and system is in accordance with operating manuals</p> <p>性能標準係依技術說明書 Performance levels are in accordance with technical specifications</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
管理、故障排除與恢復電機與電子控制設備至操作狀況 Manage troubleshooting restoration of electrical and electronic control equipment to operating condition	<u>實作知識</u> <i>Practical knowledge</i> <u>電機與電子控制設備之故障排除</u> Troubleshooting of electrical and electronic control equipment <u>電機與電子控制設備及安全設施之功能測試</u> Function test of electrical, electronic control equipment and safety devices <u>監測系統之故障排除</u> Troubleshooting of monitoring systems <u>軟體版本之管制</u> Software version control	測驗及從下列一項或多項所獲得證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate .4 認可之實驗室設備訓練 .4 approved laboratory equipment training	保養工作係依技術的、法定的、安全的及有程式的說明書正確予以規劃 Maintenance activities are correctly planned in accordance with technical, legislative, safety and procedural specifications <u>設備之檢查、試驗與故障排除適當</u> Inspection, testing and troubleshooting of equipment are appropriate

專長：保養及修理（管理級）

Function: Maintenance and repair at the management level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
管理安全保養及修理程式 Manage safe and effective maintenance and repair procedures	<u>理論知識</u> <i>Theoretical knowledge</i> 實用輪機工程 Marine engineering practice <u>實作知識</u> <i>Practical knowledge</i> <u>管理安全與有效之保養及修理程式</u> Manage safe and effective maintenance and repair procedures <u>計劃保養，包括法定與船級之確認</u> Planning maintenance, including statutory and class verifications <u>計劃修理</u> Planning repairs	測驗及從下列一項或多項所獲得證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之工廠訓練 .3 approved workshop training	保養工作係依技術的、法定的、安全的及有程式說明書正確地規劃及執行 Maintenance activities are correctly planned and carried out in accordance with technical, legislative, safety and procedural specifications 對保養及修理具有適當之計畫、說明書、材料及設備 Appropriate plans, specifications, materials and equipment are available for maintenance and repair 以最恰當之方法將裝置予以復原之措施 Action taken leads to the restoration of plant by the most suitable method

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
測及鑑定機器故障原因並排除故障 Detect and identify the cause of machinery malfunctions and correct faults	<p>實作知識 <i>Practical knowledge</i></p> <p>探測機器故障，確定瑕疵部位並採取防止損壞之措施 Detection of machinery malfunction, location of faults and action to prevent damage</p> <p><u>檢查與調整設備</u> Inspection and adjustment of equipment</p> <p><u>非破壞性檢驗</u> Non-destructive examination</p>	<p>測驗及從下列一項或多項所獲得證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p>.4 認可之實驗室設備訓練 .4 approved laboratory equipment training</p>	<p>比較實際操作狀況之方法係依建議之慣例及程式 The methods of comparing actual operating conditions are in accordance with recommended practices and procedures</p> <p>行動及決定係依建議之操作說明書及限制 Actions and decisions are in accordance with recommended operating specifications and limitations</p>
確保安全工作實務 Ensure safe working practices	<p>實作知識 <i>Practical knowledge</i></p> <p>安全工作實務 Safe working practices</p>	<p>測驗及從下列一項或多項所獲得證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p><u>.3 認可之實驗室設備訓練</u> .3 approved laboratory equipment training</p>	<p>工作實務係依法定要求、實務章程、准許工作及環境顧慮 Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns</p>

專長：控制船舶操作及船上人員管理(管理級)

Function: Controlling the operation of the ship and care for persons on board at the management level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
俯仰、穩度及應力之控制 Control trim, stability and stress	瞭解船舶構造之基本原理及影響俯仰及穩度之理論與因素，及保持俯仰及穩度之必要措施 Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability 船舶某艙區受損並連續泛水時對船舶俯仰及穩度影響之知識，以及應採取之因應措施 Knowledge of the effect on trim and stability of a ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken IMO有關船舶穩度建議案之知識 Knowledge of IMO recommendations concerning ship stability	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate	穩度及應力狀況始終保持於安全限度內 Stability and stress conditions are maintained within safe limits at all times
監督及控制對法定要求之遵守及確保海上人命安全與保護海上環境之措施 Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	包含於國際協議及公約內之有關國際海事法規之知識 Knowledge of relevant international maritime law embodied in international agreements and conventions 特別應注意下列各項： Regard shall be paid especially to the following subjects: .1 國際公約所要求隨船攜備之證書及其他檔、如何取得該等證件及其有效期限 .1 certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity .2 國際載重線公約有關要求之責任 .2 responsibilities under the relevant requirements of the International Convention on Load Lines	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 認可之模擬設備訓練(適當時) .3 approved simulator training, where appropriate	監管操作及維護之程式符合法定要求 Procedures for monitoring operations and maintenance comply with legislative requirements 迅速並完全確認潛在之不符 Potential non-compliance is promptly and fully identified 證書換新及延期之有關規定以確保各應檢驗項目及設備繼續有效 Requirements for renewal and extension of certificates ensure continued validity of survey items and equipment

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
監督及控制 對法定要求 之遵守及確 保海上人命 安全與保護 海上環境之 措施(續) Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment (continued)	.3 海上人命安全國際公約有關 要求之責任 .3 responsibilities under the relevant requirements of the International Convention for the Safety of Life at Sea .4 防止船舶污染國際公約有關 要求之責任 .4 responsibilities under the International Convention for the Prevention of Pollution from Ships .5 海員健康申報書及國際健康 規則之要求 .5 maritime declarations of health and the requirements of the International Health Regulations .6 影響船舶、旅客、船員及貨物 安全之國際法令文件所要求 之責任 .6 responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo .7 防止船舶污染環境之方法與 設備 .7 methods and aids to prevent pollution of the environment by ships .8 執行國際協議及公約之國內 法知識 .8 knowledge of national legislation for implementing international agreements and conventions		

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
保持船舶船員及旅客之安全與救生、滅火及其他安全系統之操作情況 Maintain safety and security of the vessel, crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems	<p>救生設備規則(海上人命安全國際公約)之全面知識 A thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)</p> <p>組織滅火演習及棄船演習 Organization of fire and abandon ship drills</p> <p>維持救生、滅火及其他安全系統之操作情況 Maintenance of operational condition of life-saving, fire-fighting and other safety systems</p> <p>在緊急情況下保護與防護船上人員安全所採取之行動 Actions to be taken to protect and safeguard all persons on board in emergencies</p> <p>在失火、爆炸、碰撞及擱淺後，降低損害及搶救船舶之行動 Actions to limit damage and salve the ship following a fire, explosion, collision or grounding</p>	<p>測驗及從認可之在職訓練與經驗獲得實作指導證據予以評估 Examination and assessment of evidence obtained from practical instruction and approved in-service training and experience</p>	<p>監視探火及安全系統之程式，確保迅速偵測到所有警報，並按所制定之應急程式採取措施 Procedures for monitoring fire-detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures</p>
研訂應急及損害管制計畫，並處置緊急情況 Develop emergency and damage control plans and handle emergency situations	<p>船舶構造、包括損害管制 Ship construction, including damage control</p> <p>防火、探火及滅火之方法及設備 Methods and aids for fire prevention, detection and extinction</p> <p>救生設備之功能及使用 Functions and use of life-saving appliances</p>	<p>測驗及從認可之在職訓練與經驗獲得證據予以評估 Examination and assessment of evidence obtained from approved in-service training and experience</p>	<p>應急程式係依所制訂應急情況用之計畫 Emergency procedures are in accordance with the established plans for emergency situations</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>領導與管理技巧之運用</u> Use of leadership and managerial skill	<u>船上人事管理與訓練之知識</u> Knowledge of shipboard personnel management and training <u>有關國際海事公約與建議案，及國內法之知識</u> A knowledge of international maritime conventions and recommendations, and related national legislation <u>應用任務與工作量管理之能力，包括：</u> Ability to apply task and workload management, including: <u>.1 計劃與協調</u> .1 planning and coordination <u>.2 人員分派</u> .2 personnel assignment <u>.3 時間與資源的制約</u> .3 time and resource constraints <u>.4 優先順序</u> .4 prioritization <u>應用有效資源管理之知識與能力：</u> Knowledge and ability to apply effective resource management: <u>.1 資源之分配、分派與優先順序</u> .1 allocation, assignment, and prioritization of resources <u>.2 有效之船岸通信</u> .2 effective communication on board and ashore <u>.3 所作決策反映尊重團隊之經驗</u> .3 decisions reflect consideration of team experiences <u>.4 決斷與領導，包括推動</u> .4 assertiveness and leadership, including motivation <u>.5 獲取並保持處境認識</u> .5 obtaining and maintaining situation awareness	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following: <u>.1 認可之訓練</u> .1 approved training <u>.2 認可之在職經驗</u> .2 approved in-service experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training	<u>分派船員之任務並告知適於各有關人員之預期行為方式與工作標準</u> The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned <u>訓練之目標與活動係基於對目前適任性與能力及操作要求之評估</u> Training objectives and activities are based on assessment of current competence and capabilities and operational requirements <u>證明係依可適用之規則操作</u> Operations are demonstrated to be in accordance with applicable rules <u>依計畫操作而資源係依完成必要任務之所需作正確優先順序之分派</u> Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks <u>清晰及明確的溝通</u> Communication is clearly and unambiguously given and received <u>經證實具有有效之領導行為</u> Effective leadership behaviours are demonstrated

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>領導與管理技巧之運用 (續)</u> Use of leadership and managerial skill (continued)	<u>應用作出決策技術之知識與能力：</u> Knowledge and ability to apply decision-making techniques: <u>.1 處境與風險之評估</u> .1 situation and risk assessment <u>.2 確定與考慮所應作之選擇</u> .2 identify and generate options <u>.3 選擇行動之方針</u> .3 selecting course of action <u>.4 評估結果之有效性</u> .4 evaluation of outcome effectiveness <u>制定、履行與監督標準操作程式</u> Development, implementation, and oversight of standard operating procedures		<u>必要之團隊人員分別瞭解現有與預期船舶之操作情況與外部環境之狀況</u> Necessary team member(s) share accurate understanding of current and predicted vessel and operational status and external environment <u>所作之決策對處境非常有效</u> Decisions are most effective for the situation <u>證明操作係屬有效並符合可適用之規則</u> Operations are demonstrated to be effective and in accordance with applicable rules

第 A-III/3 節

在主機推進動力介於 750 瓩與 3,000 瓩之間船舶之輪機長及大管輪發證之強制性最低要求
Section A-III/3

Mandatory minimum requirements for certification of chief engineer officers and second engineer officers on ships powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power

適任標準

Standard of competence

1 凡申請發證為主機推進動力介於 750 瓩與 3,000 瓩間之輪機長及大管輪者，應要求證明其能力能承擔表 A-III/2 第 1 欄所述之管理級任務、職責及責任。

1 Every candidate for certification as chief engineer officer and second engineer officer of seagoing ships powered by main propulsion machinery of between 750 kW and 3,000 kW power shall be required to demonstrate ability to undertake, at management level, the tasks, duties and responsibilities listed in column 1 of table A-III/2.

2 發證所要求之最低知識、瞭解及熟練如表 A-III/2 第 2 欄所列。其內容合併、擴大並加深了表 A-III/1 第 2 欄所列對有人值守機艙負責輪機當值之輪機員或指派在定期無人值守機艙值勤輪機員所要求之科目。

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-III/2. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-III/1 for officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room.

3 切記大管輪應處於隨時承擔輪機長責任之職位，對該等科目之評估應予以設計以測試申請發證者對影響船舶機械操作安全及保護海上環境之一切可用之資料有能力吸收瞭解。

3 Bearing in mind that a second engineer officer shall be in a position to assume the responsibilities of the chief engineer officer at any time, assessment in these subjects shall be designed to test the candidate's ability to assimilate all available information that affects the safe operation of the ship's machinery and the protection of the marine environment.

4 表 A-III/2 第 2 欄所列各科目之知識水準得予以降低，但應足以使申請發證者能在本節所定推進動力範圍之輪機長或大管輪職務上服務。

4 The level of knowledge of the subjects listed in column 2 of table A-III/2 may be lowered but shall be sufficient to enable the candidate to serve in the capacity of chief engineer officer or second engineer officer at the range of propulsion power specified in this section.

5 為達到所需水準之理論知識、瞭解及熟練之訓練及經驗，應慮及本部分之有關要求

及本章程 B 篇所列之準則。

5 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take into account the relevant requirements of this part and the guidance given in part B of this Code.

6 對於推進機型式之知識並非所發有效證書機器裝置所要求者，主管機關得刪減之。依此所授與之證書，除非輪機員已取得該等知識之適任證明，否則對業已刪減任何類型機械裝置者應屬無效。任何此等限制應在證書及加簽上記載之。

6 The Administration may omit knowledge requirements for types of propulsion machinery other than those machinery installations for which the certificate to be awarded shall be valid. A certificate awarded on such a basis shall not be valid for any category of machinery installation which has been omitted until the engineer officer proves to be competent in these knowledge requirements. Any such limitation shall be stated on the certificate and in the endorsement.

7 凡申請發證者應依表 A-III/2 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供已達到所要求之適任標準之證據。

7 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-III/2.

近岸航程

Near-coastal voyages

8 表 A-III/2 第 2 欄各項對知識、瞭解及熟練之程度要求，及規則 III/3 第 2.1.1 及 2.1.2 項之要求，如認為必要時，對主機推進動力低於 3,000 瓩，從事近岸航程船舶之輪機員得變更之，但應考慮及可能在同一水域航行之所有船舶安全之影響。任何該等限制應在證書及加簽上記載之。

8 The level of knowledge, understanding and proficiency required under the different sections listed in column 2 of table A-III/2 and the requirements of paragraphs 2.1.1 and 2.1.2 of regulation III/3 may be varied for engineer officers of ships powered by main propulsion machinery of less than 3,000 kW main propulsion power engaged on near-coastal voyages, as considered necessary, bearing in mind the effect on the safety of all ships which may be operating in the same waters. Any such limitation shall be stated on the certificate and in the endorsement.

第 A-III/4 節

構成有人值守機艙當值一部分或經指派在定期無人值守機艙執行職責之乙級船員發證之強制性最低要求

Section A-III/4

Mandatory minimum requirements for certification of ratings forming part of a watch in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

適任標準

Standard of competence

1 凡在航行船舶上構成機艙當值一部分之乙級船員，應要求證明其能力能執行表 A-III/4 第 1 欄所列之助理級輪機專長。

1 Every rating forming part of an engine-room watch on a seagoing ship shall be required to demonstrate the competence to perform the marine engineering function at the support level, as specified in column 1 of table A-III/4.

2 對構成機艙當值一部分之乙級船員所要求之最低知識、瞭解及熟練如表 A-III/4 第 2 欄所列。

2 The minimum knowledge, understanding and proficiency required of ratings forming part of an engine-room watch is listed in column 2 of table A-III/4.

3 凡申請發證者應要求其依表 A-III/4 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供已達到所要求適任標準之證據。第 3 欄中之「實作測試」得包括經認可之岸上訓練之學生實作測試。

3 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence specified in columns 3 and 4 of table A-III/4. The reference to “practical test” in column 3 may include approved shore-based training in which the students undergo practical testing.

4 助理級有關某些專長之適任性並未以表列，指派在該助理級執行各項專長之人員，其適當之訓練、評估及發證要求有待主管機關負責決定之。

4 Where there are no tables of competence for the support level with respect to certain functions, it remains the responsibility of the Administration to determine the appropriate training, assessment and certification requirements to be applied to personnel designated to perform those functions at the support level.

表 A-III/4

構成機艙當值一部分之乙級船員之最低適任標準規範

Table A-III/4

**Specification of minimum standard of competence for ratings
forming part of an engineering watch**

專長：輪機（助理級）

Function: Marine engineering at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
執行適於構成輪機當值一部分乙級船員職責之例行值班 Carry out a watch routine appropriate to the duties of a rating forming part of an engine-room watch 瞭解指令及與當值職責有關之事宜 Understand orders and be understood in matters relevant to watchkeeping duties	機器空間所使用之術語及機器與設備之名稱 Terms used in machinery spaces and names of machinery and equipment 機艙當值程式 Engine-room watchkeeping procedures 有關機艙操作之安全工作慣例 Safe working practices as related to engine-room operations 基本環境保護程式 Basic environmental protection procedures 使用適當之船內通信系統 Use of appropriate internal communication system 機艙警報系統，區別各種警報之能力，特別是滅火氣體警報 Engine-room alarm systems and ability to distinguish between the various alarms, with special reference to fire-extinguishing gas alarms	測驗及從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following: .1 認可之訓練 .1 approved training .2 認可之在職經驗 .2 approved in-service experience; or .3 實作測試 .3 practical test	語文溝通清晰楚簡明，對當值資料或說明並不能明白瞭解時，尋求當值輪機員之意見或說明 Communications are clear and concise and advice or clarification is sought from the officer of the watch where watch information or instructions are not clearly understood 依公認之原則及程式值班、交班及接班 Maintenance, handover and relief of the watch is in conformity with accepted principles and procedures

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
值鍋爐班者： For keeping a boiler watch: 維持正確之水位及蒸汽壓力 Maintain the correct water levels and steam pressures	鍋爐之安全操作 Safe operation of boilers	從下列一項或多項所獲得證據予以評估： Assessment of evidence obtained from one or more of the following: .1 認可之在職經驗 .1 approved in-service experience .2 認可之訓練船上經驗 .2 approved training ship experience .3 實作測試; or .3 practical test <u>.4 認可之模擬設施訓練(適當時)</u> .4 approved simulator training, where appropriate	對鍋爐狀況之評估是準確的，並係基於從現場與遙控指示器以及親自檢查所得之有關資訊 Assessment of boiler condition is accurate and based on relevant information available from local and remote indicators and physical inspections 調整之順序及定時保持安全及最佳效果 The sequence and timing of adjustments maintains safety and optimum efficiency
操作應急設備及應用應急程式 Operate emergency equipment and apply emergency procedures	應急職責之知識 Knowledge of emergency duties 從機器空間之逃生路線 Escape routes from machinery spaces 熟悉機器空間之滅火設備位置及其使用 Familiarity with the location and use of fire-fighting equipment in the machinery spaces	從示範及認可之在職經驗或認可之訓練船上經驗獲取證據予以評估 Assessment of evidence obtained from demonstration and approved in-service experience or approved training ship experience	得知緊急或異常情況所採取之最初行動與業已建立之程式相符 Initial action on becoming aware of an emergency or abnormal situation conforms with established procedures 不論何時能溝通清楚簡明且命令係以船員方式確認 Communications are clear and concise at all times and orders are acknowledged in a seamanlike manner

第 A-III/5 節

在有人值守機艙或經指派在定期無人值守機艙執行職責之幹練機匠發證之強制性最低要求

Section A-III/5

Mandatory minimum requirements for certification of ratings as able seafarer engine in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

適任標準

Standard of competence

1 凡在主推進機推進動力 750 瓩以上航行船舶服務之幹練機匠，應要求證明其能力能執行表 A-III/5 第 1 欄所列之助理級專長。

1 Every able seafarer engine serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall be required to demonstrate the competence to perform the functions at the support level, as specified in column 1 of table A-III/5.

2 對在主機推進動力 750 瓩以上航行船舶服務之幹練機匠，所要求之最低知識、瞭解及熟練如表 A-III/5 第 2 欄所列。

2 The minimum knowledge, understanding and proficiency required of an able seafarer engine serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more is listed in column 2 of table A-III/5.

3 凡申請發證者應要求依表 A-III/5 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供已達到所要求適任標準之證據。

3 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence specified in columns 3 and 4 of table A-III/5.

表 A-III/5

在有人值守機艙或經指派在定期無人值守機艙執行職責
之幹練機匠之最低適任標準規範

Table A-III/5

**Specification of minimum standards of competence for ratings as able seafarer engine
in a manned engine-room or designated to perform duties
in a periodically unmanned engine-room**

專長：輪機(助理級)

Function: Marine engineering at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於航行 安全當值 Contribute to a safe navigational watch	瞭解舵令能力，及將有關當值職 責之事宜與當值甲級船員進行溝 通 Ability to understand orders and to communicate with the officer of the watch in matters relevant to watchkeeping duties <u>接班、值班及交班程式</u> Procedures for the relief, maintenance and handover of a watch <u>維持安全當值所需之資料</u> Information required to maintain a safe watch	從在職經驗或實作之測試中 獲取證據予以評估 Assessment of evidence obtained from in-service experience or practical test	<u>溝通清晰簡潔</u> Communications are clear and concise <u>值班、交班與接班符合公認之方法與程 式</u> Maintenance, handover and relief of the watch is in conformity with acceptable practices and procedures
致力於機艙 當值之監控 Contribute to the monitoring and controlling of an engine-room watch	<u>主推進機與輔機功能與操作之基 本知識</u> Basic knowledge of the function and operation of main propulsion and auxiliary machinery <u>主推進機與輔機控制壓力、溫度 與水準之基本瞭解</u> Basic understanding of main propulsion and auxiliary machinery control pressures, temperatures and level	從所獲得下列一項或多項證 據予以評估： Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 實作之測試</u> .3 practical test	<u>對主推進機與輔機之監控頻率與範圍符 合認可之原則與程式</u> The frequency and extent of monitoring of main propulsion and auxiliary machinery conforms with accepted principles and procedures <u>確認誤差</u> Deviations from the norm are identified <u>在繼續進行工作前能立即確認不安全之 狀況或潛在之風險，並予報告及矯正</u> Unsafe conditions or potential hazards are promptly recognized, reported and rectified before work continues

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於加燃油與駁油作業 Contribute to fuelling and oil transfer operations	<p>燃油系統與駁油作業之功能與操作之知識，包括：</p> <p>Knowledge of the function and operation of fuel system and oil transfer operations, including:</p> <p><u>1. 加燃油與駁油作業之準備</u> 1. preparations for fuelling and transfer operations</p> <p><u>2. 加燃油與駁油軟管之連接與拆解之程式</u> 2. procedures for connecting and disconnecting fuelling and transfer hoses</p> <p><u>3. 在加燃油與駁油作業過程中可能出現有關故障之應急程式</u> 3. procedures relating to incidents that may arise during fuelling or transferring operation</p> <p><u>4. 安全之加燃油與駁油作業</u> 4. securing from fuelling and transfer operations</p> <p><u>5. 正確測量與報告油位之能力</u> 5. ability to correctly measure and report tank levels</p>	<p>從所獲得下列一項或多項證據予以評估：</p> <p>Assessment of evidence obtained from one or more of the following:</p> <p><u>1. 認可之在職經驗</u> 1. approved in-service experience</p> <p><u>2. 實作之訓練</u> 2. practical training</p> <p><u>3. 測驗</u> 3. examination</p> <p><u>4. 認可之訓練船上經驗</u> 4. approved training ship experience</p> <p>從實作操作示範所獲得之證據予以評估</p> <p>Assessment of evidence obtained from practical demonstration</p>	<p>依據既定之安全措施與設備操作說明書進行駁油作業</p> <p>Transfer operations are carried out in accordance with established safety practices and equipment operating instructions</p> <p>依據既定之安全措施處理危險、有毒和有害液體</p> <p>The handling of dangerous, hazardous and harmful liquids complies with established safety practices</p> <p>在操作員職責範圍內進行持續有效的溝通</p> <p>Communications within the operator's area of responsibility are consistently successful</p>
致力於艙底水與壓載水作業 Contribute to bilge and ballast operations	<p>艙底水與壓載水系統之安全功能、操作與維護之知識，包括：</p> <p>Knowledge of the safe function, operation and maintenance of the bilge and ballast systems, including:</p> <p><u>1. 報告在轉駁過程中所生之事故</u> 1. reporting incidents associated with transfer operations</p> <p><u>2. 正確測量與報告艙內液位之能力</u> 2. ability to correctly measure and report tank levels</p>	<p>從所獲得下列一項或多項證據予以評估：</p> <p>Assessment of evidence obtained from one or more of the following:</p> <p><u>1. 認可之在職經驗</u> 1. approved in-service experience</p> <p><u>2. 實作之訓練</u> 2. practical training</p> <p><u>3. 測驗</u> 3. examination</p> <p><u>4. 認可之訓練船上經驗</u> 4. approved training ship experience</p> <p>從實作操作示範所獲得之證據予以評估</p> <p>Assessment of evidence obtained from practical demonstration</p>	<p>依據既定之安全措施與設備操作規範進行操作與維護以避免海洋環境污染</p> <p>Operations and maintenance are carried out in accordance with established safety practices and equipment operating instructions and pollution of the marine environment is avoided</p> <p>在操作員職責範圍內進行持續有效的溝通</p> <p>Communications within the operator's area of responsibility are consistently successful</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於設備與機械之操作 Contribute to the operation of equipment and machinery	設備之安全操作包括： Safe operation of equipment, including: <u>.1 閥與泵</u> .1 valves and pumps <u>.2 起吊設備</u> .2 hoists and lifting equipment <u>.3 艙口蓋、水密門、舷門與相關之設備</u> .3 hatches, watertight doors, ports and related equipment 有能力使用並瞭解起重機、絞機與起吊信號 Ability to use and understand basic crane, winch and hoist signals	從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience 從實作操作示範所獲得之證據予以評估 Assessment of evidence obtained from practical demonstration	依據既定之安全措施與設備操作規範進行操作 Operations are carried out in accordance with established safety practices and equipment operating instructions 在操作員職責範圍內進行持續有效的溝通 Communications within the operator's area of responsibility are consistently successful

專長：電機、電子及控制工程(助理級)

Function: Electrical, electronic and control engineering at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
電機設備之安全使用 Safe use of electrical equipment	電機設備之安全使用與操作，包括： Safe use and operation of electrical equipment, including: <u>.1 在開始工作或修理前之安全保護措施</u> .1 safety precautions before commencing work or repair <u>.2 絕緣之程式</u> .2 isolation procedures <u>.3 應急程式</u> .3 emergency procedures <u>.4 船上不同之電壓</u> .4 different voltages on board 電擊之原因與防止電擊應遵循之安全保護知識 Knowledge of the causes of electric shock and precautions to be observed to prevent shock	從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience 從實作操作示範所獲得之證據予以評估 Assessment of evidence obtained from practical demonstration	確認並報告有漏電危險與不安全之設備 Recognizes and reports electrical hazards and unsafe equipment 瞭解手持設備之安全電壓 Understands safe voltages for hand-held equipment 瞭解高壓設備與船上工作之危險 Understands risks associated with high-voltage equipment and onboard work

專長：保養與修理(助理級)

Function: Maintenance and repair at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於船上之保養與修理 Contribute to shipboard maintenance and repair	<p><u>使用油漆、潤滑油與清潔材料及工具之能力</u> Ability to use painting, lubrication and cleaning materials and equipment</p> <p><u>瞭解與執行例行保養與修理程式之能力</u> Ability to understand and execute routine maintenance and repair procedures</p> <p><u>表面準備技術之知識</u> Knowledge of surface preparation techniques</p> <p><u>安全處置廢料之知識</u> Knowledge of safe disposal of waste materials</p> <p><u>瞭解製造廠商之安全準則與船上規範</u> Understanding manufacturer's safety guidelines and shipboard instructions</p> <p><u>應用、保養及使用手持與動力工具、量測儀器及機械工具之知識</u> Knowledge of the application, maintenance and use of hand and power tools and measuring instruments and machine tools</p> <p><u>金工工作之知識</u> Knowledge of metalwork</p>	<p><u>從實作操作示範所獲得之證據予以評估</u> Assessment of evidence obtained from practical demonstration</p> <p><u>從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 實作之訓練</u> .2 practical training</p> <p><u>.3 測驗</u> .3 examination</p> <p><u>.4 認可之訓練船上經驗</u> .4 approved training ship experience</p>	<p><u>依據技術、安全與程式規範進行保養行動</u> Maintenance activities are carried out in accordance with technical, safety and procedural specifications</p> <p><u>適當選擇及使用設備與工具</u> Selection and use of equipment and tools is appropriate</p>

專長：控制船舶操作及船上人員管理(助理級)

Function: Controlling the operation of the ship and care for persons on board at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>致力於物料處理</u> Contribute to the handling of stores	<u>安全處理、儲藏及穩固物料之程式與知識</u> Knowledge of procedures for safe handling, stowage and securing of stores	從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	<u>依據既定之安全措施與設備操作規範進行物料操作</u> Stores operations are carried out in accordance with established safety practices and equipment operating instructions <u>危險、有毒與有害物料之處理符合既定之安全措施</u> The handling of dangerous, hazardous and harmful stores complies with established safety practices <u>在操作員職責範圍內進行持續有效的溝通</u> Communications within the operator's area of responsibility are consistently successful
<u>應用預防措施並致力於防止海洋環境之污染</u> Apply precautions and contribute to the prevention of pollution of the marine environment	<u>防止海洋環境污染所應採取預防措施之知識</u> Knowledge of the precautions to be taken to prevent pollution of the marine environment <u>使用與操作防污染設備之知識</u> Knowledge of use and operation of anti-pollution equipment <u>以認可方法處置海洋污染物之知識</u> Knowledge of approved methods for disposal of marine pollutants	從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	<u>隨時遵循指定用以保護海洋環境之程式</u> Procedures designed to safeguard the marine environment are observed at all times

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>應用職業健康與安全之做法</u> Apply occupational health and safety procedures	<u>安全工作做法與人員在船安全之工作知識，包括：</u> Working knowledge of safe working practices and personal shipboard safety, including: <u>.1 電機安全</u> .1 electrical safety <u>.2 鎖定</u> .2 lockout/tag-out <u>.3 機械安全</u> .3 mechanical safety <u>.4 作業許可制度</u> .4 permit to work systems <u>.5 高空作業</u> .5 working aloft <u>.6 封閉空間作業</u> .6 working in enclosed spaces <u>.7 舉重之技巧與防止背部受傷之方法</u> .7 lifting techniques and methods of preventing back injury <u>.8 化學與生物危害安全</u> .8 chemical and biohazard safety <u>.9 個人安全設備</u> .9 personal safety equipment	<u>從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	<u>隨時遵循指定用以保護人員與船舶之程式</u> Procedures designed to safeguard personnel and the ship are observed at all times <u>隨時遵守安全工作做法並正確使用適當之防護設備</u> Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times

第 A-III/6 節

電機員發證之強制性最低要求

Section A-III/6

Mandatory minimum requirements for certification of electro-technical officers

訓練

Training

1 規則 III/6 第 2.3 項所要求之教育與訓練，應包括對電機員職責有關之電子與電機工廠技能之訓練。

1 The education and training required by paragraph 2.3 of regulation III/6 shall include training in electronic and electrical workshop skills relevant to the duties of electro-technical officer.

船上訓練

Onboard training

2 凡申請發證為電機員者，應接受認可之船上訓練計畫，以：

2 Every candidate for certification as electro-technical officer shall follow an approved programme of onboard training which:

.1 確保申請發證者在要求之海勤資歷期間，在電機員之任務、職責及責任中，接受有系統之實作訓練及經驗；

.1 ensures that, during the required period of seagoing service, the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an electro-technical officer;

.2 在其執行認可之海勤資歷時受到船上適任並持證甲級船員嚴密之指導及監督；及

.2 is closely supervised and monitored by qualified and certificated officers aboard the ships in which the approved seagoing service is performed; and

.3 在訓練紀錄簿中適當記載之。

.3 is adequately documented in a training record book.

適任標準

Standard of competence

3 凡申請發證為電機員者，應要求證明其能力能承擔表 A-III/6 第 1 欄所列之任務、職責與責任。

3 Every candidate for certification as electro-technical officer shall be required to

demonstrate the ability to undertake the tasks, duties and responsibilities listed in column 1 of table A-III/6.

4 所要求之最低知識、瞭解及熟練如表 A-III/6 第 2 欄所列，並應考慮本章程 B 篇之指導。

4 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-III/6 and it shall take into account the guidance given in part B of this Code.

5 凡申請發證者應要求依表 A-III/6 第 3 欄及第 4 欄所列，提供已達到所要求適任標準之證據。

5 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence tabulated in columns 3 and 4 of table A-III/6.

表 A-III/6

電機員之最低適任標準規範

Table A-III/6

Specification of minimum standards of competence for electro-technical officers level

專長：電機、電子及控制工程(操作級)

Function: Electrical, electronic and control engineering at the operational

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>對電機、電子與控制系統操作之監測</u> Monitor the operation of electrical, electronic and control systems</p>	<p><u>機械工程系統操作之基本瞭解，包括：</u> Basic understanding of the operation of mechanical engineering systems, including:</p> <ul style="list-style-type: none"> <u>.1 原動機包括主推進裝置</u> .1 prime movers, including main propulsion plant <u>.2 機艙輔機</u> .2 engine-room auxiliary machinery <u>.3 操舵系統</u> .3 steering systems <u>.4 貨物裝卸系統</u> .4 cargo handling systems <u>.5 甲板機械</u> .5 deck machinery <u>.6 生活系統</u> .6 hotel systems <p><u>熱傳導、力學與流體力學之基本知識</u> Basic knowledge of heat transmission, mechanics and hydromechanics</p> <p><u>下列知識</u> Knowledge of:</p> <p><u>電工學與電機機械原理</u> Electro-technology and electrical machines theory</p> <p><u>電子學與基礎電子動力學</u> Fundamentals of electronics and power electronics</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate <u>.4 認可之實驗設備訓練</u> .4 approved laboratory equipment training 	<p><u>依據操作手冊操作設備與系統</u> Operation of equipment and system is in accordance with operating manuals</p> <p><u>執行標準係依據技術規範</u> Performance levels are in accordance with technical specifications</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>對電機、電子與控制系統操作之監測(續)</u> Monitor the operation of electrical, electronic and control systems (continued)	<u>配電板與電機設備</u> Electrical power distribution boards and electrical equipment <u>基礎自動化、自動控制系統與技術</u> Fundamentals of automation, automatic control systems and technology <u>儀表、警報與監測系統</u> Instrumentation, alarm and monitoring systems <u>電機驅動</u> Electrical drives <u>電機材料技術</u> Technology of electrical materials <u>電動-液壓與電動-氣壓控制系統</u> Electro-hydraulic and electro-pneumatic control systems <u>操作電壓在 1000 伏以上動力系統之危險性與預防措施之認識</u> Appreciation of the hazards and precautions required for the operation of power systems above 1,000 volts		
<u>操作推進與輔機自動控制系統之監測</u> Monitor the operation of automatic control systems of propulsion and auxiliary machinery	<u>操作推進與輔機控制系統之準備</u> Preparation of control systems of propulsion and auxiliary machinery for operation	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate <u>.4 認可之實驗設備訓練</u> .4 approved laboratory equipment training	<u>主推進裝置與輔機系統之監測足以保持安全操作狀況</u> Surveillance of main propulsion plant and auxiliary systems is sufficient to maintain safe operation condition

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>操作發電機與配電系統</u> Operate generators and distribution systems	<u>發電機耦合、負載分配及發電機轉換</u> Coupling, load sharing and changing over generators 控制盤及配電盤之間的耦合及分離 Coupling and breaking connection between switchboards and distribution Panels	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate <u>.4 認可之實驗設備訓練</u> .4 approved laboratory equipment training	<u>操作有計畫並係依據操作手冊、既定之規則與程式進行操作以確保安全</u> Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations <u>瞭解配電系統並能以圖樣/說明書解析</u> Electrical distribution systems can be understood and explained with drawings/instructions
<u>操作與保養電壓超過1,000伏特之動力系統</u> Operate and maintain power systems in excess of 1,000 volts	<u>技術知識</u> <i>Theoretical knowledge</i> <u>高壓技術</u> High-voltage technology <u>安全預防措施與程式</u> Safety precautions and procedures <u>船舶之電機推進，電動機與控制系統</u> Electrical propulsion of the ships, electrical motors and control systems <u>實作知識</u> <i>Practical knowledge</i> <u>高壓系統之安全操作與保養，包括特殊技術型式之高壓系統及操作壓力超過1,000伏特所生危險之知識</u> Safe operation and maintenance of high-voltage systems, including knowledge of the special technical type of high-voltage systems and the danger resulting from operational voltage of more than 1,000 volts	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate <u>.4 認可之實驗設備訓練</u> .4 approved laboratory equipment training	<u>操作有計畫並係依據操作手冊、既定之規則與程式進行操作以確保安全</u> Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操作船上電腦及網路系統 Operate computers and computer networks on ships	瞭解： Understanding of: <u>.1 數據處理之主要特性</u> .1 main features of data processing <u>.2 船上電腦及網路之構造與使用</u> .2 construction and use of computer networks on ships <u>.3 駕駛室、機艙與商務電腦之使用</u> .3 bridge-based, engine-room-based and commercial computer use	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate <u>.4 認可之實驗設備訓練</u> .4 approved laboratory equipment training	電腦網路與電腦之檢查與操縱正確 Computer networks and computers are correctly checked and handled
以書面及口頭形式使用英語 Use English in written and oral form	能使電機員使用工程刊物並能執行電機員職責之足夠之英語知識 Adequate knowledge of the English language to enable the officer to use engineering publications and to perform the officer's duties	測驗及從實作訓練中所獲得證據予以評估 Examination and assessment of evidence obtained from practical instructions	正確解釋與輪機職責有關之英語刊物 English language publications relevant to the officer's duties are correctly interpreted <u>語言溝通清晰並能被瞭解</u> Communications are clear and understood
內部通信系統之使用 Use internal communication systems	在船上操作所有之內部通信系統 Operation of all internal communication systems on board	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate <u>.4 認可之實驗設備訓練</u> .4 approved laboratory equipment training	傳送或接收資訊確實成功 Transmission and reception of messages are consistently successful <u>通信紀錄完整、準確符合法令要求</u> Communication records are complete, accurate and comply with statutory requirements

專長：保養與修理(操作級)

Function: Maintenance and repair at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
保養與修理 電機與電子 設備 Maintenance and repair of electrical and electronic equipment	<p><u>船上電機系統之施工安全要求，包括電機設備之安全絕緣必需在允許人員於該等設備工作前要求之</u> Safety requirements for working on shipboard electrical systems, including the safe isolation of electrical equipment required before personnel are permitted to work on such equipment</p> <p><u>電機系統設備、控制板、電動機、發電機及直流電機系統與設備之保養及維修</u> Maintenance and repair of electrical system equipment, switchboards, electric motors, generator and DC electrical systems and equipment</p> <p><u>電機故障之偵測、故障之位置及防止損壞之措施</u> Detection of electric malfunction, location of faults and measures to prevent damage</p> <p><u>電機測試與量測設備之構造與操作</u> Construction and operation of electrical testing and measuring equipment</p> <p><u>下列設備與其構造之功能與性能試驗：</u> Function and performance tests of the following equipment and their configuration:</p> <p><u>.1 監控系統</u> .1 monitoring systems</p> <p><u>.2 自動控制設施</u> .2 automatic control devices</p> <p><u>.3 防護設施</u> .3 protective devices</p> <p><u>電機與簡單之電子線圖說明</u> The interpretation of electrical and electronic diagrams</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練(適當時)</u> .3 approved simulator training, where appropriate</p> <p><u>.4 認可之實驗設備訓練</u> .4 approved laboratory equipment training</p>	<p><u>工作之安全措施適當</u> Safety measures for working are appropriate</p> <p><u>手工具、量測儀器及試驗設備之選擇與使用適當並說明其結果精確</u> Selection and use of hand tools, measuring instruments, and testing equipment are appropriate and interpretation of results is accurate</p> <p><u>設備之拆解、檢查、修理與重組係依手冊與良好之慣例</u> Dismantling, inspecting, repairing and reassembling equipment are in accordance with manuals and good practice</p> <p><u>重組與性能試驗係依手冊與良好之慣例</u> Reassembling and performance testing is in accordance with manuals and good practice</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>保養與修理主推進裝置與輔機自動與控制系統</u> Maintenance and repair of automation and control systems of main propulsion and auxiliary machinery	<u>適當之電機與機械知識與技能</u> Appropriate electrical and mechanical knowledge and skills <u>安全與應急程式</u> Safety and emergency procedures <u>電機設備與附屬系統之安全絕緣必需在允許人員於該等設備工作前為之</u> Safe isolation of equipment and associated systems required before personnel are permitted to work on such plant or equipment <u>試驗、保養、故障偵測與修理的實作知識</u> Practical knowledge for the testing, maintenance, fault finding and repair <u>電機與電子控制設備之試驗、故障偵測並保持與恢復至操作狀態</u> Test, detect faults and maintain and restore electrical and electronic control equipment to operating condition	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>1. 認可之在職經驗</u> 1. approved in-service experience <u>2. 認可之訓練船上經驗</u> 2. approved training ship experience <u>3. 認可之模擬設施訓練(適當時)</u> 3. approved simulator training, where appropriate <u>4. 認可之實驗設備訓練</u> 4. approved laboratory equipment training	<u>準確鑑定相關機械與系統之故障，正確解說船舶之技術圖表，正確使用量測和校準儀器並採用正當之行動</u> The effect of malfunctions on associated plant and systems is accurately identified, ship's technical drawings are correctly interpreted, measuring and calibrating instruments are correctly used and actions taken are justified <u>裝置與設備依據製造廠商之安全準則、船上指導、法規與安全操作規範進行機械與設備之絕緣、拆卸和重組</u> Isolation, dismantling and reassembly of plant and equipment are in accordance with manufacturer's safety guidelines and shipboard instructions and legislative and safety specifications. <u>採取最適當之方法並適於一般環境與狀況之措施使自動與控制系統復原</u> Action taken leads to the restoration of automation and control systems by the method most suitable and appropriate to the prevailing circumstances and conditions
<u>保養與修理駕駛室航行設備與船舶通信系統</u> Maintenance and repair of bridge navigation equipment and ship communication systems	<u>航行設備、內外部通信系統之原理與保養程式之知識</u> Knowledge of the principles and maintenance procedures of navigation equipment, internal and external communication systems <u>理論知識</u> Theoretical knowledge: <u>在易燃區域內電機與電子系統之操作</u> Electrical and electronic systems operating in flammable areas <u>實作知識</u> Practical knowledge: <u>施行安全保養與修理之程式</u> Carrying out safe maintenance and repair procedures <u>機械設備之故障偵測、故障之位置與防止損毀之行動</u> Detection of machinery malfunction, location of faults and action to prevent damage		<u>準確鑑定相關機械與系統之故障，正確解說船舶之技術圖表，正確使用量測和校準儀器並採用正當之行動</u> The effect of malfunctions on associated plant and systems is accurately identified, ship's technical drawings are correctly interpreted, measuring and calibrating instruments are correctly used and actions taken are justified <u>裝置與設備依據製造廠商之安全準則、船上指導、法規與安全操作規範進行機械與設備之絕緣、拆卸和重組</u> Isolation, dismantling and re-assembly of plant and equipment are in accordance with manufacturer's safety guidelines and shipboard instructions, legislative and safety specifications. <u>採取最適當之方法並適於一般環境與狀況之措施使駕駛室航行設備與船舶通信系統復原</u> Action taken leads to the restoration of bridge navigation equipment and ship communication systems by the method most suitable and appropriate to the prevailing circumstances and conditions

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>保養與修理甲板機械與貨物裝卸設備之電機、電子與控制系統</u> Maintenance and repair of electrical, electronic and control systems of deck machinery and cargo-handling equipment	<u>適當之電機與機械知識與技能</u> Appropriate electrical and mechanical knowledge and skills <u>安全與應急程式</u> Safety and emergency procedures <u>電機設備與附屬系統之安全絕緣必需在允許人員於該等設備工作前為之</u> Safe isolation of equipment and associated systems required before personnel are permitted to work on such plant or equipment <u>試驗、保養、故障偵測與修理的實作知識</u> Practical knowledge for the testing, maintenance, fault finding and repair <u>電機與電子控制設備之試驗、故障偵測並保持與恢復至操作狀態</u> Test, detect faults and maintain and restore electrical and electronic control equipment to operating condition	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>1. 認可之在職經驗</u> 1. approved in-service experience <u>2. 認可之訓練船上經驗</u> 2. approved training ship experience <u>3. 認可之模擬設施訓練(適當時)</u> 3. approved simulator training, where appropriate <u>4. 認可之實驗設備訓練</u> 4. approved laboratory equipment training	<u>準確鑑定相關機械與系統之故障，正確解說船舶之技術圖表，正確使用量測和校準儀器並採用正當之行動</u> The effect of malfunctions on associated plant and systems is accurately identified, ship's technical drawings are correctly interpreted, measuring and calibrating instruments are correctly used and actions taken are justified <u>裝置與設備依據製造廠商之安全準則、船上指導、法規與安全操作規範進行機械與設備之絕緣、拆卸和重組</u> Isolation, dismantling and re-assembly of plant and equipment are in accordance with manufacturer's safety guidelines and shipboard instructions, legislative and safety specifications. <u>採取最適當之方法並適於一般環境與狀況之措施使甲板機械與貨物裝卸設備復原</u> Action taken leads to the restoration of deck machinery and cargo-handling equipment by the method most suitable and appropriate to the prevailing circumstances and conditions
<u>保養與修理生活設備之控制與安全系統</u> Maintenance and repair of control and safety systems of hotel equipment	<u>理論知識</u> Theoretical knowledge: <u>在易燃區域內電機與電子系統之操作</u> Electrical and electronic systems operating in flammable areas <u>實作知識</u> Practical knowledge: <u>施行安全保養與修理之程式</u> Carrying out safe maintenance and repair procedures <u>機械設備之故障偵測、故障之位置與防止損毀之行動</u> Detection of machinery malfunction, location of faults and action to prevent damage		<u>準確鑑定相關機械與系統之故障，正確解說船舶之技術圖表，正確使用量測和校準儀器並採用正當之行動</u> The effect of malfunctions on associated plant and systems is accurately identified, ship's technical drawings are correctly interpreted, measuring and calibrating instruments are correctly used and actions taken are justified <u>裝置與設備依據製造廠商之安全準則、船上指導、法規與安全操作規範進行機械與設備之絕緣、拆卸和重組</u> Isolation, dismantling and re-assembly of plant and equipment are in accordance with manufacturer's safety guidelines and shipboard instructions, legislative and safety specifications. <u>採取最適當之方法並適於一般環境與狀況之措施使生活設備之控制與安全系統復原</u> Action taken leads to the restoration of control and safety systems of hotel equipment by the method most suitable and appropriate to the prevailing circumstances and conditions

專長：控制船舶操作及船上人員管理(操作級)

Function: Controlling the operation of the ship and care for persons on board at operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
確保符合防止污染要求 Ensure compliance with Pollution-prevention requirements	<u>防止海上環境污染</u> <i>Prevention of pollution of the marine environment</i> <u>防止海上環境污染所採取預防措施之知識</u> Knowledge of the precautions to be taken to prevent pollution of the marine environment <u>防止污染程式及所有相關設備</u> Anti-pollution procedures and all associated equipment <u>採取保護措施防止海洋環境之重要性</u> Importance of proactive measures to protect the marine environment	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之訓練</u> .3 approved training	<u>監控船上操作之程式及保證完全遵守 MARPOL 公約之要求</u> Procedures for monitoring shipboard operations and ensuring compliance with pollution-prevention requirements are fully observed <u>採取措施確保維持良好的環保聲譽</u> Actions to ensure that a positive environmental reputation is maintained
船上防火、控制火災及滅火 Prevent, control and fight fire on board	<u>防火及滅火設備</u> <i>Fire prevention and fire-fighting appliances</i> <u>組織消防演習之能力</u> Ability to organize fire drills <u>火災種類及化學性質之知識</u> Knowledge of classes and chemistry of fire <u>滅火系統之知識</u> Knowledge of fire-fighting systems <u>一旦失火(包括油料系統著火時)應採取之行動</u> Action to be taken in the event of fire, including fires involving oil systems	<u>從第A-VI/3節第1至3項認可訓練及經驗中獲得證據予以評估</u> Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3, paragraphs 1 to 3	<u>迅速確認問題之型式及範圍，在最初行動與船上應急程式及船上應急計劃相符</u> The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the ship <u>撤離、應急關閉及隔離程序適於緊急情況之性質；並迅速予以執行</u> Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly <u>優先順序，及作出報告與通知船上人員之程度與時間表，係與緊急情況之性質相關，並反映出問題之緊急程度</u> The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>操作救生設備</u> Operate life-saving appliances	<u>救生</u> <i>Life-saving</i> <u>組織棄船演習之能力及操作救生艇筏與救難船及其下水設備與佈置，及其設備（包括無線電救生設備、衛星應急指位無線電示標、搜救雷達詢答機、浸水衣與保暖設備）之知識、海上求生技能之知識</u> Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids	<u>從第A-VI/2節第1至第4項認可之滅火訓練及經驗中獲得證據予以評估</u> Assessment of evidence obtained from approved training and experience as set out in section A-VI/2, paragraphs 1 to 4	<u>對棄船及求生狀況所為之反應行動適於當時環境及情況，並符合公認之安全習慣及標準</u> Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards
<u>在船上應用醫療急救</u> Apply medical first aid on board ship	<u>醫護</u> <i>Medical aid</i> <u>醫護指南及無線電諮詢之實作應用，包括在船上對可能發生之事故或疾病，根據該等知識所採取有效行動之能力</u> Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship	<u>從第A-VI/4節第1至第3項所認可之訓練獲得證據予以評估</u> Assessment of evidence obtained from approved training as set out in section A-VI/4, paragraphs 1 to 3	<u>迅速確認傷害或病況之可能之原因、性質及程度，並予治療以減低對生命之立即威脅</u> Identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>領導與統禦技巧之運用</u> Application of leadership and teamworking skills	<p><u>船上人員管理與訓練之工作知識</u> Working knowledge of shipboard personnel management and training</p> <p><u>分派任務與管理工作量之能力，包括：</u> Ability to apply task and workload management, including:</p> <p><u>.1 計劃與統合</u> .1 planning and co-ordination</p> <p><u>.2 人員分配</u> .2 personnel assignment</p> <p><u>.3 時間與資源之侷限</u> .3 time and resource constraints</p> <p><u>.4 優先順序</u> .4 prioritization</p> <p><u>有效應用資源管理之知識與能力：</u> Knowledge and ability to apply effective resource management:</p> <p><u>.1 資源之分派、分配及優先順序</u> .1 allocation, assignment, and prioritization of resources</p> <p><u>.2 有效之船岸通信</u> .2 effective communication on board and ashore</p> <p><u>.3 所作決策反映尊重團隊之經驗</u> .3 decisions reflect consideration of team Experiences</p> <p><u>.4 決斷與領導，包括推動</u> .4 assertiveness and leadership, including motivation</p> <p><u>.5 獲取並保持處境認識</u> .5 obtaining and maintaining situational awareness</p> <p><u>應用作出決策技術之知識與能力：</u> Knowledge and ability to apply decision-making techniques:</p> <p><u>.1 處境與風險之評估</u> .1 Situation and risk assessment</p> <p><u>.2 確定與考慮所應作之選擇</u> .2 Identify and consider generated options</p> <p><u>.3 選擇行動之方針</u> .3 Selecting course of action</p> <p><u>.4 評估結果之有效性</u> .4 Evaluation of outcome effectiveness</p>	<p><u>從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之訓練</u> .1 approved training</p> <p><u>.2 認可之在職經驗</u> .2 approved in-service experience</p> <p><u>.3 實作示範</u> .3 practical demonstration</p>	<p><u>分派船員之任務並告知適於各有關人員之預期行為方式與工作標準</u> The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned</p> <p><u>訓練之目標與活動係基於對目前適任性與能力及操作要求之評估證明依係可適用之規則操作</u> Training objectives and activities are based on assessment of current competence and capabilities and operational requirements.</p> <p><u>依計畫操作而資源係依完成必要任務之所需作正確優先順序之分派</u> Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks</p> <p><u>清晰及明確的溝通</u> Communication is clearly and unambiguously given and received</p> <p><u>證明具有有效之領導行為</u> Effective leadership behaviours are demonstrated</p> <p><u>必要之小組成員分別瞭解現有與預期船舶之操作情況與外部環境之狀況</u> Necessary team member(s) share accurate understanding of current and predicted vessel and operational status and external environment</p> <p><u>所作之決策對處境非常有效</u> Decisions are most effective for the situation</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於船舶與人員之安全 Contribute to the safety of personnel and ship	<u>人員求生技能之知識</u> Knowledge of personal survival techniques <u>防火之知識與滅火之能力</u> Knowledge of fire prevention and ability to fight and extinguish fires <u>基本急救之知識</u> Knowledge of elementary first aid <u>人員安全與社會責任之知識</u> Knowledge of personal safety and social responsibilities	<u>從第A-VI/1節第2項所規定之認可訓練與經驗獲得證據予以評估</u> Assessment of evidence obtained from approved training and experience as set out in section A-VI/1, paragraph 2	<u>正確利用適當之安全與防護設備</u> Appropriate safety and protective equipment is correctly used <u>經常注意指定用以保護船舶與人員之程式與安全工作實務</u> Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times <u>經常注意指定用以保護環境之程式</u> Procedures designed to safeguard the environment are observed at all times <u>在察覺緊急情況時依據所建立之應急回應程式展開及嗣後之行動</u> Initial and follow-up actions on becoming aware of an emergency conform with established emergency response procedures

第 A-III/7 節

電匠發證之強制性最低要求

Section A-III/7

Mandatory minimum requirements for certification of electro-technical rating

1 凡在主機推進動力 750 瓩以上航行船舶服務之電匠，應要求證明其能力能執行表 A-III/7 第 1 欄所列助理級之專長。

1 Every electro-technical rating serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall be required to demonstrate the competence to perform the functions at the support level, as specified in column 1 of table A-III/7.

2 對主機推進動力 750 瓩以上航行船舶服務之電匠所要求之最低知識、瞭解及熟練如表 A-III/7 第 2 欄所列。

2 The minimum knowledge, understanding and proficiency required of an electro-technical rating serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more is listed in column 2 of table A-III/7.

3 凡申請發證者應要求依表 A-III/7 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供已達到所要求之適任標準之證據。

3 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence specified in columns 3 and 4 of table A-III/7.

表 A-III/7
電匠之最低適任標準規範

Table A-III/7

Specification of minimum standard of competence for electro-technical ratings

專長：電機、電子及控制工程(助理級)

Function: Electrical, electronic and control engineering at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
安全使用電機設備 Safe use of electrical equipment	安全使用與操作電機設備，包括： Safe use and operation of electrical equipment, including: <u>.1 在開始工作或修理前之安全防範</u> .1 safety precautions before commencing work or repair <u>.2 絕緣程式</u> .2 isolation procedures <u>.3 應急程式</u> .3 emergency procedures <u>.4 船上不同之電壓</u> .4 different voltages on board 電擊原因及防止電擊應遵守之防範措施之知識 Knowledge of the causes of electric shock and precautions to be observed to prevent shock	從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	瞭解並依照電機設備之安全規範 Understands and follows safety instructions of electrical equipment and machinery 確認與報告電機危險與不安全設備 Recognizes and reports electrical hazards and unsafe equipment 瞭解手提設備之電壓 Understands safe voltages for hand-held equipment 瞭解附屬高壓設備與船上工作之危險 Understands risks associated with high-voltage equipment and onboard work
致力於電機系統與機械操作之監測 Contribute to monitoring the operation of electrical systems and machinery	操作機械工程系統之基本知識，包括： Basic knowledge of the operation of mechanical engineering systems, including: <u>.1 原動機，包括主推進裝置</u> .1 prime movers, including main propulsion plant <u>.2 機艙輔機</u> .2 engine-room auxiliary machineries <u>.3 操舵系統</u> .3 steering systems <u>.4 貨物裝卸系統</u> .4 cargo-handling systems <u>.5 甲板機械</u> .5 deck machineries <u>.6 生活系統</u> .6 hotel systems	從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	下列知識以確保： Knowledge that ensures: <u>.1 依據操作手冊操作設備與系統</u> .1 operation of equipment and system is in accordance with operating manuals <u>.2 性能標準依據技術規範</u> .2 performance levels are in accordance with technical specifications

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>致力於電機系統與機械操作之監測(續)</u> Contribute to monitoring the operation of electrical systems and machinery (continued)	<u>下列基本知識</u> Basic knowledge of: <u>.1 電工學與電機機械原理</u> .1 electro-technology and electrical machines theory <u>.2 電機配電板與電機設備</u> .2 electrical power distribution boards and electrical equipment <u>.3 自動化、自動控制系統與技術基本原理</u> .3 fundamentals of automation, automatic control systems and technology <u>.4 儀表、警報與監測系統</u> .4 instrumentation, alarm and monitoring systems <u>.5 電機驅動</u> .5 electrical drives <u>.6 電動液壓與電動氣壓控制系統</u> .6 electro-hydraulic and electro-pneumatic control systems <u>.7 耦合、負載分配及電機組態之變換</u> .7 coupling, load sharing and changes in electrical configuration		
<u>使用手工具、電機與電子量測設備偵測故障與修理操作</u> Use hand tools, electrical and electronic measurement equipment for fault finding, maintenance and repair operations	<u>對船上電機系統施工之安全要求</u> Safety requirements for working on shipboard electrical systems <u>應用安全工作措施</u> Application of safe working practices <u>下列基本知識</u> Basic knowledge of: <u>.1 船上交流與直流系統與設備之構造與操作特性</u> .1 construction and operational characteristics of shipboard AC and DC systems and equipment <u>.2 使用量測儀表，機械工具，及手動與動力工具</u> .2 use of measuring instruments, machine tools, and hand and power tools	<u>從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following: <u>.1 認可之工廠技能訓練</u> .1 approved workshop skills training <u>.2 認可之實作經驗與測試</u> .2 approved practical experience and tests	<u>安全程式之執行適當</u> Implementation of safety procedures is satisfactory <u>試驗設備之選擇與使用適當並對結果之詮釋準確</u> Selection and use of test equipment is appropriate and interpretation of results is accurate <u>進行修理與保養所選擇之程式係依據手冊與良好之慣例</u> Selection of procedures for the conduct of repair and maintenance is in accordance with manuals and good practice

專長：保養與修理(助理級)

Function: Maintenance and repair at the support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於船上之保養與修理 Contribute to shipboard maintenance and repair	<p>使用潤滑油與清潔材料及設備之能力 Ability to use lubrication and cleaning materials and equipment</p> <p>安全處置廢料之知識 Knowledge of safe disposal of waste materials</p> <p>瞭解與執行例行保養與修理程式之能力 Ability to understand and execute routine maintenance and repair procedures</p> <p>瞭解製造廠商之安全準則與船上規範 Understanding manufacturer's safety guidelines and shipboard instructions</p>	<p>從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 實作之訓練 .2 practical training</p> <p>.3 測驗 .3 examination</p> <p>.4 認可之訓練船上經驗 .4 approved training ship experience</p>	<p>依據技術、安全與程式規範進行保養行動 Maintenance activities are carried out in accordance with technical, safety and procedural specifications</p> <p>適當選擇及使用設備與工具 Selection and use of equipment and tools is appropriate</p>
致力於船上電機系統與機械之保養與修理 Contribute to the maintenance and repair of electrical systems and machinery on board	<p>安全與應急程式 <i>Safety and emergency procedures</i></p> <p>電機技術圖樣及設備與附屬系統之安全絕緣必需在允許人員於該等裝置與設備工作前施行之基本知識 Basic knowledge of electro-technical drawings and safe isolation of equipment and associated systems required before personnel are permitted to work on such plant or equipment</p> <p>電機控制設備與機械之試驗，故障偵測及保養並復原至操作狀況 Test, detect faults and maintain and restore electrical control equipment and machinery to operating condition</p> <p>在可燃區域內電機與電子設備之操作 Electrical and electronic equipment operating in flammable areas</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 認可之在職經驗 .1 approved in-service experience</p> <p>.2 認可之訓練船上經驗 .2 approved training ship experience</p> <p>.3 認可之模擬設施訓練(適當時) .3 approved simulator training, where appropriate</p> <p>.4 認可之實驗設備訓練 .4 approved laboratory equipment training</p>	<p>準確鑑定相關機械與系統之故障，正確解說船舶之技術圖表，正確使用量測和校準儀器並採用正當之行動 The effect of malfunctions on associated plant and systems is accurately identified, ship's technical drawings are correctly interpreted, measuring and calibrating instruments are correctly used and actions taken are justified</p> <p>裝置與設備依據製造廠商之安全準則、船上指導、進行絕緣、拆卸和重組 Isolation, dismantling and reassembly of plant and equipment is in accordance with manufacturer's safety guidelines and shipboard instructions</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於船上電機系統與機械之保養與修理(續) Contribute to the maintenance and repair of electrical systems and machinery on board (continued)	基本船舶火警偵測系統 Basics of ship's fire-detection system 執行安全保養與修理之程式 Carrying out safe maintenance and repair procedures 機械故障之偵測、故障之位置及防止損壞之行動 Detection of machinery malfunction, location of faults and action to prevent damage 燈光裝置與供電系統之保養與修理 Maintenance and repair of lighting fixtures and supply systems		

專長：控制船舶操作及船上人員管理(助理級)

Function: Controlling the operation of the ship and care for persons on board at support level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於物料處理 Contribute to the handling of stores	安全處理、儲藏及穩固物料之程式與知識 Knowledge of procedures for safe handling, stowage and securing of stores	從所獲得下列一項或多項證據予以評估： Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	依據既定之安全措施與設備操作規範進行物料操作 Stores stowage operations are carried out in accordance with established safety practices and equipment operating instructions <u>危險、有毒與有害物料之處理符合既定之安全措施</u> The handling of dangerous, hazardous and harmful stores complies with established safety practices <u>在操作員職責範圍內進行持續有效的溝通</u> Communications within the operator's area of responsibility are consistently successful

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>應用預防措施並致力於防止海洋環境之污染</u> Apple prevention of pollution of the marine environment	<u>防止海洋環境污染所應採取預防措施之知識</u> Knowledge of the precautions to be taken to prevent pollution of the marine environment <u>使用與操作防污染設備之知識</u> Knowledge of use and operation of anti-pollution equipment/agents <u>以認可方法處置海洋污染物之知識</u> Knowledge of approved methods for disposal of marine pollutants	<u>從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	<u>隨時遵循指定用以保護海洋環境之程式</u> Procedures designed to safeguard the marine environment are observed at all times
<u>應用職業健康與安全之做法</u> Apply occupational health and safety procedures	<u>安全工作做法與人員在船安全之工作知識，包括：</u> Working knowledge of safe working practices and personal shipboard safety, including: <u>.1 電機安全</u> .1 electrical safety <u>.2 鎖定</u> .2 lockout/tag-out <u>.3 機械安全</u> .3 mechanical safety <u>.4 作業許可制度</u> .4 permit to work systems <u>.5 高空作業</u> .5 working aloft <u>.6 封閉空間作業</u> .6 working in enclosed spaces <u>.7 舉重之技巧與防止背部受傷之方法</u> .7 lifting techniques and methods of preventing back injury <u>.8 化學與生物危害安全</u> .8 chemical and biohazard safety <u>.9 個人安全設備</u> .9 personal safety equipment	<u>從所獲得下列一項或多項證據予以評估：</u> Assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 實作之訓練</u> .2 practical training <u>.3 測驗</u> .3 examination <u>.4 認可之訓練船上經驗</u> .4 approved training ship experience	<u>隨時遵循指定用以保護人員與船舶之程式</u> Procedures designed to safeguard personnel and the ship are observed at all times <u>隨時遵守安全工作做法並正確使用適當之防護設備</u> Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times

第四章
無線電操作員之標準
CHAPTER IV
Standards regarding radio operators

第 A-IV/1 節

適用範圍

Section A-IV/1

Application

(無條文)

(No provisions)

第 A-IV/2 節

全球海上遇險及安全系統無線電操作員發證之強制性最低要求

Section A-IV/2

Mandatory minimum requirements for certification of GMDSS radio operators

適任標準

Standard of competence

1 全球海上遇險及安全系統無線電操作員發證所要求之最低知識、瞭解及熟練，應足以使無線電操作員執行其職責。取得無線電規則所規定之各類證書，其所要求之知識應符合該規則之規定。此外，凡申請簽發適任證書者，應要求證明其能力能承擔表 A-IV/2 第 1 欄所列之任務、職責及責任。

1 The minimum knowledge, understanding and proficiency required for certification of GMDSS radio operators shall be sufficient for radio operators to carry out their radio duties. The knowledge required for obtaining each type of certificate defined in the Radio Regulations shall be in accordance with those regulations. In addition, every candidate for certification of competency shall be required to demonstrate ability to undertake the tasks, duties and responsibilities listed in column 1 of table A-IV/2.

2 依無線電規則所簽發之證書，依本公約加簽者，其知識、瞭解及熟練，如表 A-IV/2 第 2 欄所列。

2 The knowledge, understanding and proficiency for endorsement under the Convention of certificates issued under the provisions of the Radio Regulations are listed in column 2 of table A-IV/2.

- 3 表 A-IV/2 第 2 欄所列各科目知識水準，應足使申請發證者能執行其職責。*
- 3 The level of knowledge of the subjects listed in column 2 of table A-IV/2 shall be sufficient for the candidate to carry out his duties*.
- 4 申請發證者應提供下列已達到所要求適任標準之證據：
- 4 Every candidate shall provide evidence of having achieved the required standard of competence through:
- .1 依據表 A-IV/2 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，證明其能力能執行該表第 1 欄所列之任務、職責及責任。
 - .1 demonstration of competence to perform the tasks and duties and to assume responsibilities listed in column 1 of table A-IV/2, in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of that table; and
 - .2 測驗及連續評估，視同認可訓練課程一部分係以表 A-IV/2 第 2 欄所列之科目為基礎。
 - .2 examination or continuous assessment as part of an approved course of training based on the material set out in column 2 of table A-IV/2.

*相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

表 A-IV/2

全球海上遇險及安全系統無線電操作員之最低適任標準規範

Table A-IV/2

Specification of minimum standard of competence for GMDSS radio operators

專長：無線電通信(操作級)

Function: Radiocommunications at the operational level

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
使用全球海上遇險及安全系統之子系統及設備發射及接收資訊，並滿足該系統之功能要求 Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	除無線電規則之要求外，具有下列知識： In addition to the requirements of the Radio Regulations, a knowledge of: .1 搜救無線電通信包括國際航空與航海搜救手冊 (IAMSAR) 中之程式 .1 search and rescue radiocommunications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual .2 預防假遇險警報發射之措施，以減少此等警報所受影響之程式 .2 the means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts .3 船舶報告系統 .3 ship reporting systems .4 無線電醫護服務 .4 radio medical services .5 使用國際信號代碼及 IMO 標準海事通信用語 .5 use of the International Code of Signals and the IMO Standard Marine Communication Phrases	從下列操作程式之實作示範所獲得證據予以評估： Examination and assessment of evidence obtained from practical demonstration of operational procedures, using: .1 認可設備 .1 approved equipment .2 全球海上遇險及安全系統通信模擬設施 (適當時)* .2 GMDSS communication simulator, where appropriate* .3 無線電通信實驗設備 .3 radiocommunication laboratory equipment	通信之收發符合國際規則及程式，並係有效及有效率之執行 Transmission and reception of communications comply with international regulations and procedures and are carried out efficiently and effectively 有關船舶及船上人員安全以及保護海上環境之英語資訊已正確掌握 English language messages relevant to the safety of the ship and persons on board and protection of the marine environment are correctly handled

*見本章程第 B-I/12 節第 72 項。

* See paragraph 72 of section B-I/12 of this Code.

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
使用全球海上遇險及安全系統之子系統及設備發射及接收資訊，並滿足該系統之功能要求 (續) Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS (continued)	<p>.6 以書面及口語型式使用英語作有關海上人命安全之資訊通信</p> <p>.6 the English language, both written and spoken, for the communication of information relevant to safety of life at sea</p> <p>註：限用級<u>無線電操作員</u>證書得減少本項要求 Note: This requirement may be reduced in the case of the Restricted Radio Operator's Certificate</p>		
緊急情況下提供無線電服務 Provide radio services in emergencies	<p>在下列緊急情況下提供無線電服務： The provision of radio services in emergencies such as:</p> <p>.1 棄船 .1 abandon ship</p> <p>.2 船上失火 .2 fire on board ship</p> <p>.3 無線電裝置部分或全部損壞 .3 partial or full breakdown of radio installations</p> <p>與船舶及人員安全有關無線電設備危害之預防措施包括電機及非電離輻射危害 Preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical and non-ionizing radiation hazards</p>	<p>測驗及從使用下列操作程式之實作示範所獲得證據予以評估： Examination and assessment of evidence obtained from practical demonstration of operational procedures, using:</p> <p>.1 認可之設備 .1 approved equipment</p> <p>.2 全球海上遇險及安全系統通信模擬設施（適當時）* .2 GMDSS communication simulator, where appropriate*</p> <p>.3 無線電通信實驗設備 .3 radiocommunication laboratory equipment</p>	<p>有效及有效率之反應 Response is carried out efficiently and effectively</p>

*見本章程第 B-I/12 節第 72 項。

* See paragraph 72 of section B-I/12 of this Code.

第五章
對特定型式船舶人員之特殊訓練要求之標準
CHAPTER V
Standards regarding special training requirements
for personnel on certain types of ships

第 A-V/1-1 節

油輪與化學液體船船長、甲級船員及乙級船員訓練及資格之強制性最低要求

Section A-V/1-1

Mandatory minimum requirements for the training and qualifications of masters, officers and ratings on oil and chemical tankers

適任標準

Standard of competence

1 凡申請油輪與化學液體船貨物操作基本訓練證書者，應要求其：

1 Every candidate for certification in basic training for oil and chemical tanker cargo operations shall be required to:

.1 證明其能力能承擔表 A-V/1-1-1 第 1 欄所列之任務、職責及責任；及

.1 demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-V/1-1-1; and

.2 提出業已達到下列之證據：

.2 provide evidence of having achieved:

.2.1 表 A-V/1-1-1 第 2 欄所列之最低知識、瞭解及熟練；及

.2.1 the minimum knowledge, understanding and proficiency listed in column 2 of table A-V/1-1-1, and

.2.2 所要求之適任標準係依據表 A-V/1-1-1 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準。

.2.2 the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-V/1-1-1.

2 凡申請油輪貨物操作進階訓練證書者，應要求其：

2 Every candidate for certification in advanced training for oil tanker cargo operations shall be required to:

.1 證明其能力能承擔表 A-V/1-1-2 第 1 欄所列之任務、職責及責任；及

- .1 demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-V/1-1-2; and

.2 提出業已達到下列之證據：

- .2 provide evidence of having achieved:

.2.1 表 A-V/1-1-2 第 2 欄所列之最低知識、瞭解及熟練；及

- .2.1 the minimum knowledge, understanding and proficiency listed in column 2 of table A-V/1-1-2, and

.2.2 所要求之適任標準係依據表 A- V/1-1-2 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準。

- .2.2 the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-V/1-1-2.

3 凡申請化學液體船貨物操作進階訓練證書者，應要求其：

- 3 Every candidate for certification in advanced training for chemical tanker cargo operations shall be required to:

.1 證明其能力能承擔表 A-V/1-1-2 第 1 欄所列之任務、職責及責任；及

- .1 demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-V/1-1-3; and

.2 提出業已達到下列之證據：

- .2 provide evidence of having achieved:

.2.1 表 A-V/1-1-3 第 2 欄所列之最低知識、瞭解及熟練；及

- .2.1 the minimum knowledge, understanding and proficiency listed in column 2 of table A-V/1-1-3, and

.2.2 所要求之適任標準係依據表 A- V/1-1-3 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準。

- .2.2 the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-V/1-1-3.

表 A-V/I-1-1

油輪與化學液體船貨物操作基本訓練之最低適任標準規範

Table A-V/I-1-1

Specification of minimum standard of competence in basic training for oil and chemical tanker cargo operations

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於油輪與化學液體船安全貨物操作 Contribute to the safe cargo operation of oil and chemical tankers	<p><u>船舶的基本知識：</u> Basic knowledge of tankers:</p> <p><u>.1 油輪與化學液體船之型式</u> .1 types of oil and chemical tankers</p> <p><u>.2 一般裝置與構造</u> .2 general arrangement and construction</p> <p><u>貨物操作之基本知識：</u> Basic knowledge of cargo operations:</p> <p><u>.1 管路系統與閥</u> .1 piping systems and valves</p> <p><u>.2 貨泵</u> .2 cargo pumps</p> <p><u>.3 裝卸載</u> .3 loading and unloading</p> <p><u>.4 洗艙、淨化、驅氣、清除有害氣體及惰化</u> .4 tank cleaning, purging, gas-freeing and inerting</p> <p><u>油與化學液體物理性質之基本知識：</u> Basic knowledge of the physical properties of oil and chemicals:</p> <p><u>.1 壓力與溫度包括揮發氣壓/溫度之關係</u> .1 pressure and temperature, including vapour pressure/temperature relationship</p> <p><u>.2 靜電荷發生之型式</u> .2 types of electrostatic charge generation</p> <p><u>.3 化學符號</u> .3 chemical symbols</p> <p><u>油輪安全教養與安全管理之知識和瞭解</u> Knowledge and understanding of tanker safety culture and safety management</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>責任範圍內之溝通清晰有效</u> Communications within the area of responsibility are clear and effective</p> <p><u>貨物操作係依認可之原則與程式，以確保操作之安全</u> Cargo operations are carried out in accordance with accepted principles and procedures to ensure safety of operations</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
採取預防措施防止危害 Take precautions to prevent hazards	<p>液貨船操作所生危害之基本知識，包括：</p> <p>Basic knowledge of the hazards associated with tanker operations, including:</p> <p><u>.1 健康危害</u> .1 health hazards</p> <p><u>.2 環境危害</u> .2 environmental hazards</p> <p><u>.3 反應危害</u> .3 reactivity hazards</p> <p><u>.4 腐蝕危害</u> .4 corrosion hazards</p> <p><u>.5 爆炸與易燃危害</u> .5 explosion and flammability hazards</p> <p><u>.6 引火源，包括靜電危害</u> .6 sources of ignition, including electrostatic hazards</p> <p><u>.7 毒性危害</u> .7 toxicity hazards</p> <p><u>.8 揮發氣之洩漏與遮蔽</u> .8 vapour leaks and clouds</p> <p>危害控制之基本知識： Basic knowledge of hazard controls:</p> <p><u>.1 惰化、充水、乾燥劑與偵測技術</u> .1 inerting, water padding, drying agents and monitoring techniques</p> <p><u>.2 抗靜電措施</u> .2 anti-static measures</p> <p><u>.3 通風</u> .3 ventilation</p> <p><u>.4 隔離</u> .4 segregation</p> <p><u>.5 貨物抑制</u> .5 cargo inhibition</p> <p><u>.6 貨物相容之重要性</u> .6 importance of cargo compatibility</p> <p><u>.7 大氣控制</u> .7 atmospheric control</p> <p><u>.8 氣體測試</u> .8 gas testing</p> <p>瞭解材料安全數據表（MSDS）內之數據 Understanding of information on a Material Safety Data Sheet (MSDS)</p>	<p>測驗及從所獲得下列一項或多項證據予以評估：</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p>正確鑑定在材料安全數據表（MSDS）內對船舶及人員有關之貨物危害，並依據既定之程式採取適當之行動 Correctly identifies, on an MSDS, relevant cargo-related hazards to the vessel and to personnel, and takes the appropriate actions in accordance with established procedures</p> <p>確認並對意識到即將面臨之危害局勢採取與符合既定程式一致之最佳措施 Identification and actions on becoming aware of a hazardous situation conform to established procedures in line with best practice</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
滅火操作之 施行 Carry out fire-fighting operations	<p><u>液體船火災反應組織與應採取之行動</u> Tanker fire response organization and action to be taken</p> <p><u>與貨物操作及運送散裝危險物品及有毒液體之火災危險</u> Fire hazards associated with cargo handling and transportation of hazardous and noxious liquids in bulk</p> <p><u>用以撲滅油與化學品火災之滅火劑</u> Fire-fighting agents used to extinguish oil and chemical fires</p> <p><u>可用輕便泡沫滅火器滅火之火災</u> Portable fire-fighting foam fires</p> <p><u>固定泡沫滅火系統之操作</u> Fixed fire-fighting foam system operations</p> <p><u>可用輕便泡沫滅火器滅火之操作</u> Portable fire-fighting foam operations</p> <p><u>固定乾化學系統之操作</u> Fixed dry chemical system operations</p> <p><u>有關滅火操作時之洩漏圍堵</u> Spill containment in relation to fire-fighting operations</p>	<p><u>實際經驗及在認可與真正逼真之訓練狀況（如模擬船舶狀況）下施行教授，並在實際可行之情況下於黑暗中進行訓練</u> Practical exercises and instruction conducted under approved and truly realistic training conditions (e.g., simulated shipboard conditions) and, whenever possible and practicable, in darkness</p>	<p><u>對意識到即將面臨之船上火災所採取之最初行動與嗣後之行動符合既定之措施與程式</u> Initial actions and follow-up actions on becoming aware of fire on board conform with established practices and procedures</p> <p><u>確認集合信號所採取之行動適於所指之緊急情況並符合既定之程式</u> Action taken on identifying muster signal is appropriate to the indicated emergency and complies with established procedures</p> <p><u>衣著與設備適於滅火操作之性質</u> Clothing and equipment are appropriate to the nature of the fire-fighting operations</p> <p><u>各別行動之時機與順序適於當時之環境與狀況</u> The timing and sequence of individual actions are appropriate to the prevailing circumstances and conditions</p> <p><u>採用適當之程式、技術與滅火劑達成滅火</u> Extinguishment of fire is achieved using appropriate procedures, techniques and fire-fighting agents</p>
應急反應 Respond to emergencies	<p><u>應急程式包括緊急關斷之基本知識</u> Basic knowledge of emergency procedures, including emergency shutdown</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>立即確認緊急情況之型式與衝擊並採取符合應急程式與應急計畫之行動</u> The type and impact of the emergency is promptly identified and the response actions conform to the emergency procedures and contingency plans</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>採取預防措施防止油或化學品洩出所造成環境之污染</u> Take precautions to prevent pollution of the environment from the release of oil or chemicals	<u>油與化學品污染對人類與海生物影響之基本知識</u> Basic knowledge of the effects of oil and chemical pollution on human and marine life <u>船上防污染程式之基本知識</u> Basic knowledge of shipboard procedures to prevent pollution <u>對洩漏之際應採取行動之基本知識，包括：</u> Basic knowledge of measures to be taken in the event of spillage, including the need to: <u>.1 向負責人員報告相關之資訊</u> .1 report relevant information to the responsible persons <u>.2 協助執行船上洩漏圍堵之程式</u> .2 assist in implementing shipboard spill-containment procedures	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme	<u>隨時遵循指定用於防護環境之程式</u> Procedures designed to safeguard the environment are observed at all times

表 A-V/I-1-2

油輪貨物操作進階訓練之最低適任標準規範

Table A-V/I-1-2

**Specification of minimum standard of competence in advanced training
for oil tanker cargo operations**

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>安全執行與監理所有之貨物操作之能力</u> Ability to safely perform and monitor all cargo operations</p>	<p><u>油輪之設計與特性</u> <i>Design and characteristics of an oil tanker</i></p> <p><u>油輪設計、系統與設備之知識，包括：</u> Knowledge of oil tanker design, systems and equipment, including:</p> <p><u>.1 一般裝置與構造</u> .1 general arrangement and construction</p> <p><u>.2 泵裝置與設備</u> .2 pumping arrangement and equipment</p> <p><u>.3 艙櫃佈置、管路系統與艙櫃通氣裝置</u> .3 tank arrangement, pipeline system and tank venting arrangement</p> <p><u>.4 規測系統與警報</u> .4 gauging systems and alarms</p> <p><u>.5 貨物加熱系統</u> .5 cargo heating systems</p> <p><u>.6 洗艙、清除有害氣體及惰化</u> .6 tank cleaning, gas-freeing and inerting systems</p> <p><u>.7 壓載系統</u> .7 ballast system</p> <p><u>.8 貨艙區域通氣與起居艙通風</u> .8 cargo area venting and accommodation ventilation</p> <p><u>.9 污油水裝置</u> .9 slop arrangements</p> <p><u>.10 揮發氣回收系統</u> .10 vapour recovery systems</p> <p><u>.11 與貨物相關之電機與電子控制系統</u> .11 cargo-related electrical and electronic control system</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>溝通明白、瞭解並成功</u> Communications are clear, understood and successful</p> <p><u>貨物操作在考慮及油輪之設計、系統與設備之情況下安全施行</u> Cargo operations are carried out in a safe manner, taking into account oil tanker designs, systems and equipment</p> <p><u>貨物操作係經計劃、風險管理，並依認可之原則與程式施行以確保操作之安全，避免對海洋環境造成污染</u> Cargo operations are planned, risk is managed and carried out in accordance with accepted principles and procedures to ensure safety of operations and avoid pollution of the marine environment</p> <p><u>迅即確認並矯正潛在不符合貨物操作之相關程式</u> Potential non-compliance with cargo-operation-related procedures is promptly identified and rectified</p> <p><u>適當之裝載、儲藏與卸載貨物確保穩度與應力之狀況隨時保持於安全限度內</u> Proper loading, stowage and unloading of cargoes ensures that stability and stress conditions remain within safe limits at all times</p> <p><u>所採取之行動與遵循之程式正確應用，並正確使用船上與貨物有關之設備</u> Actions taken and procedures followed are correctly applied and the appropriate shipboard cargo-related equipment is properly used</p> <p><u>監測與氣體偵測設備之校正與使用符合操作之實務與程式</u> Calibration and use of monitoring and gas-detection equipment comply with operational practices and procedures</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>安全執行與監理所有之貨物操作之能力(續)</u> Ability to safely perform and monitor all cargo operations <i>(continued)</i>	<u>.12 環境保護設備包括排油監測設備 (ODME)</u> .12 environmental protection equipment, including Oil Discharge Monitoring Equipment (ODME) <u>.13 艙櫃塗裝</u> .13 tank coating <u>.14 艙櫃溫度與壓力控制系統</u> .14 tank temperature and pressure control systems <u>.15 滅火系統</u> .15 fire-fighting systems <u>泵之理論與特性之知識，包括貨泵之型式及其安全操作</u> Knowledge of pump theory and characteristics, including types of cargo pumps and their safe operation <u>油輪安全教養與執行安全管理系統之熟練</u> Proficiency in tanker safety culture and implementation of safety-management system <u>監測與安全系統，包括緊急關斷之知識與瞭解</u> Knowledge and understanding of monitoring and safety systems, including the emergency shutdown <u>裝載、卸載、照管與貨物處理</u> Loading, unloading, care and handling of cargo <u>執行貨物量測與計算之能力</u> Ability to perform cargo measurements and calculations <u>散裝液體貨物對俯仰差、穩度與結構完整性之影響知識</u> Knowledge of the effect of bulk liquid cargoes on trim, stability and structural integrity <u>油貨有關操作之知識與瞭解，包括：</u> Knowledge and understanding of oil cargo-related operations, including: <u>.1 裝卸計畫</u> .1 loading and unloading plans <u>.2 壓載與卸壓載</u> .2 ballasting and deballasting <u>.3 洗艙作業</u> .3 tank cleaning operations		<u>監測與安全系統程式確保所有之警報依據既定之應急程式於偵測之後立即作動</u> Procedures for monitoring and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>安全執行與監理所有之貨物操作之能力(續)</u> Ability to safely perform and monitor all cargo operations (continued)	<u>.4 惰化</u> .4 inerting <u>.5 清除有害氣體</u> .5 gas-freeing <u>.6 船與船間轉駁</u> .6 ship-to-ship transfers <u>.7 上層裝載</u> .7 load on top <u>.8 原油洗艙</u> .8 crude oil washing <u>貨物有關操作計畫、程式與查核表之制定與應用</u> Development and application of cargo-related operation plans, procedures and checklists <u>監測與氣體偵測系統、儀表與設備之校正與使用能力</u> Ability to calibrate and use monitoring and gas-detection systems, instruments and equipment <u>管理和監督與貨物有關責任人員之能力</u> Ability to manage and supervise personnel with cargo-related responsibilities		
<u>對油貨之物理與化學性質之熟悉度</u> Familiarity with physical and chemical properties of oil cargoes	<u>油貨之物理與化學性質之知識與瞭解</u> Knowledge and understanding of the physical and chemical properties of oil cargoes <u>瞭解材料安全數據表 (MSDS) 中之資訊</u> Understanding the information contained in a Material Safety Data Sheet (MSDS)	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme	<u>對資訊源作有效之使用以鑑定油貨與相關氣體之屬性與特性，及其對安全、環境與船舶操作之衝擊</u> Effective use is made of information resources for identification of properties and characteristics of oil cargoes and related gases, and their impact on safety, the environment and vessel operation

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
採取防止危害之預防措施 Take precautions to prevent hazards	<p>油輪貨物操作所生危害與控制措施之知識與瞭解，包括：</p> <p>Knowledge and understanding of the hazards and control measures associated with oil tanker cargo operations, including:</p> <p><u>.1 毒性</u> .1 toxicity</p> <p><u>.2 易燃性與爆炸性</u> .2 flammability and explosion</p> <p><u>.3 健康危害</u> .3 health hazards</p> <p><u>.4 惰性氣體之性質</u> .4 inert gas composition</p> <p><u>.5 靜電危害</u> .5 electrostatic hazards</p> <p><u>危險及不符合相關規範/規則之知識與瞭解</u> Knowledge and understanding of dangers of non-compliance with relevant rules/regulations</p>	<p>測驗及從所獲得下列一項或多項證據予以評估：</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p>正確鑑定油輪貨物操作對船舶與人員所生有關貨物之危害並採取適當之控制措施</p> <p>Relevant cargo-related hazards to the vessel and to personnel associated with oil tanker cargo operations are correctly identified, and proper control measures are taken</p>
應用職業健康與安全預防措施 Apply occupational health and safety precautions	<p>安全工作措施包括風險評估與在油輪上人員有關安全之知識與瞭解：</p> <p>Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to oil tankers:</p> <p><u>.1 在進入圍閉空間時應採取之防範措施包括正確使用不同型式之呼吸器</u> .1 precautions to be taken when entering enclosed spaces, including correct use of different types of breathing apparatus</p> <p><u>.2 在進行修理與保養工作之前與進行期間應採取之防範措施</u> .2 precautions to be taken before and during repair and maintenance work</p> <p><u>.3 熱作與冷作之安全措施</u> .3 precautions for hot and cold work</p> <p><u>.4 用電安全之防範措施</u> .4 precautions for electrical safety</p> <p><u>.5 使用適當之人員防護設備 (PPE)</u> .5 use of appropriate Personal Protective Equipment (PPE)</p>	<p>測驗及從所獲得下列一項或多項證據予以評估：</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p>隨時遵守指定以防護人員與船舶之程式</p> <p>Procedures designed to safeguard personnel and the ship are observed at all times</p> <p><u>遵守安全工作實務及正確使用適當之安全與防護設備</u> Safe working practices are observed and appropriate safety and protective equipment is correctly used</p> <p><u>工作實務係依據法規之規定、實務章程、許可施工與有關環境之條件</u> Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns</p> <p><u>正確使用呼吸器</u> Correct use of breathing apparatus</p> <p><u>遵守進入圍閉空間之程式</u> Procedures for entry into enclosed spaces are observed</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
應急反應 Respond to emergencies	<p><u>油輪應急程式之知識與瞭解，包括：</u> Knowledge and understanding of oil tanker emergency procedures, including:</p> <p><u>.1 船舶應急反應計畫</u> .1 ship emergency response plans</p> <p><u>.2 貨物操作，緊急關斷</u> .2 cargo operations emergency shutdown</p> <p><u>.3 系統或貨物重要服務失效之際應採取之行動</u> .3 actions to be taken in the event of failure of systems or services essential to cargo</p> <p><u>.4 油輪滅火</u> .4 fire-fighting on oil tankers</p> <p><u>.5 密閉空間之救助</u> .5 enclosed space rescue</p> <p><u>.6 材料安全數據表之使用</u> .6 use of a Material Safety Data Sheet (MSDS)</p> <p><u>在碰撞、擱淺或洩油後應採取之行動</u> Actions to be taken following collision, grounding, or spillage</p> <p><u>在油輪上醫療急救程式之知識</u> Knowledge of medical first aid procedures on board oil tankers</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>立即確認緊急情況之型式與衝擊並採取符合應急程式與應急計畫之行動</u> The type and impact of the emergency is promptly identified and the response actions conform with established emergency procedures and contingency plans</p> <p><u>報告及通知船上人員之優先順序、等級、時間標度，係與應急性質有關並反應出問題之急迫性</u> The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p> <p><u>撤離、緊急關斷與隔離程序適於應急性質並已即時施行</u> Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p><u>確認並採取緊急醫護行動符合當前認可之急救措施與國際準則</u> The identification of and actions taken in a medical emergency conform to current recognized first aid practice and international guidelines</p>
防止環境污染採取之預防措施 Take precautions to prevent pollution of the environment	<p><u>瞭解防止大氣與環境污染之程式</u> Understanding of procedures to prevent pollution of the atmosphere and the environment</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>依據認可之原則與防止環境污染之程式進行操作</u> Operations are conducted in accordance with accepted principles and procedures to prevent pollution of the environment</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>監測與控制符合法律之要求</u> Monitor and control compliance with legislative requirements	<u>對防止船舶污染國際公約（MARPOL）及其修正案之規定，及其他有關國際海事組織之文書、一般適用之工業準則與港口規則之知識與瞭解</u> Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL), as amended, and other relevant IMO instruments, industry guidelines and port regulations as commonly applied	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme	<u>貨物之處理符合有關國際海事組織之文書及既定安全工作實務之工業標準與章程</u> The handling of cargoes complies with relevant IMO instruments and established industrial standards and codes of safe working practice

表 A-V/I-1-3

化學液體船貨物操作進階級訓練之最低適任標準規範

Table A-V/I-1-3

**Specification of minimum standard of competence in advanced training
for chemical tanker cargo operations**

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>安全執行與監理所有之貨物操作之能力</u> Ability to safely perform and monitor all cargo operations	<u>化學液體船之設計與特性</u> <i>Design and characteristics of a chemical tanker</i> <u>化學液體船設計、系統與設備之知識，包括：</u> Knowledge of chemical tanker designs, systems, and equipment, including: <ul style="list-style-type: none"> <u>.1 一般裝置與構造</u> .1 general arrangement and construction <u>.2 泵裝置與設備</u> .2 pumping arrangement and equipment <u>.3 艙櫃構造與佈置</u> .3 tank construction and arrangement <u>.4 管路洩除系統</u> .4 pipeline and drainage systems <u>.5 艙櫃與貨物管路壓力與控制系統及警報</u> .5 tank and cargo pipeline pressure and temperature control systems and alarms <u>.6 規測控制系統與警報</u> .6 gauging control systems and alarms <u>.7 氣體偵測系統</u> .7 gas-detecting systems <u>.8 貨物加熱與冷卻系統</u> .8 cargo heating and cooling systems <u>.9 艙櫃清洗系統</u> .9 tank cleaning systems <u>.10 貨艙櫃環境控制系統</u> .10 cargo tank environmental control systems 	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <ul style="list-style-type: none"> <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme 	<u>溝通明白、瞭解並成功</u> Communications are clear, understood and successful <u>貨物操作在考慮及化學液體船之設計、系統與設備之情況下安全施行</u> Cargo operations are carried out in a safe manner, taking into account chemical tanker designs, systems and equipment <u>貨物操作係經計劃、風險管理，並依認可之原則與程式施行以確保操作之安全，避免對海洋環境造成污染</u> Cargo operations are planned, risk is managed and carried out in accordance with accepted principles and procedures to ensure safety of operations and avoid pollution of the marine environment

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>安全執行與監理所有之貨物操作之能力 (續)</u> Ability to safely perform and monitor all cargo operations (continued)	<u>.11 壓載系統</u> .11 ballast systems <u>.12 貨艙區域通氣與起居艙通風</u> .12 cargo area venting and accommodation ventilation <u>.13 揮發氣回收系統</u> .13 vapour return/recovery systems <u>.14 滅火系統</u> .14 fire-fighting systems <u>.15 艙櫃、管路與裝具之材料與塗裝</u> .15 tank, pipeline and fittings' material and coatings <u>.16 污油水管理</u> .16 slop management <u>泵之理論與特性之知識，包括貨泵之型式及其安全操作</u> Knowledge of pump theory and characteristics, including types of cargo pumps and their safe operation <u>對液貨船安全素養與安全管理之執行均能熟練</u> Proficiency in tanker safety culture and implementation of safety management system <u>監測與安全系統，包括緊急關斷之知識與瞭解</u> Knowledge and understanding of monitoring and safety systems, including the emergency shutdown system <u>裝載、卸載、照管與貨物處理</u> Loading, unloading, care and handling of cargo <u>執行貨物量測與計算之能力</u> Ability to perform cargo measurements and calculations <u>散裝液體貨物對俯仰差、穩度與結構完整性之影響知識</u> Knowledge of the effect of bulk liquid cargoes on trim and stability and structural integrity <u>化學品貨物有關操作之知識與瞭解，包括：</u> Knowledge and understanding of chemical cargo-related operations, including:		<u>監測與安全系統程式確保所有之警報依據既定之應急程式於偵測之後立即作動</u> Procedures for monitoring and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established procedures <u>適當之裝載、儲藏與卸載貨物確保穩度與應力之狀況隨時保持於安全限度內</u> Proper loading, stowage and unloading of cargoes ensures that stability and stress conditions remain within safe limits at all times <u>迅即確認並矯正潛在不符合貨物操作之相關程式</u> Potential non-compliance with cargo-related procedures is promptly identified and rectified <u>所採取之行動與遵循之程式正確應用，並正確使用船上與貨物有關之設備</u> Actions taken and procedures followed are correctly identified and appropriate shipboard cargo-related equipment is properly used

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適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>安全執行與監理所有之貨物操作之能力（續）</u> Ability to safely perform and monitor all cargo operations <i>(continued)</i>	<u>.1 裝卸計畫</u> .1 loading and unloading plans <u>.2 壓載與卸壓載</u> .2 ballasting and deballasting <u>.3 洗艙作業</u> .3 tank cleaning operations <u>.4 艙櫃之大氣控制</u> .4 tank atmosphere control <u>.5 惰化</u> .5 inerting <u>.6 清除有害氣體</u> .6 gas-freeing <u>.7 船與船間轉駁</u> .7 ship-to-ship transfers <u>.8 抑制與安定之要求</u> .8 inhibition and stabilization requirements <u>.9 加熱與冷卻之要求及對鄰接貨物之影響</u> .9 heating and cooling requirements and consequences to adjacent cargoes <u>.10 貨物之相容性與隔離</u> .10 cargo compatibility and segregation <u>.11 高黏性貨物</u> .11 high-viscosity cargoes <u>.12 剩餘貨物之操作</u> .12 cargo residue operations <u>.13 進入艙櫃之操作</u> .13 operational tank entry <u>貨物有關操作計畫、程式與查核表之制定與應用</u> Development and application of cargo-related operation plans, procedures and checklists <u>監測與氣體偵測系統、儀表與設備之校正與使用能力</u> Ability to calibrate and use monitoring and gas-detection systems, instruments and equipment <u>管理和監督與貨物有關責任人員之能力</u> Ability to manage and supervise personnel with cargo-related responsibilities		<u>監測與氣體偵測設備之校正與使用符合操作之實務與程式</u> Calibration and use of monitoring and gas-detection equipment are consistent with safe operational practices and procedures <u>業已告知經指派任務之人員其工作應遵守之程式與標準，其方式適於有關之個別人員並係依據安全操作做法</u> Personnel are allocated duties and informed of procedures and standards of work to be followed, in a manner appropriate to the individuals concerned and in accordance with safe operational practices

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適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
熟悉化學品貨之物理與化學性質 Familiarity with physical and chemical properties of chemical cargoes	<p>有毒液體物質之物理與化學性質之知識與瞭解包括：</p> <p>Knowledge and understanding of the chemical and the physical properties of noxious liquid substances, including:</p> <p><u>.1 化學品貨物之分類（腐蝕性、有毒性、可燃性、爆炸性）</u> .1 chemical cargoes categories (corrosive, toxic, flammable, explosive)</p> <p><u>.2 化學分組與工業用法</u> .2 chemical groups and industrial usage</p> <p><u>.3 不同貨物間之反應</u> .3 reactivity of cargoes</p> <p><u>瞭解材料安全數據表（MSDS）中之資訊</u> Understanding the information contained in a Material Safety Data Sheet (MSDS)</p>	<p>測驗及從所獲得下列一項或多項證據予以評估：</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p>對資訊源作有效之使用以鑑定有毒液體物質與相關氣體之屬性與特性，及其對安全、環境與船舶操作之衝擊</p> <p>Effective use is made of information resources for identification of properties and characteristics of noxious liquid substances and related gases, and their impact on safety, environmental protection and vessel operation</p>
採取防止危害之預防措施 Take precautions to prevent hazards	<p>化學液體船貨物操作所生危害與控制措施之知識與瞭解，包括：</p> <p>Knowledge and understanding of the hazards and control measures associated with chemical tanker cargo operations, including:</p> <p><u>.1 可燃性與爆炸性</u> .1 flammability and explosion</p> <p><u>.2 毒性</u> .2 toxicity</p> <p><u>.3 健康危害</u> .3 health hazards</p> <p><u>.4 惰性氣體之性質</u> .4 inert gas composition</p> <p><u>.5 靜電危害</u> .5 electrostatic hazards</p> <p><u>.6 反應性</u> .6 reactivity</p> <p><u>.7 腐蝕性</u> .7 corrosivity</p> <p><u>.8 低沸點貨物</u> .8 low-boiling-point cargoes</p> <p><u>.9 高密度貨物</u> .9 high-density cargoes</p> <p><u>.10 凝固性貨物</u> .10 solidifying cargoes</p> <p><u>.11 聚合貨物</u> .11 polymerizing cargoes</p>	<p>測驗及從所獲得下列一項或多項證據予以評估：</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p>正確鑑定化學液體船貨物操作對船舶與人員所生有關貨物之危害並採取適當之控制措施</p> <p>Relevant cargo-related hazards to the vessel and to personnel associated with chemical tanker cargo operations are correctly identified, and proper control measures are taken</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
採取防止危害之預防措施(續) Take precautions to prevent hazards (continued)	危險及不符合相關規範/規則之知識與瞭解 Knowledge and understanding of dangers of non-compliance with relevant rules/regulation		
應用職業健康與安全預防措施 Apply occupational health and safety precautions	<p>安全工作措施包括風險評估與在化學液體船上人員有關安全之知識與瞭解：</p> <p>Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to chemical tankers:</p> <p><u>1. 在進入密閉空間時應採取之防範措施包括正確使用不同型式之呼吸器</u></p> <p>1. precautions to be taken when entering enclosed spaces, including correct use of different types of breathing apparatus</p> <p><u>2. 在進行修理與保養工作之前與進行期間應採取之防範措施</u></p> <p>2. precautions to be taken before and during repair and maintenance work</p> <p><u>3. 熱作與冷作之安全措施</u></p> <p>3. precautions for hot and cold work</p> <p><u>4. 用電安全之防範措施</u></p> <p>4. precautions for electrical safety</p> <p><u>5. 使用適當之人員防護設備 (PPE)</u></p> <p>5. use of appropriate Personal Protective Equipment (PPE)</p>	<p>測驗及從所獲得下列一項或多項證據予以評估：</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>1. 認可之在職經驗</u></p> <p>1. approved in-service experience</p> <p><u>2. 認可之訓練船上經驗</u></p> <p>2. approved training ship experience</p> <p><u>3. 認可之模擬設施訓練</u></p> <p>3. approved simulator training</p> <p><u>4. 認可之訓練計畫</u></p> <p>4. approved training programme</p>	<p>隨時遵守指定以防護人員與船舶之程式</p> <p>Procedures designed to safeguard personnel and the ship are observed at all times</p> <p><u>遵守安全工作實務及正確使用適當之安全與防護設備</u></p> <p>Safe working practices are observed and appropriate safety and protective equipment is correctly used</p> <p><u>工作實務係依據法規之規定、實務章程、許可施工與有關環境之條件</u></p> <p>Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns</p> <p><u>正確使用呼吸器</u></p> <p>Correct use of breathing apparatus</p> <p><u>遵守進入密閉空間之程式</u></p> <p>Procedures for entry into enclosed spaces are observed</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
應急反應 Respond to emergencies	<p><u>化學液體船應急程式之知識與瞭解，包括：</u> Knowledge and understanding of chemical tanker emergency procedures, including:</p> <p><u>.1 船舶應急反應計畫</u> .1 ship emergency response plans</p> <p><u>.2 貨物操作，緊急關斷</u> .2 cargo operations emergency shutdown</p> <p><u>.3 系統或貨物重要服務失效之際應採取之行動</u> .3 actions to be taken in the event of failure of systems or services essential to cargo</p> <p><u>.4 化學液體船滅火</u> .4 fire fighting on chemical tankers</p> <p><u>.5 密閉空間之救助</u> .5 enclosed space rescue</p> <p><u>.6 貨物之反應性</u> .6 cargo reactivity</p> <p><u>.7 投棄貨物</u> .7 jettisoning cargo</p> <p><u>.8 材料安全數據表（MSDS）之使用</u> .8 use of a Material Safety Data Sheet (MSDS)</p> <p><u>在碰撞、擱淺或化學液體洩出後應採取之行動</u> Actions to be taken following collision, grounding, or spillage</p> <p><u>在化學液體船上醫療急救程式、參照涉及危險物品事故時使用之醫療急救指南（MFAG）之知識</u> Knowledge of medical first aid procedures on board chemical tankers, with reference to the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG)</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>立即確認緊急情況之型式與衝擊並採取符合應急程式與應急計畫之行動</u> The type and impact of the emergency is promptly identified and the response actions conform with established emergency procedures and contingency plans</p> <p><u>報告及通知船上人員之優先順序、等級、時間標度，係與應急性質有關並反應出問題之急迫性</u> The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p> <p><u>撤離、緊急關斷與絕緣之程式適於應急性質並已即時施行</u> Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p><u>確認並採取緊急醫護行動符合當前認可之急救措施與國際準則</u> The identification of and actions taken in a medical emergency conform to current recognized first aid practice and international guidelines</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
防止環境污染採取之預防措施 Take precautions to prevent pollution of the environment	瞭解防止大氣與環境污染之程式 Understanding of procedures to prevent pollution of the atmosphere and the environment	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme	依據認可之原則與防止環境污染之程式進行操作 Operations are conducted in accordance with accepted principles and procedures to prevent pollution of the environment
監測與控制符合法律之要求 Monitor and control compliance with legislative requirements	有關防止船舶污染國際公約（MARPOL）之規定，及其他有關國際海事組織之文書、一般適用之工業準則與港口規則之知識與瞭解 Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL) and other relevant IMO instruments, industry guidelines and port regulations as commonly applied 熟練使用 IBC 章程及相關之檔 Proficiency in the use of the IBC Code and related documents	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme	貨物之處理符合有關國際海事組織之文書及既定安全工作實務之工業標準與章程 The handling of cargoes complies with relevant IMO instruments and established industrial standards and codes of safe working practice

第 A-V/1-2 節

液化氣體船船長、甲級船員及乙級船員訓練及資格之強制性最低要求

Section A-V/1-2

Mandatory minimum requirements for the training and qualifications of masters, officers and ratings on liquefied gas tankers

適任標準

Standard of competence

1 凡申請液化氣體船貨物操作基本訓練證書者，應要求其：

1 Every candidate for certification in basic training for liquefied gas tanker cargo operations shall be required to:

.1 證明其能力能承擔表 A-V/1-2-1 第 1 欄所列之任務、職責及責任；及

.1 demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-V/1-2-1; and

.2 提出業已達到下列之證據：

.2 provide evidence of having achieved:

.2.1 表 A-V/1-2-1 第 2 欄所列之最低知識、瞭解及熟練；及

.2.1 the minimum knowledge, understanding and proficiency listed in column 2 of table A-V/1-2-1, and

.2.2 所要求之適任標準係依據表 A- V/1-2-1 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準。

.2.2 the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-V/1-2-1.

2 凡申請液化氣體船貨物操作進階訓練證書者，應要求其：

2 Every candidate for certification in advanced training for liquefied gas tanker cargo operations shall be required to:

.1 證明其能力能承擔表 A-V/1-2-2 第 1 欄所列之任務、職責及責任；及

.1 demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-V/1-2-2; and

.2 提出業已達到下列之證據：

.2 provide evidence of having achieved:

.2.1 表 A-V/1-2-2 第 2 欄所列之最低知識、瞭解及熟練；及

.2.1 the minimum knowledge, understanding and proficiency listed in column 2 of table A-V/1-2-2, and

.2.2 所要求之適任標準係依據表 A- V/1-2-2 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準。

.2.2 the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-V/1-2-2.

表 A-V/1-2-1

液化氣體船貨物操作基本訓練之最低適任標準規範

Table A-V/1-2-1

**Specification of minimum standard of competence in basic training
for liquefied gas tanker cargo operations**

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於液化氣體船安全貨物操作 Contribute to the safe operation of a liquefied gas tanker	<p><u>液化氣體船之設計與操作特性</u> <i>Design and operational characteristics of liquefied gas tankers</i></p> <p><u>船舶的基本知識：</u> Basic knowledge of liquefied gas tankers</p> <p><u>.1 液化氣體船之型式</u> .1 types of liquefied gas tankers</p> <p><u>.2 一般裝置與構造</u> .2 general arrangement and construction</p> <p><u>貨物操作之基本知識：</u> Basic knowledge of cargo operations:</p> <p><u>.1 管路系統與閥</u> .1 piping systems and valves</p> <p><u>.2 貨物處理設備</u> .2 cargo handling equipment</p> <p><u>.3 裝卸載及運送管理</u> .3 loading, unloading and care in transit</p> <p><u>.4 緊急關斷（ESD）系統</u> .4 emergency shutdown (ESD) system</p> <p><u>.5 洗艙、驅氣、清除有害氣體及惰化</u> .5 tank cleaning, purging, gas-freeing and inerting</p> <p><u>液化氣體物理性質之基本知識：</u> Basic knowledge of the physical properties of liquefied gases, including:</p> <p><u>.1 性能與特性</u> .1 properties and characteristics</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>責任範圍內之溝通清晰有效</u> Communications within the area of responsibility are clear and effective</p> <p><u>貨物操作係依認可之原則與程式，以確保操作之安全</u> Cargo operations are carried out in accordance with accepted principles and procedures to ensure safety of operations</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
致力於液化氣體船安全貨物操作 (續) Contribute to the safe operation of a liquefied gas tanker (continued)	<u>.2 壓力與溫度包括揮發氣壓/溫度之關係</u> .2 pressure and temperature, including vapour pressure/temperature relationship <u>.3 靜電荷發生之型式</u> .3 types of electrostatic charge generation <u>.4 化學符號</u> .4 chemical symbols <u>液化氣體船之安全教養與安全管理之知識和瞭解</u> Knowledge and understanding of tanker safety culture and safety management		
採取預防措施防止危害 Take precautions to prevent hazards	<u>液化氣體船操作所生危害之基本知識，包括：</u> Basic knowledge of the hazards associated with tanker operations, including: <u>.1 健康危害</u> .1 health hazards <u>.2 環境危害</u> .2 environmental hazards <u>.3 反應危害</u> .3 reactivity hazards <u>.4 腐蝕危害</u> .4 corrosion hazards <u>.5 爆炸與易燃危害</u> .5 explosion and flammability hazards <u>.6 引火源</u> .6 sources of ignition <u>.7 靜電危害</u> .7 electrostatic hazards <u>.8 毒性危害</u> .8 toxicity hazards <u>.9 揮發氣之洩漏與遮蔽</u> .9 vapour leaks and clouds <u>.10 溫度極低</u> .10 extremely low temperatures	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme	<u>正確鑑定在材料安全數據表（MSDS）內對船舶及人員有關之貨物危害，並依據既定之程式採取適當之行動</u> Correctly identifies, on an MSDS, relevant cargo-related hazards to the vessel and to personnel, and takes the appropriate actions in accordance with established procedures <u>確認並對意識到即將面臨之危害局勢採取與符合既定程式一致之最佳措施</u> Identification and actions on becoming aware of a hazardous situation conform to established procedures in line with best practice

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>採取預防措施防止危害</u> <u>(續)</u> Take precautions to prevent hazards <i>(continued)</i>	<u>.11 壓力危害</u> .11 pressure hazards <u>危害控制之基本知識:</u> Basic knowledge of hazard controls: <u>.1 惰化、乾燥與偵測技術</u> .1 inerting, drying and monitoring techniques <u>.2 抗靜電措施</u> .2 anti-static measures <u>.3 通風</u> .3 ventilation <u>.4 隔離</u> .4 segregation <u>.5 貨物抑制</u> .5 cargo inhibition <u>.6 貨物相容之重要性</u> .6 importance of cargo compatibility <u>.7 大氣控制</u> .7 atmospheric control <u>.8 氣體測試</u> .8 gas testing <u>瞭解材料安全數據表 (MSDS) 內之數據</u> Understanding of information on a Material Safety Data Sheet (MSDS)		

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
應用職業健康與安全預防措施 Apply occupational health and safety precautions and measures	<p>氣體量測儀表與類似設備之功能與正確使用 Function and proper use of gas-measuring instruments and similar equipment</p> <p>安全設備與防護設施之正確使用 Proper use of safety equipment and protective devices, including:</p> <p><u>.1 呼吸器與艙櫃逃生之設備</u> .1 breathing apparatus and tank evacuating equipment</p> <p><u>.2 防護衣與設備</u> .2 protective clothing and equipment</p> <p><u>.3 人工呼吸器</u> .3 resuscitators</p> <p><u>.4 救助與逃生設備</u> .4 rescue and escape equipment</p> <p>依據與液化氣體船船上人員安全相關之法規、工業準則之安全工作措施與程式之基本知識： Basic knowledge of safe working practices and procedures in accordance with legislation and industry guidelines and personal shipboard safety relevant to liquefied gas tankers, including:</p> <p><u>.1 在進入密閉空間時應採取之防範措施</u> .1 precautions to be taken when entering enclosed spaces</p> <p><u>.2 在進行修理與保養工作之前與進行期間應採取之防範措施</u> .2 precautions to be taken before and during repair and maintenance work</p> <p><u>.3 熱作與冷作之安全措施</u> .3 safety measures for hot and cold work</p> <p><u>.4 用電安全</u> .4 electrical safety</p> <p><u>.5 船/岸安全查核表</u> .5 ship/shore safety checklist</p> <p>參照材料安全數據表 (MSDS) 進行急救之基本知識 Basic knowledge of first aid with reference to a Material Safety Data Sheet (MSDS)</p>	<p>測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>遵循進入密閉空間之程式</u> Procedures for entry into enclosed spaces are observed</p> <p><u>隨時遵循指定以保護人員與船舶之程式與安全工作措施</u> Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times</p> <p><u>正確使用適當之安全與防護設備</u> Appropriate safety and protective equipment is correctly used</p> <p><u>進行與不需進行急救</u> First aid do's and don'ts</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
滅火操作之 施行 Carry out fire-fighting operations	<p><u>液化氣體船火災組織與應採取之行動</u> Tanker fire organization and action to be taken</p> <p><u>貨物操作與危險及散裝液化氣體運輸所致之火災特別危險</u> Special hazards associated with cargo handling and transportation of liquefied gases in bulk</p> <p><u>用以撲滅液化氣火災之滅火劑</u> Fire-fighting agents used to extinguish gas fires</p> <p><u>固定泡沫滅火系統之操作</u> Fixed fire-fighting foam system operations</p> <p><u>輕便泡沫滅火器之操作</u> Portable fire-fighting foam operations</p> <p><u>固定乾化學系統之操作</u> Fixed dry chemical system operations</p> <p><u>有關滅火操作時洩漏圍堵之基本知識</u> Basic knowledge of spill containment in relation to fire-fighting operations</p>	<p><u>實際經驗及在認可與真正逼真之訓練狀況（如模擬船舶狀況）下施行教授，並在實際可行之情況下於黑暗中進行訓練</u> Practical exercises and instruction conducted under approved and truly realistic training conditions (e.g. simulated shipboard conditions) and, whenever possible and practicable, in darkness</p>	<p><u>對意識到即將面臨之船上火災所採取之最初行動與嗣後之行動符合既定之措施與程式</u> Initial actions and follow-up actions on becoming aware of an emergency conform with established practices and procedures</p> <p><u>確認集合信號所採取之行動適於所指之緊急情況並符合既定之程式</u> Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures</p> <p><u>衣著與設備適於滅火操作之性質</u> Clothing and equipment are appropriate to the nature of the fire-fighting operations</p> <p><u>各別行動之時機與順序適於當時之環境與狀況</u> The timing and sequence of individual actions are appropriate to the prevailing circumstances and conditions</p> <p><u>採用適當之程式、技術與滅火劑達成滅火</u> Extinguishment of fire is achieved using appropriate procedures, techniques and fire-fighting agents</p>
應急反應 Respond to emergencies	<p><u>應急程式包括緊急關斷之基本知識</u> Basic knowledge of emergency procedures, including emergency shutdown</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>立即確認緊急情況之型式與衝擊並採取符合應急程式與應急計畫之行動</u> The type and impact of the emergency is promptly identified and the response actions conform to the emergency procedures and contingency plans</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
採取預防措施防止液化氣體洩出所造成環境之污染 Take precautions to prevent pollution of the environment from the release of liquefied gases	<p><u>液化氣體污染對人類與海生物影響之基本知識</u> Basic knowledge of the effects of pollution on human and marine life</p> <p><u>船上防污染程式之基本知識</u> Basic knowledge of shipboard procedures to prevent pollution</p> <p><u>對洩漏之際應採取行動之基本知識，包括：</u> Basic knowledge of measures to be taken in the event of spillage, including the need to:</p> <p><u>.1 向負責人員報告相關之資訊</u> .1 report relevant information to the responsible persons</p> <p><u>.2 協助執行船上洩漏圍堵之程式</u> .2 assist in implementing shipboard spill-containment procedures</p> <p><u>.3 防止脆裂</u> .3 prevent brittle fracture</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>隨時遵循指定用於防護環境之程式</u> Procedures designed to safeguard the environment are observed at all times</p>

表 A-V/1-2-2

液化氣體船貨物操作進階訓練之最低適任標準規範

Table A-V/1-2-2

Specification of minimum standard of competence in advanced training for liquefied gas tanker cargo operations

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
安全執行與 監理所有之 貨物操作之 能力 Ability to safely perform and monitor all cargo operations	<p><u>液化氣體船之設計與特性</u> <i>Design and characteristics of a liquefied gas tanker</i></p> <p><u>液化氣體船設計、系統與設備之知識，包括：</u> Knowledge of liquefied gas tanker design, systems, and equipment, including:</p> <p><u>.1 液化氣體船與貨艙櫃構造之型式</u> .1 types of liquefied gas tankers and cargo tanks construction</p> <p><u>.2 一般裝置與構造</u> .2 general arrangement and construction</p> <p><u>.3 貨物容納系統，包括構造與絕熱之材料</u> .3 cargo containment systems, including materials of construction and insulation</p> <p><u>.4 貨物裝卸設備與儀表，包括：</u> .4 cargo-handling equipment and instrumentation, including:</p> <p><u>.1 貨泵與泵系裝置</u> .1 cargo pumps and pumping arrangements</p> <p><u>.2 貨物管路與閥</u> .2 cargo pipelines and valves</p> <p><u>.3 膨脹設施</u> .3 expansion devices</p> <p><u>.4 防焰網</u> .4 flame screens</p> <p><u>.5 溫度監控系統</u> .5 temperature monitoring systems</p> <p><u>.6 貨艙櫃液位測計系統</u> .6 cargo tank level-gauging systems</p> <p><u>.7 艙櫃壓力監測與控制系統</u> .7 tank pressure monitoring and control systems</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>溝通明白、瞭解並成功</u> Communications are clear, understood and successful</p> <p><u>貨物操作在考慮及液化氣體船之設計、系統與設備之情況下安全施行</u> Cargo operations are carried out in a safe manner, taking into account liquefied gas tanker designs, systems and equipment</p> <p><u>泵送操作係依認可之原則與程式及貨物之有關類型施行</u> Pumping operations are carried out in accordance with accepted principles and procedures and are relevant to the type of cargo</p> <p><u>貨物操作係經計劃、風險管理，並依認可之原則與程式施行以確保操作之安全，避免對海洋環境造成污染</u> Cargo operations are planned, risk is managed and carried out in accordance with accepted principles and procedures to ensure safety of operations and avoid pollution of the marine environment</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>安全執行與監理所有之貨物操作之能力(續)</u> Ability to safely perform and monitor all cargo operations <i>(continued)</i>	<u>.5 貨物溫度保持系統</u> .5 cargo temperature maintenance system <u>.6 艙櫃大氣控制系統（惰氣、氮氣），包括儲藏、產生與分配系統</u> .6 tank atmosphere control systems (inert gas, nitrogen), including storage, generation and distribution systems <u>.7 堰艙加熱系統</u> .7 cofferdam heating systems <u>.8 氣體偵測系統</u> .8 gas-detecting systems <u>.9 壓載系統</u> .9 ballast system <u>.10 蒸發系統</u> .10 boil-off systems <u>.11 再液化系統</u> .11 reliquefaction systems <u>.12 貨物緊急關閉系統（ESD）</u> .12 cargo Emergency Shut Down system (ESD) <u>.13 監視運送系統</u> .13 custody transfer system <u>泵之理論與特性之知識，包括貨泵之型式及其安全操作</u> Knowledge of pump theory and characteristics, including types of cargo pumps and their safe operation <u>裝載、卸載、照管與貨物處理</u> Loading, unloading, care and handling of cargo <u>散裝液體貨物對俯仰差、穩度與結構完整性之影響知識</u> Knowledge of the effect of bulk liquid cargoes on trim and stability and structural integrity <u>液體船安全教養與執行安全管理系統之熟練</u> Proficiency in tanker safety culture and implementation of safety management requirements		<u>適當之裝載、儲藏與卸載貨物確保穩度與應力之狀況隨時保持於安全限度內</u> Proper loading, stowage and unloading of liquefied gas cargoes ensures that stability and stress conditions remain within safe limits at all times <u>迅即確認並矯正潛在不符合貨物操作之相關程式</u> Potential non-compliance with cargo-related procedures is promptly identified and rectified <u>所採取之行動與遵循之程式正確應用，並正確使用船上與貨物有關之設備</u> Actions taken and procedures followed correctly identify and make full use of appropriate shipboard equipment

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p>安全執行與 監理所有之 貨物操作之 能力(續) Ability to safely perform and monitor all cargo operations (continued)</p>	<p>在所有之貨物操作中熟練應用安全準備、程式與查核表，包括： Proficiency to apply safe preparations, procedures and checklists for all cargo operations, including:</p> <p><u>.1 靠泊與裝載之後：</u> .1 post docking and loading:</p> <p><u>.1 艙櫃檢查</u> .1 tank inspection</p> <p><u>.2 惰化(減少氧氣及露點)</u> .2 inerting (O2 reduction, dewpoint reduction)</p> <p><u>.3 加氣</u> .3 gassing-up</p> <p><u>.4 冷卻</u> .4 cooling down</p> <p><u>.5 裝載</u> .5 loading</p> <p><u>.6 卸壓載水</u> .6 deballasting</p> <p><u>.7 取樣，包括閉環取樣</u> .7 sampling, including closed-loop sampling</p> <p><u>.2 航行中：</u> .2 sea passage:</p> <p><u>.1 冷卻</u> .1 cooling down</p> <p><u>.2 壓力維持</u> .2 pressure maintenance</p> <p><u>.3 蒸發</u> .3 boil-off</p> <p><u>.4 抑制</u> .4 inhibiting</p> <p><u>.3 卸載：</u> .3 unloading:</p> <p><u>.1 卸載</u> .1 unloading</p> <p><u>.2 壓載</u> .2 ballasting</p> <p><u>.3 收艙與清艙系統</u> .3 stripping and cleaning systems</p> <p><u>.4 清除艙櫃殘留液體系統</u> .4 systems to make the tank liquid-free</p> <p><u>.4 靠泊前之準備：</u> .4 pre-docking preparation:</p> <p><u>.1 暖機</u> .1 warm-up</p>		<p>監測與氣體偵測設備之校正與使用符合操作之實務與程式 Calibration and use of monitoring and gas-detection equipment is consistent with safe operational practices and procedures</p> <p>監測與安全系統程式確保所有之警報依據既定之應急程式於偵測之後立即作動 Procedures for monitoring and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established procedures</p>

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適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>安全執行與監理所有之貨物操作之能力(續)</u> Ability to safely perform and monitor all cargo operations (continued)	<u>.2 惰化</u> .2 inerting <u>.3 清除有害氣體</u> .3 gas-freeing <u>.5 船與船間轉駁</u> .5 ship-to-ship transfer <u>對執行貨物量測與計算工作之熟練，包括：</u> Proficiency to perform cargo measurements and calculations, including: <u>.1 液相</u> .1 liquid phase <u>.2 氣相</u> .2 gas phase <u>.3 裝載於船上之量(OBQ)</u> .3 On Board Quantity (OBQ) <u>.4 船上之剩餘量 (ROB)</u> .4 Remain On Board (ROB) <u>.5 貨物蒸發量之計算</u> .5 boil-off cargo calculations <u>熟練管理和監督與貨物有關責任人員</u> Proficiency to manage and supervise personnel with cargo-related responsibilities		
<u>熟悉液化氣體之物理與化學性質</u> Familiarity with physical and chemical properties of liquefied gas cargoes	<u>安全載運散裝液化氣體於船舶之相關定義及液化氣體基本物理與化學性質之知識與瞭解，包括：</u> Knowledge and understanding of basic chemistry and physics and the relevant definitions related to the safe carriage of liquefied gases in bulk in ships, including: <u>.1 各種氣體之化學結構</u> .1 the chemical structure of gases <u>.2 液化氣體之屬性與特性(包括二氧化碳)與其揮發氣包括:</u> .2 the properties and characteristics of liquefied gases (including CO2) and their vapours, including: <u>.1 簡易之氣體定律</u> .1 simple gas laws <u>.2 物質之狀態</u> .2 states of matter <u>.3 液體與揮發氣體之密度</u> .3 liquid and vapour densities <u>.4 各種氣體之擴散與混合</u> .4 diffusion and mixing of gases	<u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme	<u>對資訊源作有效之使用以鑑定液化氣體之屬性與特性，及其對安全、環境與船舶操作之衝擊</u> Effective use is made of information resources for identification of properties and characteristics of liquefied gases and their impact on safety, environmental protection and vessel operation

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>熟悉液化氣體之物理與化學性質 (續)</u> Familiarity with physical and chemical properties of liquefied gas cargoes <i>(continued)</i>	<u>.5 氣體之壓縮</u> .5 compression of gases <u>.6 氣體之再液化與冷凍</u> .6 reliquefaction and refrigeration of gases <u>.7 氣體之臨界溫度與壓力</u> .7 critical temperature of gases and pressure <u>.8 閃點、爆炸之上限與下限、自燃溫度</u> .8 flashpoint, upper and lower explosive limits, auto-ignition temperature <u>.9 氣體之相容性，反應性和正隔離</u> .9 compatibility, reactivity and positive segregation of gases <u>.10 聚合</u> .10 polymerization <u>.11 飽和揮發氣壓力/參考溫度</u> .11 saturated vapour pressure/reference temperature <u>.12 露點與泡點</u> .12 dewpoint and bubble point <u>.13 壓縮機之潤滑油</u> .13 lubrication of compressors <u>.14 水合物之形成</u> .14 hydrate formation <u>.3 各種液體之性質</u> .3 the properties of single liquids <u>.4 溶液之屬性與特性</u> .4 the nature and properties of solutions <u>.5 熱力之單位</u> .5 thermodynamic units <u>.6 熱力學之基本定律與圖表</u> .6 basic thermodynamic laws and diagrams <u>.7 材料特性</u> .7 properties of materials <u>.8 低溫之影響-脆裂</u> .8 effect of low temperature – brittle racture <u>瞭解材料安全數據表 (MSDS) 中之資訊</u> Understanding the information contained in a Material Safety Data Sheet (MSDS)		

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適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
採取防止危害之預防措施 Take precautions to prevent hazards	<p>液化氣體船貨物操作所生危害與控制措施之知識與瞭解，包括：</p> <p>Knowledge and understanding of the hazards and control measures associated with liquefied gas tanker cargo operations, including:</p> <p><u>.1 可燃性</u> .1 flammability</p> <p><u>.2 爆炸性</u> .2 explosion</p> <p><u>.3 毒性</u> .3 toxicity</p> <p><u>.4 反應性</u> .4 reactivity</p> <p><u>.5 腐蝕性</u> .5 corrosivity</p> <p><u>.6 健康危害</u> .6 health hazards</p> <p><u>.7 惰性氣體之性質</u> .7 inert gas composition</p> <p><u>.8 靜電危害</u> .8 electrostatic hazards</p> <p><u>.9 聚合貨物</u> .9 polymerizing cargoes</p> <p>對監測與氣體偵測系統、儀表與設備之校正與使用之熟練 Proficiency to calibrate and use monitoring and gas-detection systems, instruments and equipment</p> <p>危險及不符合相關規範/規則之知識與瞭解 Knowledge and understanding of dangers of non-compliance with relevant rules/regulations</p>	<p>測驗及從所獲得下列一項或多項證據予以評估：</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p>正確鑑定液化氣體船貨物操作對船舶與人員所生有關貨物之危害並採取適當之控制措施 Relevant cargo-related hazards to the vessel and to personnel associated with liquefied gas tanker cargo operations are correctly identified, and proper control measures are taken</p> <p>依據手冊及良好之慣例使用氣體偵測設施 Use of gas-detection devices is in accordance with manuals and good practice</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
應用職業健康與安全預防措施 Apply occupational health and safety precautions	<p>安全工作措施包括風險評估與在液化氣體船上人員有關安全之知識與瞭解：</p> <p>Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to liquefied gas tankers, including:</p> <p><u>.1 在進入密閉空間（如壓縮機室）時應採取之防範措施包括正確使用不同型式之呼吸器</u></p> <p>.1 precautions to be taken when entering enclosed spaces (such as compressor rooms), including the correct use of different types of breathing apparatus</p> <p><u>.2 在進行修理與保養工作之前與進行期間應採取之防範措施，包括對有影響之泵、管路、電機與控制系統之施工</u></p> <p>.2 precautions to be taken before and during repair and maintenance work, including work affecting pumping, piping, electrical and control systems</p> <p><u>.3 熱作與冷作之安全措施</u></p> <p>.3 precautions for hot and cold work</p> <p><u>.4 用電安全之防範措施</u></p> <p>.4 precautions for electrical safety</p> <p><u>.5 使用適當之人員防護設備（PPE）</u></p> <p>.5 use of appropriate Personal Protective Equipment (PPE)</p> <p><u>.6 防止、冷灼、凍傷之預防措施</u></p> <p>.6 precautions for cold burn and frostbite</p> <p><u>.7 正確使用監測毒性之個人設備</u></p> <p>.7 proper use of personal toxicity monitoring equipment</p>	<p>測驗及從所獲得下列一項或多項證據予以評估：</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u></p> <p>.1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u></p> <p>.2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u></p> <p>.3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u></p> <p>.4 approved training programme</p>	<p>隨時遵守指定以防護人員與船舶之程式</p> <p>Procedures designed to safeguard personnel and the ship are observed at all times</p> <p><u>遵守安全工作實務及正確使用適當之安全與防護設備</u></p> <p>Safe working practices are observed and appropriate safety and protective equipment is correctly used</p> <p><u>工作實務係依據法規之規定、實務章程、許可施工與有關環境之條件</u></p> <p>Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns</p> <p><u>正確使用呼吸器</u></p> <p>Correct use of breathing apparatus</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
應急反應 Respond to emergencies	<p><u>液化氣體船應急程式之知識與瞭解，包括：</u> Knowledge and understanding of liquefied gas tanker emergency procedures, including:</p> <p><u>.1 船舶應急反應計畫</u> .1 ship emergency response plans</p> <p><u>.2 貨物操作，緊急關斷</u> .2 cargo operations emergency shutdown procedure</p> <p><u>.3 應急貨閥之操作</u> .3 emergency cargo valve operations</p> <p><u>.4 系統或貨物重要服務失效之際應採取之行動</u> .4 actions to be taken in the event of failure of systems or services essential to cargo operations</p> <p><u>.5 液化氣體船滅火</u> .5 fire-fighting on liquefied gas tankers</p> <p><u>.6 投棄貨物</u> .6 jettisoning of cargo</p> <p><u>.7 密閉空間之救助</u> .7 enclosed space rescue</p> <p><u>在碰撞、擱淺或液化氣體洩出及船舶為有毒或易燃揮發氣包圍後應採取之行動</u> Actions to be taken following collision, grounding or spillage and envelopment of the ship in toxic or flammable vapour</p> <p><u>在液化氣體船上醫療急救程式及液化氣體船上解毒劑、參照涉及危險物品事故時使用之醫療急救指南（MFAG）之知識</u> Knowledge of medical first-aid procedures and antidotes on board liquefied gas tankers, with reference to the Medical First Aid Guide for Use in Accidents involving Dangerous Goods (MFAG)</p>	<p><u>測驗及從所獲得下列一項或多項證據予以評估：</u> Examination and assessment of evidence obtained from one or more of the following:</p> <p><u>.1 認可之在職經驗</u> .1 approved in-service experience</p> <p><u>.2 認可之訓練船上經驗</u> .2 approved training ship experience</p> <p><u>.3 認可之模擬設施訓練</u> .3 approved simulator training</p> <p><u>.4 認可之訓練計畫</u> .4 approved training programme</p>	<p><u>立即確認緊急情況之型式與衝擊並採取符合應急程式與應急計畫之行動</u> The type and impact of emergency is promptly identified and the response actions conform with established emergency procedures and contingency plans</p> <p><u>報告及通知船上人員之優先順序、等級、時間標度，係與應急性質有關並反應出問題之急迫性</u> The order of priority and the levels and timescales of making reports and informing personnel on board are relevant to the nature of the emergency and reflect the urgency of the problem</p> <p><u>撤離、緊急關斷與絕緣適於應急性質並已即時施行</u> Evacuation, emergency shutdown and isolation are appropriate to the nature of the emergency and implemented promptly</p> <p><u>確認並採取緊急醫護行動符合當前認可之急救措施與國際準則</u> The identification of and actions taken in a medical emergency conform to current recognized first aid practice and international guidelines</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
防止環境污染採取之預防措施 Take precautions to prevent pollution of the environment	瞭解防止大氣與環境污染之程式 Understanding of procedures to prevent pollution of the environment	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme	依據認可之原則與防止環境污染之程式進行操作 Operations are conducted in accordance with accepted principles and procedures to prevent pollution of the environment
監測與控制符合法律之要求 Monitor and control compliance with legislative requirements	有關防止船舶污染國際公約（MARPOL）之規定，及其他有關國際海事組織之文書、一般適用之工業準則與港口規則之知識與瞭解 Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL) and other relevant IMO instruments, industry guidelines and port regulations as commonly applied <u>熟練使用IBC章程與IGC章程及相關之文件</u> Proficiency in the use of the IBC and IGC Codes and related documents	測驗及從所獲得下列一項或多項證據予以評估： Examination and assessment of evidence obtained from one or more of the following: <u>.1 認可之在職經驗</u> .1 approved in-service experience <u>.2 認可之訓練船上經驗</u> .2 approved training ship experience <u>.3 認可之模擬設施訓練</u> .3 approved simulator training <u>.4 認可之訓練計畫</u> .4 approved training programme	液化氣體貨物之處理符合有關國際海事組織之文書及既定安全工作實務之工業標準與章程 The handling of liquefied gas cargoes complies with relevant IMO instruments and established industrial standards and codes of safe working practices

第 A-V/2 節

客船船長、甲級船員、乙級船員及其他人員訓練及資格之強制性最低要求

Section A-V/2

Mandatory minimum requirements for the training and qualification of masters, officers, ratings and other personnel on passenger ships

群眾管理訓練

Crowd management training

1 對規則 V/2 第 4 項所規定在佈署表中被指派於緊急情況時擔任協助旅客之人員所要求群眾管理訓練，應包括但不限於下列各項：

1 The crowd management training required by regulation V/2, paragraph 4 for personnel designated on muster lists to assist passengers in emergency situations shall include, but not necessarily be limited to:

- .1 瞭解救生設備及管制計劃，包括：
 - .1 awareness of life-saving appliance and control plans, including:
 - .1.1 佈署表及應急說明之知識；
 - .1.1 knowledge of muster lists and emergency instructions,
 - .1.2 緊急逃生之知識；及
 - .1.2 knowledge of the emergency exits, and
 - .1.3 限制使用昇降機；
 - .1.3 restrictions on the use of elevators;
 - .2 協助旅客並引導至召集站及登艇站之能力，包括：
 - .2 the ability to assist passengers en route to muster and embarkation stations, including:
 - .2.1 發佈清楚與安慰命令之能力；
 - .2.1 the ability to give clear reassuring order,
 - .2.2 旅客在走廊、樓梯間及走道之管制；
 - .2.2 the control of passengers in corridors, staircases and passageways,
 - .2.3 維持逃生路線暢通不受阻礙；
 - .2.3 maintaining escape routes clear of obstructions,
 - .2.4 可利用以撤離殘障人士與需要特別協助人員之方法；及

- .2.4 methods available for evacuation of disabled persons and persons needing special assistance, and,
- .2.5 起居艙區之搜尋；
- .2.5 search of accommodation spaces;
- .3 集合程式，包括：
- .3 mustering procedures, including:
 - .3.1 守秩序之重要性，
 - .3.1 the importance of keeping order,
 - .3.2 使用既定程式以減少及避免驚慌之能力，
 - .3.2 the ability to use procedures for reducing and avoiding panic,
 - .3.3 適當時，使用旅客名冊計算撤離人數之能力，及
 - .3.3 the ability to use, where appropriate, passenger lists for evacuation counts, and
 - .3.4 確保旅客適當穿著並正確穿著其救生衣之能力。
 - .3.4 the ability to ensure that the passengers are suitably clothed and have donned their lifejackets correctly.

在客艙提供對旅客直接服務之人員安全訓練

Safety training for personnel providing direct service to passengers in passenger spaces

- 2 規則 V/2 第 5 項所規定之另增安全訓練至少應確保達成下列能力：
- 2 The additional safety training required by regulation V/2, paragraph 5, shall at least ensure attainment of the abilities as follows:

溝通

Communication

- .1 考慮及下列各點，在緊急時與旅客溝通之能力：
- .1 Ability to communicate with passengers during an emergency, taking into account:
 - .1.1 所用之一種或多種語言適於特定航線旅客之主要國籍；
 - .1.1 the language or languages appropriate to the principal nationalities of passengers carried on the particular route,
 - .1.2 不論旅客及船員是否使用共通之語言，應有可能使用簡單英文語彙做

為基本說明，以提供需協助旅客溝通之管道。

- .1.2 the likelihood that an ability to use an elementary English vocabulary for basic instructions can provide a means of communicating with a passenger in need of assistance whether or not the passenger and crew member share a common language,
- .1.3 緊急時，使用口頭溝通，實際上不可行時，可能需要以某些其他措施溝通諸如示範、手勢或促使注意操作說明、召集站、救生設備或撤離路線之位置。
- .1.3 the possible need to communicate during an emergency by some other means, such as by demonstration, or hand signals, or calling attention to the location of instructions, muster stations, life-saving devices or evacuation routes, when oral communication is impractical,
- .1.4 完整之安全說明業以其本國之一種或多種語言提供予旅客。
- .1.4 the extent to which complete safety instructions have been provided to passengers in their native language or languages, and
- .1.5 緊急或演習時，得以語言廣播作緊急宣告，以傳達重要指南予旅客，並便於船員協助旅客。
- .1.5 the languages in which emergency announcements may be broadcast during an emergency or drill to convey critical guidance to passengers and to facilitate crew members in assisting passengers.

救生設備

Life-saving appliances

- .2 對旅客示範使用個人救生設備之能力。
- .2 Ability to demonstrate to passengers the use of personal life-saving appliances.

乘載之程式

Embarkation procedures

- .3 旅客之登船與下船，尤應特別注意殘障人士及需要協助之旅客。
- .3 embarking and disembarking passengers, with special attention to disabled persons and persons needing assistance.

危機處理及人員行為管理訓練

Crisis management and human behaviour training

- 3** 船長、大副、輪機長、大管輪以及在緊急情況下對旅客安全負有責任之任何人員，應：

3 Masters, chief engineer officers, chief mates, second engineer officers and any person having responsibility for the safety of passengers in emergency situations shall:

- .1 依其職務、職責與責任業已完成規則 V/2 第 6 項所要求如表 A-V/2 所述，經認可之危機處理及人員行為管理訓練。
- .1 have successfully completed the approved crisis management and human behaviour training required by regulation V/2, paragraph 6, in accordance with their capacity, duties and responsibilities as set out in table A-V/2; and
- .2 要求其提供依 A-V/2 表列第 3 欄與第 4 欄適任性評估之方法與標準證明業已達到所要求之適任標準。
- .2 be required to provide evidence that the required standard of competence has been achieved in accordance with the methods and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-V/2.

旅客安全、貨物安全及船體完整性訓練

Passenger safety, cargo safety and hull integrity training

4 船長、大副、輪機長、大管輪及被指派對旅客上下船、貨物裝卸或繫固或關閉駛上／駛下客船船體開口有立即責任之人員依規則 V/2 第 7 項要求旅客安全、貨物安全及船體完整性訓練，至少應確保達成下列適於其職責與責任之能力：

4 The passenger safety, cargo safety and hull integrity training required by regulation V/2, paragraph 7, for masters, chief mates, chief engineer officers, second engineer officers and persons assigned immediate responsibility for embarking and disembarking passengers, for loading, discharging or securing cargo or for closing hull openings on board ro-ro passenger ships shall at least ensure attainment of the abilities that are appropriate to their duties and responsibilities as follows:

裝載及登輪程式

Loading and embarkation procedures

- .1 正確使用下列船舶所制定程式之能力：
- .1 Ability to apply properly the procedures established for the ship regarding:
 - .1.1 裝卸車輛、有軌車及其他運送貨物單位，包括相關之通信
 - .1.1 loading and discharging vehicles, rail cars and other cargo transport units, including related communications,
 - .1.2 放下及吊昇跳板
 - .1.2 lowering and hoisting ramps,

- .1.3 可拆裝車輛甲板之組裝及貯放
- .1.3 setting up and stowing retractable vehicle decks, and
- .1.4 旅客上下船，尤其應注意殘障人士及需協助人士
- .1.4 embarking and disembarking passengers, with special attention to disabled persons and persons needing assistance.

危險品裝載

Carriage of dangerous goods

- .2 有關在駛上／駛下客船上載運危險品，使用任何特別防護、程式與要求之能力
- .2 Ability to apply any special safeguards, procedures and requirements regarding the carriage of dangerous goods on board ro-ro passenger ships.

貨物繫固

Securing cargoes

- .3 有能力：
- .3 Ability to:
 - .3.1 正確使用貨物積載及繫固安全實用章程之規定於所載之車輛、有軌車及其他運送貨物單位；及
 - .3.1 apply correctly the provisions of the Code of Safe Practice for Cargo Stowage and Securing to the vehicles, rail cars and other cargo transport units carried, and
 - .3.2 正確使用所提供之貨物繫固設備及材料，並考慮及其限制。
 - .3.2 use properly the cargo-securing equipment and materials provided, taking into account their limitations.

穩度、俯仰及應力計算

Stability, trim and stress calculations

- .4 有能力：
- .4 Ability to:
 - .4.1 正確使用所提供之穩度及應力資料，
 - .4.1 make proper use of the stability and stress information provided,
 - .4.2 使用所提供之穩度計算機或電腦程式計算各種不同裝載情況下之穩度與俯仰，
 - .4.2 calculate stability and trim for different conditions of loading, using the

stability calculators or computer programs provided,

- .4.3 計算甲板之負荷因素，及
- .4.3 calculate load factors for decks, and
- .4.4 計算壓艙水及燃油轉駁對穩度、俯仰及應力之不良影響
- .4.4 calculate the impact of ballast and fuel transfers on stability, trim and stress.

船體開口之開啓、關閉及關緊

Opening, closing and securing hull openings

- .5 有能力：
- .5 Ability to:
 - .5.1 正確使用船上所制訂開啓、關閉及關緊艙、艙及舷側各門戶及跳板之程式，並正確操作有關系統，及
 - .5.1 apply properly the procedures established for the ship regarding the opening, closing and securing of bow, stern and side doors and ramps and to correctly operate the associated systems, and
 - .5.2 對封閉措施執行檢查
 - .5.2 conduct surveys on proper sealing.

車輛甲板大氣

Ro-ro deck atmosphere

- .6 有能力：
- .6 Ability to:
 - .6.1 如備有設備時，使用此設備監測駛上／駛下貨艙空間之大氣；及
 - .6.1 use equipment, where carried, to monitor atmosphere in ro-ro spaces, and
 - .6.2 正確使用船上所制訂在正常航行中及在緊急時裝卸車輛期間駛上／駛下貨艙空間之通風程式
 - .6.2 apply properly the procedures established for the ship for ventilation of ro-ro spaces during loading and discharging of vehicles, while on voyage and in emergencies.

表 A-V/2

危機處理及人員行為管理之最低適任標準規範

Table A-V/2

Specification of minimum standard of competence in crisis management
and human behaviour

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
船上應急程式之組成 Organize shipboard emergency procedures	<p>具有下列知識：</p> <p>Knowledge of:</p> <p>.1 船舶之一般設計與佈置</p> <p>.1 the general design and layout of the ship</p> <p>.2 安全規則</p> <p>.2 safety regulations</p> <p>.3 應急計劃與程式</p> <p>.3 emergency plans and procedures</p> <p>制訂船舶特定應急程式原則之重要性，包括：</p> <p>The importance of the principles for the development of ship-specific emergency procedures, including:</p> <p>.1 事先計劃及演練船上應急程式之必要性</p> <p>.1 the need for pre-planning and drills of shipboard emergency procedures</p> <p>.2 在緊急狀況下所有人員應儘可能確切瞭解與堅守事先計劃之應急程式之必要性</p> <p>.2 the need for all personnel to be aware of and adhere to pre-planned emergency procedures as carefully as possible in the event of an emergency situation</p>	<p>從認可之訓練，以一項或多項製備之應急計劃演習及實際示範所獲得之證據予以評估</p> <p>Assessment of evidence obtained from approved training, exercises with one or more prepared emergency plans and practical demonstration</p>	<p>確使船上之應急程式處於能迅即反應緊急情況之狀態</p> <p>The shipboard emergency procedures ensure a state of readiness to respond to emergency situations</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
資源之妥適運用 Optimize the use of resources	<p>考慮及下列對資源妥適運用之能力：</p> <p>Ability to optimize the use of resources, taking into account:</p> <p>.1 在緊急時可資運用之資源可能受限制之可能性</p> <p>.1 the possibility that resources available in an emergency may be limited</p> <p>.2 對立即可獲得之人力與設備予以充分利用之必要性，及如有需要即時為之</p> <p>.2 the need to make full use of personnel and equipment immediately available and, if necessary, to improvise</p> <p>考慮及由以往涉及客船事故所學得之教訓組成逼真演習以保持迅速狀況及在演習後作出任務提示之能力</p> <p>Ability to organize realistic drills to maintain a state of readiness, taking into account lessons learnt from previous accidents involving passenger ships; debriefing after drills</p>	<p>從認可之訓練、實際示範及船上訓練與演習應急程式所獲得之證據予以評估</p> <p>Assessment of evidence obtained from approved training, practical demonstration and shipboard training and drills of emergency procedures</p>	<p>妥適運用可資利用資源之應急計劃</p> <p>Contingency plans optimize the use of available resources</p> <p>任務與責任之分配反映其瞭解每一個人之適任性</p> <p>Allocation of tasks and responsibilities reflects the known competence of individuals</p> <p>明確之闡釋團隊與個人之職分與責任</p> <p>Roles and responsibilities of teams and individuals are clearly defined</p>
對緊急事項之控制反應 Control response to emergencies	<p>依據所制定應急程式對緊急情況作初步評估並提出有效回應之能力</p> <p>Ability to make an initial assessment and provide an effective response to emergency situations in accordance with established emergency procedures</p> <p>領導技巧</p> <p>Leadership skills</p> <p>在緊急情況中領導與指導其他人員之能力，包括下列之需要：</p> <p>Ability to lead and direct others in emergency situations, including the need:</p> <p>.1 在緊急情況時發出警告</p> <p>.1 to set an example during emergency situations</p> <p>.2 作出決定，以在緊急時立即採取必要之行動</p> <p>.2 to focus decision making, given the need to act quickly in an emergency</p> <p>.3 對旅客及其他人員予以誘導、鼓勵並使恢復信心</p> <p>.3 to motivate, encourage and reassure passengers and other personnel</p>	<p>從認可之訓練、實際示範及船上訓練與演習應急程式所獲得之證據予以評估</p> <p>Assessment of evidence obtained from approved training, practical demonstration and shipboard training and drills of emergency procedures</p>	<p>程式與行動係依據船上危機處理之既定原則與計畫為之</p> <p>Procedures and actions are in accordance with established principles and plans for crisis management on board</p> <p>考慮及意外之事故及妥適運用可資利用之資源，其目標與策略適於緊急之實況</p> <p>Objectives and strategy are appropriate to the nature of the emergency, take account of contingencies and make optimum use of available resources</p> <p>船員之行動有助於命令與控制之維持</p> <p>Actions of crew members contribute to maintaining order and control</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
對緊急事項之控制反應 (續) Control response to emergencies (continued)	<p><i>壓力之處理</i> <i>Stress handling</i></p> <p>鑑定個人及船上應急團隊其他成員過度壓力徵兆發展之能力 Ability to identify the development of symptoms of excessive personal stress and those of other members of the ship's emergency team</p> <p>瞭解由緊急情況所生之壓力能影響每個人之行爲及其在指導與繼之而至程式上採取行動之能力 Understanding that stress generated by emergency situations can affect the performance of individuals and their ability to act on instructions and follow procedures</p>		
在緊急狀況時控制旅客與其他人員 Control passengers and other personnel during emergency situations	<p><i>行為管理及反應</i> <i>Human behaviour and responses</i></p> <p>在緊急狀況時控制旅客與其他人員之能力，包括： Ability to control passengers and other personnel in emergency situations, including:</p> <p>.1 知道旅客與其他人員在緊急狀況時一般反應之形式，包括下列可能性： .1 awareness of the general reaction patterns of passengers and other personnel in emergency situations, including the possibility that:</p> <p>.1.1 通常在人們接受發生緊急情況之事實前有些時間 .1.1 generally it takes some time before people accept the fact that there is an emergency situation</p> <p>.1.2 某些人可能驚慌且不遵守合理性之正常規範，其理解之能力可能受損，且該等人員可能無法一如在非緊急情況時易於接受指導 .1.2 some people may panic and not behave with a normal level of rationality, that their ability to comprehend may be impaired and they may not be as responsive to instructions as in non-emergency situations</p>	<p>從認可之訓練、實際示範及船上訓練與演習應急程式所獲得之證據予以評估 Assessment of evidence obtained from approved training, practical demonstration and shipboard training and drills of emergency procedures</p>	船員致力於維持秩序與控制之行動 Actions of crew members contribute to maintaining order and control

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
在緊急狀況時控制旅客與其他人員(續) Control passengers and other personnel during emergency situations (continued)	<p>.2 知道旅客與其他人員可能之下列其他事項：</p> <p>.2 awareness that passengers and other personnel may, <i>inter alia</i>:</p> <p>.2.1 當某些情況不對時首先之反應是開始尋找親戚、朋友及(或)其隨身行李</p> <p>.2.1 start looking for relatives, friends and/or their belongings as a first reaction when something goes wrong</p> <p>.2.2 當其想及他們能逃出危險時，在艙室或船上其他地方尋找安全</p> <p>.2.2 seek safety in their cabins or in other places on board where they think that they can escape danger</p> <p>.2.3 當船舶傾側時有向上移動之趨向</p> <p>.2.3 tend to move to the upper side when the ship is listing</p> <p>.3 重視因家庭分散所造成驚慌之可能問題</p> <p>.3 appreciation of the possible problem of panic resulting from separating families</p>		
有效溝通之建立與保持 Establish and maintain effective communications	<p>建立與保持有效溝通之能力，包括：</p> <p>Ability to establish and maintain effective communications, including:</p> <p>.1 清晰簡潔指示與報告之重要性</p> <p>.1 the importance of clear and concise instructions and reports</p> <p>.2 鼓勵與旅客及其他人員交換資訊並由他們反饋之必要</p> <p>.2 the need to encourage an exchange of information with, and feedback from, passengers and other personnel</p>	<p>從認可之訓練、演習及實際示範所獲得之證據予以評估</p> <p>Assessment of evidence obtained from approved training, exercises and practical demonstration</p>	<p>由所有可資運用之資源所獲得之資訊，儘可能迅即予以評估與證實並檢討整個緊急狀況</p> <p>Information from all available sources is obtained, evaluated and confirmed as quickly as possible and reviewed throughout the emergency</p> <p>所提供予每個人、緊急反應團隊及旅客之資訊係屬正確、中肯且適時</p> <p>Information given to individuals, emergency response teams and passengers is accurate, relevant and timely</p> <p>保持緊急情況時通知旅客之資訊及其所需之行動</p> <p>Information keeps passengers informed as to the nature of the emergency and the actions required of them</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
有效溝通之 建立與保持 (續) Establish and maintain effective communications (continued)	<p>在緊急情況時提供有關資訊予旅客及其他人員之能力，以保持他們對整個狀況之消息，並於考慮及下列情況後，通知他們所需之任何行動：</p> <p>Ability to provide relevant information to passengers and other personnel during an emergency situation, to keep them apprised of the overall situation and to communicate any action required of them, taking into account:</p> <p>.1 某一種或多種語言適於在特定航線上所乘載旅客與其他人員之主要國籍</p> <p>.1 the language or languages appropriate to the principal nationalities of passengers and other personnel carried on the particular route</p> <p>.2 當口頭溝通為不可能時，可能需要於緊急時以某些其他方式溝通，例如以示範表演或以手語信號或促使注意操作說明、召集站、救生設施或逃生路線之位置</p> <p>.2 the possible need to communicate during an emergency by some other means, such as by demonstration, or by hand signals or calling attention to the location of instructions, muster stations, life-saving devices or evacuation routes, when oral communication is impractical</p> <p>.3 在緊急或演習時得以語言廣播作緊急宣告以對旅客傳遞重要指導並便於船員協助旅客</p> <p>.3 the language in which emergency announcements may be broadcast during an emergency or drill to convey critical guidance to passengers and to facilitate crew members in assisting passengers</p>		

第六章
應急、職業安全、保全、醫護及求生專長之標準

CHAPTER VI

Standards regarding emergency, occupational safety, security, medical care and survival functions

第 A-VI/1 節

所有航海人員安全熟悉、基本訓練與講授之強制性最低要求

Section A-VI/1

Mandatory minimum requirements for safety familiarization, basic training and instruction for all seafarers

安全專業訓練

Safety familiarization training

1 凡受雇或從事航行船舶工作之人員（不包括旅客），在指派上船任職之前，應接受經認可有關人員求生技術之熟悉訓練或獲得足夠之資料及講授，並考慮及 B 篇所給予之指導，俾能：

1 Before being assigned to shipboard duties, all persons employed or engaged on a seagoing ship, other than passengers, shall receive approved familiarization training in personal survival techniques or receive sufficient information and instruction, taking account of the guidance given in part B, to be able to:

- .1 就基本安全事宜與船上他人溝通，並瞭解安全資訊之符號、標記與警報信號；
- .1 communicate with other persons on board on elementary safety matters and understand safety information symbols, signs and alarm signals;
- .2 知道如發生下列情況時應進行事項：
- .2 know what to do if:
 - .2.1 人員落水；
 - .2.1 a person falls overboard,
 - .2.2 偵測到火災或煙霧；
 - .2.2 fire or smoke is detected, or
 - .2.3 發出火警報或棄船警報；
 - .2.3 the fire or abandon ship alarm is sounded;

- .3 識別召集站、登艇站以及緊急逃生路線；
- .3 identify muster and embarkation stations and emergency escape routes;
- .4 救生衣位置及其穿著方法；
- .4 locate and don lifejackets;
- .5 啓動警報並具有使用輕便型滅火器之基本知識；
- .5 raise the alarm and have basic knowledge of the use of portable fire extinguishers;
- .6 遇到事故時採取立即行動或在得到船上進一步醫護救助前之其他緊急醫護處置；及
- .6 take immediate action upon encountering an accident or other medical emergency before seeking further medical assistance on board; and
- .7 關閉與開啓特定船上所安裝除船體開口外之防火、風雨密及水密門。
- .7 close and open the fire, weathertight and watertight doors fitted in the particular ship other than those for hull openings.

基本訓練*

Basic training*

2 航海人員凡受雇爲船舶編制人員，或從事船上任何職務經指派在船舶操作中負有安全或防污染職責者，其在被指派擔任任何船上職責前，應：

2 Seafarers employed or engaged in any capacity on board ship on the business of that ship as part of the ship's complement with designated safety or pollution-prevention duties in the operation of the ship shall, before being assigned to any shipboard duties:

- .1 接受如下適當之認可之基本訓練及講授：
- .1 receive appropriate approved basic training or instruction in:
 - .1.1 表 A-VI/1-1 所列之人員求生技能；
 - .1.1 personal survival techniques as set out in table A-VI/1-1,
 - .1.2 表 A-VI/1-2 所列之防火及滅火；
 - .1.2 fire prevention and fire fighting as set out in table A-VI/1-2,
 - .1.3 表 A-VI/1-3 所列之基本急救；及
 - .1.3 elementary first aid as set out in table A-VI/1-3, and

*相關之 IMO 典型課程可能有助於課目之準備。

* The relevant IMO Model Course(s) may assist in the preparation of courses.

- .1.4 表 A-VI/1-4 所列之人員安全及社會責任。
- .1.4 personal safety and social responsibilities as set out in table A-VI/1-4;
- .2 要求其提供已達到表 A-VI/1-1、A-VI/1-2、A-VI/1-3 及 A-VI/1-4 第 1 欄所列承擔任務、職責及責任所要求之適任標準之證據。
- .2 be required to provide evidence of having achieved the required standard of competence to undertake the tasks, duties and responsibilities listed in column 1 of tables A-VI/1-1, A-VI/1-2, A-VI/1-3 and A-VI/1-4 through:
 - .2.1 依據上述表中第 3 欄及第 4 欄所列之適任性評估方法及標準，證明適任性；及
 - .2.1 demonstration of competence, in accordance with the methods and the criteria for evaluating competence tabulated in columns 3 and 4 of those tables, and
 - .2.2 如上述表中第 2 欄所列科目，予以測驗或連續評估以構成認可訓練計畫之一部分。
 - .2.2 examination or continuous assessment as part of an approved training programme in the subjects listed in column 2 of those tables
- 3 依據基本訓練第 2 項應要求具有資格之航海人員，每 5 年提供保持有承擔表 A-VI/1-1 與表 A-VI/1-2 第 1 欄所列任務、職責與責任之適任標準之證據。
- 3 Seafarers qualified in accordance with paragraph 2 in basic training shall be required, every five years, to provide evidence of having maintained the required standards of competence, to undertake the tasks, duties and responsibilities listed in column 1 of tables A-VI/1-1 and A-VI/1-2.
- 4 締約國得接受下列之船上訓練與經驗作為保持所要求之適任標準：
- 4 Parties may accept onboard training and experience for maintaining the required standard of competence in the following areas:
 - .1 表 A-VI/1-1 所列之個人求生技能：
 - .1 personal survival techniques as set out in table A-VI/1-1:
 - .1.1 穿著救生衣；
 - .1.1 don a lifejacket;
 - .1.2 穿著救生衣自船上登入救生艇筏；
 - .1.2 board a survival craft from the ship, while wearing a lifejacket;
 - .1.3 登入救生艇筏後採取初始行動以增加獲救機會；

- .1.3 take initial actions on boarding a lifeboat to enhance chance of survival;
- .1.4 施放浮錨或海錨；
- .1.4 stream a lifeboat drogue or sea-anchor;
- .1.5 操作救生艇筏設備；及
- .1.5 operate survival craft equipment; and
- .1.6 操作定位設施，包括無線電設備；
- .1.6 operate location devices, including radio equipment;
- .2 表 A-VI/1-2 所列之防火的滅火：
- .2 fire prevention and fire fighting as set out in table A-VI/1-2:
 - .2.1 使用自持式呼吸器；及
 - .2.1 use self-contained breathing apparatus; and
 - .2.2 佩戴呼吸器在經認可之船上煙霧產生設施所生充滿煙霧之空間內進行救助。
 - .2.2 effect a rescue in a smoke-filled space, using an approved smoke-generating device aboard, while wearing a breathing apparatus.

豁免

Exemptions

5 除從事國際航程總噸位在 500 以上客船與液貨船外，主管機關在考慮及船舶尺度與航程之長短或性質，認為適用本節之全部要求為不合理或不可行時，得在充分考慮到船上人員、船舶與財產之安全及保護海洋環境的情況下，對該船或該類型船舶上之航海人員豁免某些要求。

5 The Administration may, in respect of ships other than passenger ships of more than 500 gross tonnage engaged on international voyages and tankers, if it considers that a ship's size and the length or character of its voyage are such as to render the application of the full requirements of this section unreasonable or impracticable, exempt to that extent the seafarers on such a ship or class of ships from some of the requirements, bearing in mind the safety of people on board, the ship and property and the protection of the marine environment.

表 A-VI/1-1

個人求生技能之最低適任標準規範

Table A-VI/1-1

Specification of minimum standard of competence in personal survival techniques

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
棄船情況下之海上求生 Survive at sea in the event of ship abandonment	<p>可能發生之緊急情況型式，如碰撞、火災、沈沒 Types of emergency situations which may occur, such as collision, fire, foundering</p> <p>船舶通常配備之救生設備型式 Types of life-saving appliances normally carried on ships</p> <p>救生艇筏內之設備 Equipment in survival craft</p> <p>個人救生設備之位置 Location of personal life-saving appliances</p> <p>求生之要點，包括： Principles concerning survival, including:</p> <p>.1 訓練及演習之價值 .1 value of training and drills</p> <p>.2 個人之防護衣及設備 .2 personal protective clothing and equipment</p> <p>.3 備便對任何緊急情況之必要性 .3 need to be ready for any emergency</p> <p>.4 召喚至救生艇筏站時所採取之行動 .4 actions to be taken when called to survival craft stations</p> <p>.5 需棄船時應採取之行動 .5 actions to be taken when required to abandon ship</p> <p>.6 在水中時應採取之行動 .6 actions to be taken when in the water</p> <p>.7 登上救生艇筏時應採取之行動 .7 actions to be taken when aboard a survival craft</p>	<p>從認可之講授或參與認可之在職訓練經驗及測驗所獲得證據予以評估，包括下列適任性實作示範：</p> <p>Assessment of evidence obtained from approved instruction or during attendance at an approved course or approved in-service experience and examination, including practical demonstration of competence to:</p> <p>.1 穿著救生衣 .1 don a lifejacket</p> <p>.2 穿著及使用浸水衣 .2 don and use an immersion suit</p> <p>.3 從高處安全地跳入水中 .3 safely jump from a height into the water</p> <p>.4 穿著救生衣扶正傾覆救生筏 .4 right an inverted liferaft while wearing a lifejacket</p> <p>.5 穿著救生衣游泳 .5 swim while wearing a lifejacket</p> <p>.6 未穿救生衣保持漂浮 .6 keep afloat without a lifejacket</p> <p>.7 穿著救生衣從船上或水中登上救生艇筏 .7 board a survival craft from the ship and water while wearing a lifejacket</p> <p>.8 登上救生艇筏後，為增加獲救機會所採之最初行動 .8 take initial actions on boarding survival craft to enhance chance of survival</p>	<p>識別召集信號後所採取之行動適於所示之緊急並符合既定之程式 Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures</p> <p>個人行動之時間及順序適於當時之環境及情況，並將潛在之危險及對求生者之威脅減少至最小程度 The timing and sequence of individual actions are appropriate to the prevailing circumstance and conditions and minimize potential dangers and threats to survival</p> <p>登上救生艇筏之方法適當，並避免危及其他求生人員 Method of boarding survival craft is appropriate and avoids dangers to other survivors</p> <p>離船後之最初行動及在水中之程式與行動，對求生者之威脅減少至最小程度 Initial actions after leaving the ship and procedures and actions in water minimize threats to survival</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
棄船情況下 之海上求生 (續) Survive at sea in the event of ship abandonment (continued)	.8 求生者之主要危險 .8 main dangers to survivors	.9 拋放浮錨或海錨 .9 stream a drogue or sea-anchor .10 操作救生艇筏上之救生設 備 .10 operate survival craft equipment .11 操作定位設施，包括無線 電設備 .11 operate location devices, including radio equipment	

表 A-VI/1-2

防火及滅火最低適任標準規範

Table A-VI/1-2

Specification of minimum standard of competence in fire prevention and fire fighting

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
減低火災危險性及維持備便狀態以應付涉及火災之緊急情況 Minimize the risk of fire and maintain a state of readiness to respond to emergency situations involving fire	船上滅火組織 Shipboard fire-fighting organization 滅火器具之位置及應急逃生路線 Location of fire-fighting appliances and emergency escape routes 火災及爆炸之要素(火災三角形) The elements of fire and explosion (the fire triangle) 引燃源及型式 Types and sources of ignition 易燃物質、火災危險及火災蔓延 Flammable materials, fire hazards and spread of fire 經常戒備之必要性 The need for constant vigilance 船上應採取之措施 Actions to be taken on board ship 火及煙偵測系統及自動警報系統 Fire and smoke detection and automatic alarm systems 火災分類及可使用之滅火劑 Classification of fire and applicable extinguishing agents	從認可之講授或參與認可之課程所獲得之證據予以評估 Assessment of evidence obtained from approved instruction or attendance at an approved course	得知緊急情況所採取之最初行動與公認之慣例及程式相符 Initial actions on becoming aware of an emergency conform with accepted practices and procedures 識別召集信號後所採取之行動適於所示之緊急並符合既定之程式 Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
撲滅火災 Fight and extinguish fires	<p>船上滅火設備及其位置 Fire-fighting equipment and its location on board</p> <p>講授內容： Instruction in:</p> <p>.1 固定滅火裝置 .1 fixed installations</p> <p>.2 消防員裝具 .2 fire-fighter's outfits</p> <p>.3 個人設備 .3 personal equipment</p> <p>.4 滅火器具及設備 .4 fire-fighting appliances and equipment</p> <p>.5 滅火方法 .5 fire-fighting methods</p> <p>.6 滅火劑 .6 fire-fighting agents</p> <p>.7 滅火程式 .7 fire-fighting procedures</p> <p>.8 滅火及救人時，使用呼吸裝置 .8 use of breathing apparatus for fighting fires and effecting rescues</p>	<p>從認可之講授或參與認可之課程所獲得之證據予以評估，包括在備有真實訓練情況之場所(如模擬船上情況)予以實作示範，並在可能與可行時，在黑暗之中示範下列能力：</p> <p>Assessment of evidence obtained from approved instruction or during attendance at an approved course, including practical demonstration in spaces which provide truly realistic training conditions (e.g., simulated shipboard conditions) and, whenever possible and practical, in darkness, of the ability to:</p> <p>.1 使用各種型式輕便滅火器； .1 use various types of portable fire extinguishers</p> <p>.2 使用自給式呼吸裝置； .2 use self-contained breathing apparatus</p> <p>.3 撲滅小火，如：電火、油火、丙烷火災 .3 extinguish smaller fires, e.g., electrical fires, oil fires, propane fires</p> <p>.4 使用噴嘴及噴灑噴嘴以水撲滅較大火災 .4 extinguish extensive fires with water, using jet and spray nozzles</p> <p>.5 以泡沫、乾粉或其他任何合適之化學滅火劑滅火 .5 extinguish fires with foam, powder or any other suitable chemical agent</p> <p>.6 使用救生索，但不戴呼吸裝置進入或通過業已噴入高膨脹泡沫之艙間 .6 enter and pass through, with lifeline but without breathing apparatus, a compartment into which high-expansion foam has been injected</p>	<p>其穿著與設備適於滅火作業之性質 Clothing and equipment are appropriate to the nature of the fire-fighting operations</p> <p>個人行動之時間及順序適於當時環境及情況 The timing and sequence of individual actions are appropriate to the prevailing circumstances and conditions</p> <p>運用合適之程式、技術及滅火劑撲滅火災 Extinguishment of fire is achieved using appropriate procedures, techniques and fire-fighting agents</p> <p>使用呼吸裝置之步驟及技能符合公認之慣例及程式 Breathing apparatus procedures and techniques comply with accepted practices and procedures</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
撲滅火災 (續) Fight and extinguish fires (continued)		.7 穿著自給式呼吸裝置在充滿煙霧之封閉艙間滅火 .7 fight fire in smoke-filled enclosed spaces wearing self-contained breathing apparatus .8 使用水霧或其他合適之滅火劑在有火及煙霧之起居艙或模擬機艙滅火 .8 extinguish fire with water fog or any other suitable fire-fighting agent in an accommodation room or simulated engine-room with fire and heavy smoke .9 使用水噴霧器及噴灑噴嘴、化學乾粉或泡沫產生器撲滅油火 .9 extinguish oil fire with fog applicator and spray nozzles, dry chemical powder or foam applicators .10 穿戴呼吸裝置在充滿煙霧之艙間救人 .10 effect a rescue in a smoke-filled space wearing breathing apparatus	

表 A-VI/1-3
基本急救之最低適任標準規範

Table A-VI/1-3

Specification of minimum standard of competence in elementary first aid

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
遇到事故或其他醫護緊急情況所採取之行動 Take immediate action upon encountering an accident or other medical emergency	<p>評估傷患所需及自身安全之威脅 Assessment of needs of casualties and threats to own safety</p> <p>瞭解人體構造及功能 Appreciation of body structure and functions</p> <p>瞭解在緊急情況應採取之立即措施，包括下列能力： Understanding of immediate measures to be taken in cases of emergency, including the ability to:</p> <p>.1 安置傷患 .1 position casualty</p> <p>.2 使用心肺復甦術 .2 apply resuscitation techniques</p> <p>.3 止血 .3 control bleeding</p> <p>.4 基本處理休克所使用之適當措施 .4 apply appropriate measures of basic shock management</p> <p>.5 包括電擊事故之各種燒傷及燙傷所使用之措施 .5 apply appropriate measures in event of burns and scalds, including accidents caused by electric current</p> <p>.6 救助及運送傷患 .6 rescue and transport a casualty</p> <p>.7 簡易包紮及使用急救箱內之物品 .7 improvise bandages and use materials in the emergency kit</p>	<p>從認可之講授或參與認可之課程所獲得之證據予以評估 Assessment of evidence obtained from approved instruction or during attendance at an approved course</p>	<p>發放警報之方式及時間適於事故或醫護緊急情況之環境 The manner and timing of raising the alarm is appropriate to the circumstances of the accident or medical emergency</p> <p>對受傷者之可能原因、性質及範圍之認定迅速且完整，急救措施之優先順序與生命潛在危險相符 The identification of probable cause, nature and extent of injuries is prompt and complete and the priority and sequence of actions is proportional to any potential threat to life</p> <p>隨時，對自身及傷患造成進一步危害減少到最低程度 Risk of further harm to self and casualty is minimized at all times</p>

表 A-VI/1-4

個人安全及社會責任之最低適任標準規範

Table A-VI/1-4

**Specification of minimum standard of competence in personal safety
and social responsibilities**

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
遵守應急程 式 Comply with emergency procedures	<p>可能發生緊急情況之型式，如碰撞、火災、沉沒 Types of emergency which may occur, such as collision, fire, foundering</p> <p>船上應急計畫之知識以應付緊急情況 Knowledge of shipboard contingency plans for response to emergencies</p> <p>佈署表中應急信號及指派給船員之特定職責；召集位置；正確使用個人安全設備 Emergency signals and specific duties allocated to crew members in the muster list; muster stations; correct use of personal safety equipment</p> <p>發現潛在緊急情況時，包括火災、碰撞、沉沒、船舶進水時所採取之行動 Action to take on discovering potential emergency, including fire, collision, foundering and ingress of water into the ship</p> <p>聽到緊急警報信號所採取之行動 Action to take on hearing emergency alarm signals</p> <p>訓練及演習之價值 Value of training and drills</p> <p>逃生路線與船內通信及警報系統之知識 Knowledge of escape routes and internal communication and alarm systems</p>	<p>從認可之講授或參與認可之課程所獲得之證據予以評估 Assessment of evidence obtained from approved instruction or during attendance at an approved course</p>	<p>得知緊急情況所採取之最初行動與既定之緊急反應程式相符 Initial action on becoming aware of an emergency conforms to established emergency response procedures</p> <p>發出警報之資訊迅速、正確、完整及清晰 Information given on raising alarm is prompt, accurate, complete and clear</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
防止海洋環境污染所採取之措施 Take precautions to prevent pollution of the marine environment	<p><u>航運對海洋環境衝擊及操作或事故性污染對海洋環境影響之知識</u> Basic knowledge of the impact of shipping on the marine environment and the effects of operational or accidental pollution on it</p> <p>海洋環境保護之基本程式 Basic environmental protection procedures</p> <p><u>海洋環境複雜性與多變性之基本知識</u> Basic knowledge of complexity and diversity of the marine environment</p>	從認可之講授或參與認可之課程所獲得之證據予以評估 Assessment of evidence obtained from approved instruction or during attendance at an approved course	隨時遵守為保護海洋環境所制定之組織程式 Organizational procedures designed to safeguard the marine environment are observed at all times
遵守安全作業慣例 Observe safe working practices	<p>隨時遵守安全作業慣例之重要性 Importance of adhering to safe working practices at all times</p> <p>適用於防止船上潛在危害之安全保護裝置 Safety and protective devices available to protect against potential hazards aboard ship</p> <p>進入密閉艙間前所採取之預防措施 Precautions to be taken prior to entering enclosed spaces</p> <p>熟悉防止事故及職業健康之國際措施* Familiarization with international measures concerning accident prevention and occupational health*</p>	從認可之講授或參與認可之課程所獲得之證據予以評估 Assessment of evidence obtained from approved instruction or during attendance at an approved course	隨時遵守安全作業規定並正確使用安全及保護設備 Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times
致力於船上之有效溝通 Contribute to effective communications on board ship	<p><u>對船上個人或團隊之間有效溝通原則與障礙之瞭解</u> Understand the principles of, and barriers to, effective communication between individuals and teams within the ship</p> <p><u>建立與保持有效溝通之能力</u> Ability to establish and maintain effective communications</p>	從認可之講授或參與認可之課程所獲得之證據予以評估 Assessment of evidence obtained from approved instruction or during attendance at an approved course	隨時皆是清晰有效溝通 Communications are clear and effective at all times

* “在海上及在港口防止船上意外事故之實用國際勞工組織章程”可能有助於課程之準備。

* The ILO Code of Practice on “Accident Prevention on Board Ship at Sea and in Port” may be of assistance in the preparation of courses.

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
做好船上有效之人際關係(續) Contribute to effective human relationships on board ship (continued)	維持船上良好之人際關係及工作關係之重要性 Importance of maintaining good human and working relationships aboard ship <u>基本團隊工作之原則與實務，包括爭執之解決</u> Basic teamworking principles and practice, including conflict resolution 社會責任、雇用條件、個人權利及義務、濫用毒品及酒精之危害 Social responsibilities; employment conditions; individual rights and obligations; dangers of drug and alcohol abuse	從認可之講授或參與認可之課程所獲得之證據予以評估 Assessment of evidence obtained from approved instruction or during attendance at an approved course	隨時遵守預定之工作及行為標準 Expected standards of work and behaviour are observed at all times
<u>瞭解並採取必要之行動以控制疲勞</u> Understand and take necessary actions to control fatigue	<u>獲取必要休息之重要性</u> Importance of obtaining the necessary rest <u>睡眠、作息時間與生活節奏對疲勞之影響</u> Effects of sleep, schedules, and the circadian rhythm on fatigue <u>生理壓力對航海人員之影響</u> Effects of physical stressors on seafarers <u>船舶內外環境壓力之影響及其對航海人員之衝擊</u> Effects of environmental stressors in and outside the ship and their impact on seafarers <u>生活節奏之改變對航海人員疲勞之影響</u> Effects of schedule changes on seafarer fatigue	從認可之講授或參與認可之課程所獲得之證據予以評估 Assessment of evidence obtained from approved instruction or during attendance at an approved course	<u>隨時遵循疲勞管理之措施並採取適當之行動防止疲勞之發生</u> Fatigue management practices are observed and appropriate actions are used at all times

第 A-VI/2 節

簽發救生艇筏、救難艇及快速救難艇專業訓練證書之強制性最低要求

Section A-VI/2

Mandatory minimum requirements for the issue of certificates of proficiency in survival craft, rescue boats and fast rescue boats

熟練救生艇筏及救難艇除快速救難艇外

PROFICIENCY IN SURVIVAL CRAFT AND RESCUE BOATS OTHER THAN FAST RESCUE BOATS

適任標準

Standard of competence

1 凡申請簽發救生艇筏及救難艇除快速救難艇外專業訓練證書者，應要求證明其能力能承擔表 A-VI/2-1 第 1 欄所列之任務、職責及責任；

1 Every candidate for a certificate of proficiency in survival craft and rescue boats other than fast rescue boats shall be required to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/2-1.

2 表 A-VI/2-1 第 2 欄所列科目之知識水準，應足使申請發證者能在緊急情況下，將救生艇筏或救難艇下水，並予以負責之*；

2 The level of knowledge of the subjects listed in column 2 of table A-VI/2-1 shall be sufficient to enable the candidate to launch and take charge of a survival craft or rescue boat in emergency situations*.

3 訓練及經驗為達所需理論知識、瞭解及熟練之水準，應慮及本章程 B 篇之準則；

3 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take account of the guidance given in part B of this Code.

4 凡申請發證者應要求其提供已達下列所要求適任標準之證據；

4 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence through:

.1 依據表 A-VI/2-1 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，證明其能力能承擔該表第 1 欄所列之任務、職責及責任；及

.1 demonstration of competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/2-1, in accordance with the methods for

*相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of that table; and

- .2 構成認可訓練計畫一部分之測驗或連續評估，涵蓋表 A-VI/2-1 第 1 欄所列內容。
- .2 examination or continuous assessment as part of an approved training programme covering the material set out in column 2 of table A-VI/2-1.

5 依據熟練救生艇筏及救難艇除快速救難艇外第 4 項應要求具有資格之航海人員，每 5 年提供保持有承擔表 A-VI/2-1 第 1 欄所列任務、職責與責任之適任標準之證據。

5 Seafarers qualified in accordance with paragraph 4 in survival craft and rescue boats other than fast rescue boats shall be required, every five years, to provide evidence of having maintained the required standards of competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/2-1.

6 締約國得接受下列之船上訓練與經驗作為保持表 A-VI/2-1 所要求之適任標準：

6 Parties may accept onboard training and experience for maintaining the required standard of competence of table A-VI/2-1 in the following areas:

.1 負責救生艇筏或救難艇下水中及下水後之下列事項：

.1 take charge of a survival craft or rescue boat during and after launch:

.1.1 解釋在救生艇筏上所標示之預定乘載人數；

.1.1 interpret the markings on survival craft as to the number of persons they are intended to carry;

.1.2 對救生艇筏下水與登艇、駛離船舶、操艇、及自救生艇筏上卸載人員作正確之指揮；

.1.2 give correct commands for launching and boarding survival craft, clearing the ship and handling and disembarking persons from survival craft;

.1.3 救生艇筏之備便與安全下水並快速駛離船舷；

.1.3 prepare and safely launch survival craft and clear the ship's side quickly; and

.1.4 安全回收救生艇筏及救難艇。

.1.4 safely recover survival craft and rescue boats;

.2 在棄船後管理倖存者與救生艇筏：

.2 manage survivors and survival craft after abandoning ship:

.2.1 划艇、駕艇及利用羅經駕艇；

- .2.1 row and steer a boat and steer by compass;
- .2.2 救生艇筏上除煙火外各項設備之應用；
- .2.2 use individual items of equipment of survival crafts, except for pyrotechnics, and
- .2.3 裝配桅杆帆索以利發現位置；
- .2.3 rig devices to aid location;
- .3 使用定位設施，包括通信與信號設備；
- .3 use locating devices, including communication and signalling apparatus:
- .3.1 使用救生艇筏上之輕便無線設備；
- .3.1 use of portable radio equipment for survival craft; and
- .4 對倖存者施予急救。
- .4 apply first aid to survivors.

熟練快速救難艇

PROFICIENCY IN FAST RESCUE BOATS

適任標準

Standard of competence

7 凡申請簽發快速救難艇專業訓練證書者，應要求證明其能力能承擔表 A-VI/2-1 第 1 欄所列之任務、職責及責任；

7 Every candidate for a certificate of proficiency in fast rescue boats shall be required to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/2-2.

8 表 A-VI/2-2 第 2 欄所列科目之知識水準，應足使申請發證者能在緊急情況下，將快速救難艇下水，並予以負責之^{*}；

8 The level of knowledge of the subjects listed in column 2 of table A-VI/2-2 shall be sufficient to enable the candidate to launch and take charge of a fast rescue boat in emergency situations^{*}.

9 訓練及經驗為達所需理論知識、瞭解及熟練之水準，應慮及本章程 B 篇之準則；

9 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take account of the guidance given in part B of this Code.

^{*}相關之 IMO 典型課程可能有助於課程之準備。

^{*} The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

10 凡申請發證者應要求其提供已達下列所要求適任標準之證據；

10 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence through:

- .1 依據表 A-VI/2-2 第 3 欄及第 4 欄所列之適任性之證明方法及適任性之評估標準，證明其能力能承擔該表第 1 欄所列之任務、職責及責任；及
- .1 demonstration of competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/2-2, in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of that table; and
- .2 構成認可訓練計畫一部分之測驗或連續評估，涵蓋表 A-VI/2-2 第 2 欄所列內容。
- .2 examination or continuous assessment as part of an approved training programme covering the material set out in column 2 of table A-VI/2-2.

11 依據熟練快速救難艇第 10 項之要求具有資格之航海人員，每 5 年提供保持有承擔表 A-VI/2-2 第 1 欄所列的任務、職責與責任之適任標準之證據。

11 Seafarers qualified in accordance with paragraph 10 in fast rescue boats shall be required, every five years, to provide evidence of having maintained the required standards of competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/2-2.

12 締約國得接受下列之船上訓練與經驗作為保持表 A-VI/2-2 所要求之適任標準：

12 Parties may accept onboard training and experience for maintaining the required standard of competence of table A-VI/2-2, in the following areas:

.1 負責快速救難艇下水中及下水後之下列事項：

.1 Take charge of a fast rescue boat during and after launch:

.1.1 安全操控快速救難艇之下水及回收；

.1.1 control safe launching and recovery of a fast rescue boat;

.1.2 在惡劣天候與海況下操作快速救難艇；

.1.2 handle a fast rescue boat in prevailing weather and sea conditions;

.1.3 在快速救難艇與直昇機及船舶之間使用通信與信號設備；

.1.3 use communications and signalling equipment between the fast rescue boat and a helicopter and a ship;

.1.4 使用所攜備之應急設備；及

.1.4 use the emergency equipment carried; and

.1.5 在考慮及環境因素後，施行搜索方案。

.1.5 carry out search patterns, taking account of environmental factors.

表 A-VI/2-1

救生艇筏及救難艇除快速救難艇外之最低適任標準規範

Table A-VI/2-1

**Specification of the minimum standard of competence in survival craft
and rescue boats other than fast rescue boats**

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
下水時及下水後負責救生艇筏或救難艇 Take charge of a survival craft or rescue boat during and after launch	<p>救生艇筏及救難艇之結構與屬具、及其不可分之設備 Construction and outfit of survival craft and rescue boats and individual items of their equipment</p> <p>救生艇筏及救難艇之特性與設施 Particular characteristics and facilities of survival craft and rescue boats</p> <p>救生艇筏及救難艇之各種下水裝置 Various types of device used for launching survival craft and rescue boats</p> <p>在風浪中將救生艇筏下水之方法 Methods of launching survival craft into a rough sea</p> <p>救生艇筏回收之方法 Methods of recovering survival craft</p> <p>離船後採取之行動 Action to be taken after leaving the ship</p> <p>在風浪中將救難艇下水及回收之方法 Methods of launching and recovering rescue boats in a rough sea</p> <p><u>使用承載釋放設施相關之危險</u> Dangers associated with use of on-load release devices</p> <p><u>保養程式之知識</u> Knowledge of maintenance procedures</p>	<p>從所獲得之下列各項實作示範能力之證據評估： Assessment of evidence obtained from practical demonstration of ability to:</p> <ol style="list-style-type: none"> 1 穿著救生衣扶正傾覆之救生筏 1 right an inverted liferaft while wearing a lifejacket 2 解釋救生艇筏上擬乘載人數之標誌 2 interpret the markings on survival craft as to the number of persons they are intended to carry 3 正確指揮救生艇筏之下水與登艇，駛離船舶，操縱及人員下救生艇(筏) 3 give correct commands for launching and boarding survival craft, clearing the ship and handling and disembarking persons from survival craft 4 救生艇筏下水準備及安全下水，迅速駛離船邊並操作無載與承載釋放設施 4 prepare and safely launch survival craft and clear the ship's side quickly and operate off-load and on-load release devices 5 將救生艇筏及救難艇安全回收，包括無載與承載釋放設施兩者之正確重置，使用充氣式救生筏，及裝有舷內機之開啟或圍閉式救生艇，或認可之模擬設施訓練（適當時） 5 safely recover survival craft and rescue boats, including the proper resetting of both off-load and on-load release devices, using inflatable liferaft and open or enclosed lifeboat with inboard engine or approved simulator training, where appropriate 	<p>在設備受限情況下完成艇筏之下水準備、人員登艇、釋放艇筏下水、並能使艇筏安全駛離船舶 Preparation, boarding and launching of survival craft are within equipment limitations and enable survival craft to clear the ship safely</p> <p>在駛離船舶時為減少求生者之威脅所採最初行動 Initial actions on leaving the ship minimize threat to survival</p> <p>在設備受限制之情況下，將救生艇筏及救難艇回收 Recovery of survival craft and rescue boats is within equipment limitations</p> <p><u>設備之操作係依據製造廠商釋放與重置之說明書為之</u> Equipment is operated in accordance with manufacturers' instructions for release and resetting</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操作救生艇筏引擎 Operate a survival craft engine	<p>啟動及操作救生艇筏引擎及其附屬設備之方法，包括使用所備之滅火器</p> <p>Methods of starting and operating a survival craft engine and its accessories together with the use of the fire extinguisher provided</p>	<p>從啟動及操作開啟式或圍閉式救生艇所裝設艇內引擎所獲得之實作示範能力之證據評估</p> <p>Assessment of evidence obtained from practical demonstration of ability to start and operate an inboard engine fitted in an open or enclosed lifeboat</p>	<p>已獲有推進力並維持該推進力達操縱要求</p> <p>Propulsion is available and maintained as required for manoeuvring</p>
棄船後對求生人員及救生艇筏之管理 Manage survivors and survival craft after abandoning ship	<p>在惡劣天氣中操縱救生艇筏</p> <p>Handling survival craft in rough weather</p> <p>使用艇首纜、海錨及所有其他設備</p> <p>Use of painter, sea-anchor and all other equipment</p> <p>救生艇筏上食物及淡水之分配</p> <p>Apportionment of food and water in survival craft</p> <p>以最大可能方式，使救生艇筏被發現及定位應採取之行動</p> <p>Action taken to maximize detectability and location of survival craft</p> <p>直升機之救助方法</p> <p>Method of helicopter rescue</p> <p>體溫過低影響及其預防；包括浸水衣及保暖設備之防護遮蓋物及衣服之使用</p> <p>Effects of hypothermia and its prevention; use of protective covers and garments, including immersion suits and thermal protective aids</p> <p>使用救難艇及機動救生艇引導救生筏，並救助求生者與落水者</p> <p>Use of rescue boats and motor lifeboats for marshalling liferafts and rescue of survivors and persons in the sea</p> <p>救生艇筏搶灘</p> <p>Beaching survival craft</p>	<p>從所獲得之下列各項實作示範能力之證據予以評估：</p> <p>Assessment of evidence obtained from practical demonstration of ability to:</p> <ol style="list-style-type: none"> 1. 划艇及駕艇及使用羅經駕艇 1. row and steer a boat and steer by compass 2. 使用各項救生艇筏設備 2. use individual items of equipment of survival craft 3. 裝配桅杆帆索以利發現位置 3. rig devices to aid location 	<p>求生管理適於當時之環境及條件</p> <p>Survival management is appropriate to prevailing circumstances and conditions</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
使用定位設施，包括通信、信號設備及煙火信號 Use locating devices, including communication and signalling apparatus and pyrotechnics	救生艇筏之無線電救生設備，包括衛星應急指位無線電示標 (EPIRBs) 及搜救雷達詢答機 (SARTs) Radio life-saving appliances carried in survival craft, including satellite EPIRBs and SARTs 煙火遇險信號 Pyrotechnic distress signals	從所獲得之下列各項實作示範能力之證據予以評估： Assessment of evidence obtained from practical demonstration of ability to: .1 使用救生艇筏之輕便無線電設備 .1 use portable radio equipment for survival craft .2 使用包括煙火信號在內之信號設備 .2 use signalling equipment, including pyrotechnics	對通信及信號設備之使用及選擇適於當時環境及條件 Use and choice of communication and signalling apparatus is appropriate to prevailing circumstances and conditions
對求生者進行急救 Apply first aid to survivors	使用急救箱及心肺復甦技術 Use of the first-aid kit and resuscitation techniques 傷者處理、包括止血及控制休克 Management of injured persons, including control of bleeding and shock	在棄船時或棄船後，使用急救箱及心肺復甦技術，搶救傷者，所獲得之實作示範能力之證據予以評估 Assessment of evidence obtained from practical demonstration of ability to deal with injured persons both during and after abandonment, using first-aid kit and resuscitation technique	對受勢之可能原因、性質、程度能迅速準確認定 Identification of the probable cause, nature and extent of injuries or condition is prompt and accurate 處理之優先次序減低任何對人命之威脅 Priority and sequence of treatment minimizes any threat to life

表 A-VI/2-2

快速救難艇之最低適任標準規範

Table A-VI/2-2

Specification of the minimum standard of competence in fast rescue boats

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>瞭解快速救難艇之構造、保養、維修與裝具</u> Understand the construction, maintenance, repair and outfitting of fast rescue boats	<u>快速救難艇之構造與裝具及其各項設備</u> Construction and outfitting of fast rescue boats and individual items of their equipment <u>快速救難艇之保養、應急修理與已充氣式快速救難艇氣室之正常充氣與放氣之知識</u> Knowledge of the maintenance and emergency repairs of fast rescue boats and the normal inflation and deflation of buoyancy compartments of inflated fast rescue boats	<u>從實際講授或所獲得之證據予以評估</u> Assessment of evidence obtained from practical instruction	<u>日常保養與應急修理之施所方法</u> The method of carrying out routine maintenance and emergency repairs <u>鑑別高速救難艇之組件及所需與設備</u> Identify components and required equipment for fast rescue boats
<u>在水與回收期間負責通常所裝置之下水設備與裝置</u> Take charge of the launching equipment and appliance as commonly fitted, during launching and recovery	<u>為立即下水與操作對快速救難艇下水設備與下水裝置予以評估</u> Assessment of the readiness of launching equipment and launching appliance of fast rescue boats for immediate launching and operation <u>瞭解絞機、剎車、吊索、艀纜、補整機構與其他通常所裝置之設備之操作與限制</u> Understand the operation and limitations of the winch, brakes, falls, painters, motion-compensation and other equipment as commonly fitted <u>下水與回收快速救難艇期間之安全注意事項</u> Safety precautions during launching and recovery of a fast rescue boat <u>在當時及不利之天候與海況中下水與回收快速救難艇</u> Launching and recovery of a fast rescue boat in prevailing and adverse weather and sea conditions	<u>從實際示範安全下水與回收快速救難艇連同附裝設備之控制能力所獲得之證據予以評估</u> Assessment of evidence obtained from practical demonstration of ability to control safe launching and recovery of a fast rescue boat, with equipment as fitted	<u>在水與回收快速救難艇期間準備與負責下水設備與裝置之能力</u> Ability to prepare and take charge of the launching equipment and appliance during launching and recovery of a fast rescue boat

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>在下水與回收期間負責通常所裝置之快速救難艇</u> Take charge of a fast rescue boat as commonly fitted, during launching and recovery</p>	<p><u>為立即下水與操作對快速救難艇及其相關設備予以評估</u> Assessment of the readiness of fast rescue boats and related equipment for immediate launching and operation</p> <p><u>下水與回收快速救難艇期間之安全注意事項</u> Safety precautions during launching and recovery of a fast rescue boat</p> <p><u>在當時及不利之天候與海況中下水與回收快速救難艇</u> Launching and recovery of a fast rescue boat in prevailing and adverse weather and sea conditions</p>	<p><u>從實際示範安全下水與回收快速救難艇連同附裝設備之控制能力所獲得之證據予以評估</u> Assessment of evidence obtained from practical demonstration of ability to conduct safe launching and recovery of a fast rescue boat, with equipment as fitted</p>	<p><u>在下水與回收期間負責快速救難艇之能力</u> Ability to take charge of a fast rescue boat during launching and recovery</p>
<p>下水時及下水後負責快速救難艇 Take charge of a fast rescue boat after launching</p>	<p>快速救難艇之特性及設施與限制 Particular characteristics, facilities and limitations of fast rescue boats</p> <p>扶正傾覆快速救難艇之程式 Procedures for the righting of a capsized fast rescue boat</p> <p>在當時情況、惡劣天候及海況下如何操縱快速救難艇 How to handle a fast rescue boat in prevailing and adverse weather and sea conditions</p> <p>快速救難艇內可用之航儀及安全設備 Navigational and safety equipment available in a fast rescue boat</p> <p>搜救方式及影響其執行之環境因素 Search patterns and environmental factors affecting their execution</p>	<p>從所獲得之下列各項實作示範能力之證據予以評估： Assessment of evidence obtained from practical demonstration of ability to:</p> <ol style="list-style-type: none"> .1 扶正傾覆之快速救難艇 .1 right a capsized fast rescue boat .2 在當時氣象及海況條件下操縱快速救難艇 .2 handle a fast rescue boat in prevailing weather and sea conditions .3 攜特別裝置游泳 .3 swim in special equipment .4 快速救難艇與直升機及船舶間通信及信號設備之使用 .4 use communications and signalling equipment between the fast rescue boat and a helicopter and a ship .5 使用所攜備之應急設備 .5 use the emergency equipment carried .6 從水中救起傷者並將傷者運送至救助直升機或船舶或安全地點 .6 recover a casualty from the water and transfer a casualty to a rescue helicopter or to a ship or to a place of safety .7 考慮及環境因素執行搜救之方式 .7 carry out search patterns, taking account of environmental factors 	<p>在當時氣象及設備受限制之條件下，<u>示範</u>快速救難艇之操作 Demonstration of operation of fast rescue boats within equipment limitations in prevailing weather conditions.</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
操作快速救難艇引擎 Operate a fast rescue boat engine	啓動及操作快速救難艇引擎及其附屬設備之方法 Methods of starting and operating a fast rescue boat engine and its accessories	從啓動及操作快速救難艇之引擎所獲得之實作示範能力證據予以評估 Assessment of evidence obtained from practical demonstration of ability to start and operate a fast rescue boat engine	按操縱要求啓動並操作引擎 Engine is started and operated as required for manoeuvring

第 A-VI/3

進階滅火訓練之強制性最低要求

Section A-VI/3

Mandatory minimum training in advanced fire fighting

適任標準

Standard of competence

1 航海人員經指派為控制滅火作業應圓滿完成著重於滅火組織、策略及指揮方面之滅火進階技術訓練，並應要求證明其能力能承擔表 A-VI/3 第 1 欄所列之任務、職責及責任；

1 Seafarers designated to control fire-fighting operations shall have successfully completed advanced training in techniques for fighting fire, with particular emphasis on organization, tactics and command, and shall be required to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/3.

2 表 A-VI/3 第 2 欄所列科目之知識及瞭解水準，應能以有效控制船上之滅火操作*；

2 The level of knowledge and understanding of the subjects listed in column 2 of table A-VI/3 shall be sufficient for the effective control of fire-fighting operations on board ship*.

3 訓練及經驗為達到所需理論知識、瞭解及熟練之水準，應考慮及本章程 B 篇所列之準則；

3 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take account of the guidance given in part B of this Code.

4 凡申請發證者應要求其依表 A-VI/3 第 3 欄及第 4 欄所列之適任性之證明方法及適任性之評估標準，提供業已達到所要求適任標準之證據。

4 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence, in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-VI/3.

5 依據進階滅火第 4 項應要求具有資格之航海人員，每 5 年提供保持有承擔表 A-VI/3 第 1 欄所列任務、職責與責任之適任標準之證據。

5 Seafarers qualified in accordance with paragraph 4 in advanced fire fighting shall be required, every five years, to provide evidence of having maintained the required standards of competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/3.

*相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

6 締約國得接受下列之船上訓練與經驗作為保持表 A-VI/3 所要求之適任標準：

6 Parties may accept onboard training and experience for maintaining the required standard of competence of table A-VI/3, in the following areas:

.1 在船上控制滅火操作：

.1 Control fire-fighting operations aboard ships;

.1.1 在海上與港口之滅火程式，尤其要強調組織、策略與指揮；

.1.1 fire-fighting procedures at sea and in port, with particular emphasis on organization, tactics and command;

.1.2 在滅火作業中之溝通與合作；

.1.2 communication and coordination during fire-fighting operations;

.1.3 包括抽煙之通風控制；

.1.3 ventilation control, including smoke extraction;

.1.4 燃油與電機系統之控制；

.1.4 control of fuel and electrical systems;

.1.5 滅火過程中之危險（乾餾、化學反應，鍋爐煙道）；

.1.5 fire-fighting process hazards (dry distillation, chemical reactions, boiler uptake);

.1.6 與儲存與處置物料有關之防火注意事項與危險；

.1.6 fire precautions and hazards associated with the storage and handling of materials;

.1.7 受傷人員之管理與控制；

.1.7 management and control of injured persons; and

.1.8 與岸上消防隊員合作之程式。

.1.8 procedures for coordination with shore-based fire fighters.

表 A-VI/3

進階滅火訓練之最低適任標準規範

Table A-VI/3

Specification of minimum standard of competence in advanced fire fighting

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
控制船上滅火作業 Control fire-fighting operations aboard ships	<p>以滅火組織、策略及指揮為重點之海上及港內之滅火程式 Fire-fighting procedures at sea and in port, with particular emphasis on organization, tactics and command</p> <p>用水滅火，對船舶穩度之影響、預防及矯正式 Use of water for fire-extinguishing, the effect on ship stability, precautions and corrective procedures</p> <p>滅火作業中之通信及協調 Communication and co-ordination during fire-fighting operations</p> <p>通風控制，包括排煙機 Ventilation control, including smoke extraction</p> <p>燃油及電機系統之控制 Control of fuel and electrical systems</p> <p>滅火過程中產生危險(乾燥、化學反應、鍋爐煙道失火等) Fire-fighting process hazards (dry distillation, chemical reactions, boiler uptake fires, etc.)</p> <p>涉及危險貨品之滅火 Fire fighting involving dangerous goods</p> <p>有關儲存及處置物料(油漆等)之火災預防及危害 Fire precautions and hazards associated with the storage and handling of materials (paints, etc.)</p> <p>對傷者之管理及控制 Management and control of injured persons</p> <p>與岸上消防人員協調之程式 Procedures for coordination with shore-based fire fighters</p>	<p>在認可之真實訓練情況(即模擬船舶情況)下，如屬可行時，包括在黑暗中，進行實作演練及講授 Practical exercises and instruction conducted under approved and truly realistic training conditions (e.g., simulated shipboard conditions) and, whenever possible and practicable, in darkness</p>	<p>所採取之控制火勢行動係基於運用所有可利用之資訊，對事故進行全面準確地評估 Actions taken to control fires are based on a full and accurate assessment of the incident, using all available sources of information</p> <p>發出行動命令之優先次序及時間適於事故之全面要求，並能減少船舶損害或潛在之損害、人員傷害及妨礙船舶操作之有效性 The order of priority, timing and sequence of actions are appropriate to the overall requirements of the incident and to minimize damage and potential damage to the ship, injuries to personnel and impairment of the operational effectiveness of the ship</p> <p>資訊傳遞應迅速、正確、完整且清晰 Transmission of information is prompt, accurate, complete and clear</p> <p>在滅火控制活動中，始終保護人員之安全 Personal safety during fire control activities is safeguarded at all times</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
消防隊之組織及訓練 Organize and train fire parties	應急計劃之製備 Preparation of contingency plans 消防隊之組成及人員調派 Composition and allocation of personnel to fire parties 控制船舶各部位火災之計策及策略 Strategies and tactics for control of fires in various parts of the ship	在認可之真實訓練情況(即模擬船舶情況)下進行實作演練及講授 Practical exercises and instruction conducted under approved and truly realistic training conditions, e.g., simulated shipboard conditions	消防隊之組成及組織能確保迅速有效實施應急計劃及程式 Composition and organization of fire control parties ensure the prompt and effective implementation of emergency plans and procedures
火災探測及滅火系統與設備之檢查與保養 Inspect and service fire-detection and fire-extinguishing systems and equipment	火災探測系統；固定滅火系統；輕便型及可移動式滅火設備，包括各種器具、泵及搜救設備、維生設備、個人保護設備及通信設備 Fire-detection systems; fixed fire-extinguishing systems; portable and mobile fire-extinguishing equipment, including appliances, pumps and rescue, salvage, life-support, personal protective and communication equipment 法定及船級檢驗之要求 Requirements for statutory and classification surveys	使用認可之設備及系統在真實訓練環境下進行實作演練 Practical exercises, using approved equipment and systems in a realistic training environment	依據性能規格及法定要求始終確保所有火災探測及滅火系統與設備之操作有效性 Operational effectiveness of all fire-detection and fire-extinguishing systems and equipment is maintained at all times in accordance with performance specifications and legislative requirements
調查及編寫涉及火災事故之報告 Investigate and compile reports on incidents involving fire	涉及火災事故原因之評估 Assessment of cause of incidents involving fire	在真實訓練環境下實際演練 Practical exercises in a realistic training environment	確定火災原因，並且評定對策之有效性 Causes of fire are identified and the effectiveness of countermeasures is evaluated

第 A-VI/4 節

醫療急救及醫護之強制性最低要求

Section A-VI/4

Mandatory minimum requirements related to medical first aid and medical care

指派提供船上醫療急救之航海人員之適任標準

Standard of competence for seafarers designated to provide medical first aid on board ship

1 凡指派提供船上醫療急救之每位航海人員，應要求證明其能力能承擔表 A-VI/4-1 第 1 欄所列之任務、職責及責任；

1 Every seafarer who is designated to provide medical first aid on board ship shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/4-1.

2 表 A-VI/4-1 第 2 欄所列科目之知識水準應足以使被指派之航海人員在發生事故時或船上可能發生傷病時，得以立即採取有效行動*；

2 The level of knowledge of the subjects listed in column 2 of table A-VI/4-1 shall be sufficient to enable the designated seafarer to take immediate effective action in the case of accidents or illness likely to occur on board ship*.

3 凡申請發證者依規則 VI/4 第 1 項之規定，應要求其依表 A-VI/4-1 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供業已達到所要求適任標準之證據；

3 Every candidate for certification under the provisions of regulation VI/4, paragraph 1 shall be required to provide evidence that the required standard of competence has been achieved in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-VI/4-1.

指派負責船上醫護之航海人員之適任標準

Standard of competence for seafarers designated to take charge of medical care on board ship

4 凡指派負責船上醫護之航海人員，應要求證明其能力力承擔表 A-VI/4-2 第 1 欄所列之任務、職責及責任；

4 Every seafarer who is designated to take charge of medical care on board ship shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/4-2.

*相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may assist in the preparation of courses.

5 表 A-VI/4-2 第 2 欄所列科目之知識水準應足以使被指派之航海人員在發生事故時或船上可能發生傷病時，得以立即採取有效行動^{*}；

5 The level of knowledge of the subjects listed in column 2 of table A-VI/4-2 shall be sufficient to enable the designated seafarer to take immediate effective action in the case of accidents or illness likely to occur on board ship*.

6 凡申請發證者依規則 VI/4 第 2 項之規定，應要求其依表 A-VI/4-2 第 3 欄及第 4 欄所列適任性之證明方法及適任性之評估標準，提供業已達到所要求適任標準之證據。

6 Every candidate for certification under the provisions of regulation VI/4, paragraph 2 shall be required to provide evidence that the required standard of competence has been achieved in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-VI/4-2.

^{*}相關之 IMO 典型課程可能有助於課程之準備。

^{*} The relevant IMO Model Course(s) may assist in the preparation of courses.

表 A-VI/4-1
醫療急救之最低標準規範

Table A-VI/4-1
Specification of minimum standard of competence in medical first aid

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p>船上一旦發生事故或疾病時立即實施急救 Apply immediate first aid in the event of accident or illness on board</p>	<p>急救箱 First-aid kit</p> <p>人體構造及功能 Body structure and function</p> <p>船上有毒物之危害，包括「涉及危險品事故時醫療急救指南(MFAG)」或其國家同等之規則使用 Toxicological hazards on board, including use of the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG) or its national equivalent</p> <p>傷患或病患檢查 Examination of casualty or patient</p> <p>脊髓受傷 Spinal injuries</p> <p>燒傷、燙傷及熱與冷之影響 Burns, scalds and effects of heat and cold</p> <p>骨折、脫臼及肌肉受傷 Fractures, dislocations and muscular injuries</p> <p>被救人員之醫護 Medical care of rescued persons</p> <p>無線電醫護建議 Radio medical advice</p> <p>藥理學 Pharmacology</p> <p>消毒 Sterilization</p> <p>心跳停止、溺斃及窒息 Cardiac arrest, drowning and asphyxia</p>	<p>從實作講授所獲得之證據評估 Assessment of evidence obtained from practical instruction</p>	<p>傷患之可能原因、性質及範圍之判斷是迅速的，完整的；且與現有急救慣例相符 The identification of probable cause, nature and extent of injuries is prompt, complete and conforms to current first-aid practice</p> <p>危及自身及他人之危險性隨時降至最低 Risk of harm to self and to others is minimized at all times</p> <p>傷患及病況之處理是適當的且與認可的急救慣例及國際指南相符 Treatment of injuries and the patient's condition is appropriate and conforms to recognized first-aid practice and international guidelines</p>

表 A-VI/4-2

醫護最低適任標準規範

Table A-VI/4-2

Specification of minimum standard of competence in medical care

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
船上傷病患 提供醫護 Provide medical care to the sick and injured while they remain on board	<p>傷病醫護包含：</p> <p>Care of casualty involving:</p> <p>.1 頭部及脊髓受傷 .1 head and spinal injuries</p> <p>.2 耳、鼻、咽喉及眼之受傷 .2 injuries of ear, nose, throat and eyes</p> <p>.3 外出血及內出血 .3 external and internal bleeding</p> <p>.4 燒傷、燙傷及凍傷 .4 burns, scalds and frostbite</p> <p>.5 骨折、脫臼及肌肉受傷 .5 fractures, dislocations and muscular injuries</p> <p>.6 傷口、傷口之癒合及感染 .6 wounds, wound healing and infection</p> <p>.7 減輕疼痛 .7 pain relief</p> <p>.8 縫合及緊固技術 .8 techniques of sewing and clamping</p> <p>.9 腹部急性症狀之處理 .9 management of acute abdominal conditions</p> <p>.10 簡單之外科處理 .10 minor surgical treatment</p> <p>.11 包紮及繃帶使用 .11 dressing and bandaging</p> <p>護理方面：</p> <p>Aspects of nursing:</p> <p>.1 一般原則 .1 general principles</p> <p>.2 護理業務 .2 nursing care</p>	<p>從實作講授及示範所獲得之證據評估 Assessment of evidence obtained from practical instruction and demonstration</p> <p>如實際可行在認可之醫院或類似機構之實際經驗 Where practicable, approved practical experience at a hospital or similar establishment</p>	<p>症狀之判斷係基於臨床診斷及病歷 Identification of symptoms is based on the concepts of clinical examination and medical history</p> <p>預防傳染及疾病蔓延係是充分有效的 Protection against infection and spread of diseases is complete and effective</p> <p>個人態度溫和、有信心並令人放心 Personal attitude is calm, confident and reassuring</p> <p>受傷或狀況處理恰當，並與公認之醫護慣例及相關國家與國際醫護指南相符 Treatment of injury or condition is appropriate and conforms to accepted medical practice and relevant national and international medical guides</p> <p>內、外用藥及劑量，符合製造商之建議及公認之醫護慣例 The dosage and application of drugs and medication complies with manufacturers' recommendations and accepted medical practice</p> <p>迅速認清病患病情變化之重要性 The significance of changes in patient's condition is promptly recognized</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
船上傷病患 提供醫護 (續) Provide medical care to the sick and injured while they remain on board (continued)	<p>疾病預防包括： Diseases, including:</p> <ul style="list-style-type: none"> .1 醫護情況及緊急 .1 medical conditions and emergencies .2 性傳染疾病 .2 sexually transmitted diseases .3 熱帶傳染疾病 .3 tropical and infectious diseases <p>酒類及藥物之濫用 Alcohol and drug abuse</p> <p>婦科、懷孕及分娩 Dental care Gynaecology, pregnancy and childbirth</p> <p>被救人員之醫護 Medical care of rescued persons</p> <p>海上死亡 Death at sea</p> <p>衛生 Hygiene</p> <p>疾病預防，包括： Disease prevention, including:</p> <ul style="list-style-type: none"> .1 預防傳染、殺蟲、滅鼠 .1 disinfection, disinfestation, de-ratting .2 接種 .2 vaccinations <p>保持紀錄與有關之有用規定複本 Keeping records and copies of applicable regulations:</p> <ul style="list-style-type: none"> .1 保持醫護紀錄 .1 keeping medical records .2 國際及國內海上醫護規定 .2 international and national maritime medical regulations 		

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
參加對船舶 進行醫護援 助之協調計 劃 Participate in coordinated schemes for medical assistance to ships	外部援助，包括： External assistance, including: .1 無線電醫護建議 .1 radio medical advice .2 傷病患之運送，包括直升機運 送 .2 transportation of the ill and injured, including helicopter evacuation .3 航海人員疾病醫護，包括與港 口醫護機構或港口門診之協 調 .3 medical care of sick seafarers involving cooperation with port health authorities or out-patient wards in port		臨床檢查程式是完整的，並與所接獲之 指示相符 Clinical examination procedures are complete and comply with instructions received 疏運之方法及準備工作依據認可之程 式，並以最大限度為病患著想 The method and preparation for evacuation is in accordance with recognized procedures and is designed to maximize the welfare of the patient 尋求無線電醫護建議之程式與既定作法 及建議相符 Procedures for seeking radio medical advice conform to established practice and recommendations

第 A-VI/5 節

簽發船舶保全人員專業訓練證書之強制性最低要求

Section A-VI/5

Mandatory minimum requirements for the issue of certificates of proficiency for ship security officers

適任標準

Standard of competence

1 凡申請船舶保全人員專業訓練證書者，應要求證明其能力能承擔表 A-VI/5 第 1 欄所列之任務、職責及責任；

1 Every candidate for a certificate of proficiency as a ship security officer shall be required to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/5.

2 表 A-VI/5 第 2 欄所列科目之知識及瞭解水準，應足以使申請人作為指定之船舶保全人員；

2 The level of knowledge of the subjects listed in column 2 of table A-VI/5 shall be sufficient to enable the candidate to act as the designated ship security officer.

3 訓練及經驗為達到所需理論知識、瞭解及熟練之水準，應考慮及本章程 B-VI/5 節所列之準則；

3 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take into account the guidance in section B-VI/5 of this Code.

4 凡申請發證者應要求其依表 A-VI/5 第 3 欄及第 4 欄所列之適任性之證明方法及適任性之評估標準，提供業已達到所要求適任標準之證據。

4 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-VI/5.

表 A-VI/5

船舶保全人員最低適任標準規範

Table A-VI/5

Specifications of minimum standards of competence for ship security officers

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>保持與監督船舶保全計畫之實施</u> Maintain and supervise the implementation of a ship security plan</p>	<p><u>國際海上保全政策與政府、公司及指定人員責任之知識，包括與海盜及武裝搶劫有關之問題</u> Knowledge of international maritime security policy and responsibilities of Governments, companies and designated persons, including elements that may relate to piracy and armed robbery</p> <p><u>構成船舶保全計畫、相關程式及保持紀錄之目的與要素之知識，包括與海盜及武裝搶劫者</u> Knowledge of the purpose for and the elements that make up a ship security plan, related procedures and maintenance of records, including those that may relate to piracy and armed robbery</p> <p><u>用以實施船舶保全計畫與報告保全事故之程式之知識</u> Knowledge of procedures to be employed in implementing a ship security plan and reporting of security incidents</p> <p><u>海上保全等級及船上與港口設施環境中之重要之保全措施與程式之知識</u> Knowledge of maritime security levels and the consequential security measures and procedures aboard ship and in the port facility environment</p> <p><u>施行船舶保全計畫規定之內部稽核、現場檢查、控制與監測保全活動之要求與程式之知識</u> Knowledge of the requirements and procedures for conducting internal audits, on-scene inspections, control and monitoring of security activities specified in a ship security plan</p>	<p><u>從訓練或測驗所獲得之證據予以評估</u> Assessment of evidence obtained from approved training or examination</p>	<p><u>措施與行動係依據國際船舶與港口設施保全（ISPS）章程與經修正海上人命安全國際公約所制定之原則</u> Procedures and actions are in accordance with the principles established by the ISPS Code and the SOLAS Convention, as amended</p> <p><u>正確認定與保全有關之立法要求</u> Legislative requirements relating to security are correctly identified</p> <p><u>所採之程式對海上保全等級之變化達到即時反應之狀態</u> Procedures achieve a state of readiness to respond to changes in maritime security levels</p> <p><u>船舶保全人員責任範圍內之溝通清晰明瞭</u> Communications within the ship security officer's area of responsibility are clear and understood</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>保持與監督船舶保安計畫之實施(續)</u> Maintain and supervise the implementation of a ship security plan (continued)	<u>向公司保全人員提報內部稽核、定期檢討與保全檢查期間所發現之任何缺陷與不符合情況之要求與程式之知識</u> Knowledge of the requirements and procedures for reporting to the company security officer any deficiencies and non-conformities identified during internal audits, periodic reviews, and security inspections <u>用以修正船舶保安計畫之方法與程式之知識</u> Knowledge of the methods and procedures used to modify the ship security plan <u>用以修正船舶保安計畫之方法與程式之知識與保全有關之應急計畫與程式以回應保全威脅或保全破壞，包括維持船/港介面關鍵性業務之規定之知識，尚包括與海盜及武裝搶劫之問題</u> Knowledge of security-related contingency plans and the procedures for responding to security threats or breaches of security, including provisions for maintaining critical operations of the ship/port interface, including also elements that may relate to piracy and armed robbery <u>海上保全術語與定義之工作知識，包括與海盜及武裝搶劫之問題</u> Working knowledge of maritime security terms and definitions, including elements that may relate to piracy and armed robbery		

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
評估保全風險、威脅與弱點 Assess security risk, threat, and vulnerability	<p><u>風險評估與評估工具之知識</u> Knowledge of risk assessment and assessment tools</p> <p><u>保全評估檔包括保全宣告之知識</u> Knowledge of security assessment documentation, including the Declaration of Security</p> <p><u>用以規避保全措施技術之知識，包括海盜及武裝搶劫分子所使用之技術</u> Knowledge of techniques used to circumvent security measures, including those used by pirates and armed robbers</p> <p><u>在非歧視之基礎上辨識對保全可能有潛在風險人員之知識</u> Knowledge enabling recognition, on a non-discriminatory basis, of persons posing potential security risks</p> <p><u>辨識武器、危險物質與設施及瞭解其所能肇致損壞之知識</u> Knowledge enabling recognition of weapons, dangerous substances and devices and awareness of the damage they can cause</p> <p><u>適用時對群眾管理與控制技術之知識</u> Knowledge of crowd management and control techniques, where appropriate</p> <p><u>處理與保全有關之敏感資訊及與保全有關通信之知識</u> Knowledge in handling sensitive security-related information and security-related communications</p> <p><u>實施與協調搜查之知識</u> Knowledge of implementing and co-ordinating searches</p> <p><u>人身搜查與非侵入性檢查方法之知識</u> Knowledge of the methods for physical searches and non-intrusive inspections</p>	<p><u>從認可之訓練，或認可之經驗及測驗，包括實際之示範下列之能力所獲得之證據予以評估：</u> Assessment of evidence obtained from approved training, or approved experience and examination, including practical demonstration of competence to:</p> <p><u>1. 施行人身搜查</u> 1. conduct physical searches</p> <p><u>2. 施行非侵入性檢查</u> 2. conduct non-intrusive inspections</p>	<p><u>程式與行動係依據國際船舶與港口設施保全（ISPS）章程與經修正海上人命安全國際公約所制定之原則</u> Procedures and actions are in accordance with the principles established by the ISPS Code and the SOLAS Convention, as amended</p> <p><u>所採之程式對海上保全等級之變化達到即時反應之狀態</u> Procedures achieve a state of readiness to respond to changes in the maritime security levels</p> <p><u>船舶保全人員責任範圍內之溝通清晰明瞭</u> Communications within the ship security officer's area of responsibility are clear and understood</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<p><u>對船舶進行例行檢查，以確保適當之保全措施得以施行與保持</u></p> <p>Undertake regular inspections of the ship to ensure that appropriate security measures are implemented and maintained</p>	<p><u>指定與監控限制區域必要條件之知識</u></p> <p>Knowledge of the requirements for designating and monitoring restricted areas</p> <p><u>管制進入船舶與船上限制區域之知識</u></p> <p>Knowledge of controlling access to the ship and to restricted areas on board ship</p> <p><u>有效監控船舶甲板區域與船舶周圍區域方法之知識</u></p> <p>Knowledge of methods for effective monitoring of deck areas and areas surrounding the ship</p> <p><u>與船上其他人員及港口設施保全人員處理貨物與船舶物料有關保全方面之知識</u></p> <p>Knowledge of security aspects relating to the handling of cargo and ship's stores with other shipboard personnel and relevant port facility security officers</p> <p><u>管制在船人員及其物品上下船方法之知識</u></p> <p>Knowledge of methods for controlling the embarkation, disembarkation and access while on board of persons and their effects</p>	<p><u>從認可之訓練或測驗所獲得之證據予以評估</u></p> <p>Assessment of evidence obtained from approved training or examination</p>	<p><u>程式與行動係依據國際船舶與港口設施保全（ISPS）章程與經修正海上人命安全國際公約所制定之原則</u></p> <p>Procedures and actions are in accordance with the principles established by the ISPS Code and the SOLAS Convention, as amended</p> <p><u>所採之程式對海上保全等級之變化達到即時反應之狀態</u></p> <p>Procedures achieve a state of readiness to respond to changes in the maritime security levels</p> <p><u>船舶保全人員責任範圍內之溝通清晰明瞭</u></p> <p>Communications within the ship security officer's area of responsibility are clear and understood</p>
<p><u>確保適當之操作、測試與校準保全設備與系統（如備有）</u></p> <p>Ensure that security equipment and systems, if any, are properly operated, tested and calibrated</p>	<p><u>各種保全設備與系統及其限制之知識，包括海盜及武裝搶劫分子可能用作襲擊者</u></p> <p>Knowledge of the various types of security equipment and systems and their limitations, including those that could be used in case of attacks by pirates and armed robbers</p> <p><u>船舶保全報警系統用之程式、說明書與指南之知識</u></p> <p>Knowledge of the procedures, instructions and guidance on the use of ship security alert systems</p> <p><u>測試、校準與維護保全系統與設備之方法（尤其是在海上）之知識</u></p> <p>Knowledge of the methods for testing, calibrating, and maintaining security systems and equipment, particularly whilst at sea</p>	<p><u>從認可之訓練或測驗所獲得之證據予以評估</u></p> <p>Assessment of evidence obtained from approved training or examination</p>	<p><u>程式與行動係依據國際船舶與港口設施保全（ISPS）章程與經修正海上人命安全國際公約所制定之原則</u></p> <p>Procedures and actions are in accordance with the principles established by the ISPS Code and the SOLAS Convention, as amended</p>

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>促進保全意識與警惕性</u> Encourage security awareness and vigilance	<u>依相關公約、章程及IMO 通函包括有關防海盜及防武裝搶劫之訓練、演習與練習之知識</u> Knowledge of training, drill and exercise requirements under relevant conventions, codes and IMO circulars, including those relevant to anti-piracy and anti-armed robbery <u>加強船上保全意識與警惕性方法之知識</u> Knowledge of the methods for enhancing security awareness and vigilance on board <u>評估演習與練習有效性方法之知識</u> Knowledge of the methods for assessing the effectiveness of drills and exercises	<u>從認可之訓練或測驗所獲得之證據予以評估</u> Assessment of evidence obtained from approved training or examination	<u>程式與行動係依據國際船舶與港口設施保全（ISPS）章程與經修正海上人命安全國際公約所制定之原則</u> Procedures and actions are in accordance with the principles established by the ISPS Code and the SOLAS Convention, as amended <u>船舶保全人員責任範圍內之溝通清晰明瞭</u> Communications within the ship security officer's area of responsibility are clear and understood

第A-VI/6節

所有航海人員保全有關之訓練與講授之強制性最低要求

Section A-VI/6

Mandatory minimum requirements for security-related training and instruction for all seafarers

保全有關熟悉訓練之適任標準

Standard of competence for security-related familiarization training

1 所有受雇或從事航行船舶工作之人員（不包括旅客），要求符合國際船舶與港口設施保全（ISPS）章程之規定，在指派上船任職之前，應接受經認可與保全有關之熟悉訓練，並考慮及 B 篇所給予之指導，俾能：

1 Before being assigned to shipboard duties, all persons employed or engaged on a seagoing ship which is required to comply with the provisions of the ISPS Code, other than passengers, shall receive approved security-related familiarization training, taking account of the guidance given in part B, to be able to:

.1 報告保全事件，包括海盜及武裝搶劫之威脅或襲擊；

.1 report a security incident, including a piracy or armed robbery threat or attack;

.2 當確認有保全威脅時，知道如何遵循之程式；及

.2 know the procedures to follow when they recognize a security threat; and

.3 加入與保全有關之應急程式。

.3 take part in security-related emergency and contingency procedures.

2 從事或受雇航行船舶上工作經指派負保全職責之航海人員，在經指派此職責之前，應接受其所指派職責與責任保全有關之熟練訓練，並考慮及 B 篇所給予之指導。

2 Seafarers with designated security duties engaged or employed on a seagoing ship shall, before being assigned such duties, receive security-related familiarization training in their assigned duties and responsibilities, taking into account the guidance given in part B.

3 與保全有熟悉訓練應由船舶保全人員或具有同等資格之人員施行。

3 The security-related familiarization training shall be conducted by the ship security officer or an equally qualified person.

保全意識訓練之適任標準

Standard of competence for security-awareness training

4 所有受雇或從事船上任何職務之航海人員，要求遵守國際船舶與港口設施保全（ISPS）章程規定，並未指派負保全職責之在編人員，在經指派船上職責前，應：

4 Seafarers employed or engaged in any capacity on board a ship which is required to

comply with the provisions of the ISPS Code on the business of that ship as part of the ship's complement without designated security duties shall, before being assigned to any shipboard duties:

.1 接受表 A-VI/6-1 所列經適當認可之保全意識之訓練或講習；

- .1 receive appropriate approved training or instruction in security awareness as set out in table A-VI/6-1;

.2 提出業已達到表 A-VI/6-1 第 1 欄所列承擔任務、職責與責任所要求之適任標準之證據；

- .2 be required to provide evidence of having achieved the required standard of competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/6-1:

.2.1 依據表 A-VI/6-1 第 3 欄與第 4 欄所列評估適任性之方法及標準，證明其適任能力；及

- .2.1 by demonstration of competence, in accordance with the methods and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-VI/6-1; and

.2.2 以測驗或連續評估，作為表 A-VI/6-1 第 2 欄所列科目之認可訓練計畫之一部分。

- .2.2 by examination or continuous assessment as part of an approved training programme in the subjects listed in column 2 of table A-VI/6-1.

過渡規定

Transitional provisions

5 迄2014年1月1日，在本節生效前業已開始經認可海勤資歷之航海人員，應以下列證實其能符合第4項之要求：

5 Until 1 January 2014, seafarers who commenced an approved seagoing service prior to the date of entry into force of this section shall be able to establish that they meet the requirements of paragraph 4 by:

.1 在前 3 年內合計至少有 6 個月之期間，為經認可之船上人員海勤資歷；或

- .1 approved seagoing service as shipboard personnel, for a period of at least six months in total during the preceding three years; or

.2 具有執行保全之專長，可認為與第 5.1 項所要求的海勤資歷相當；或

- .2 having performed security functions considered to be equivalent to the seagoing service required in paragraph 5.1; or

.3 通過認可之測試；或

.3 passing an approved test; or

.4 成功的完成經認可之訓練。

.4 successfully completing approved training.

經指派負保全職責之航海人員之適任標準

Standard of competence for seafarers with designated security duties

6 凡經指派執行包括防海盜與防武裝搶劫相關保全職責活動之航海人員，應要求證明其能力能承擔表A-VI/6-2第1欄所列之任務、職責與責任。

6 Every seafarer who is designated to perform security duties, including anti-piracy and anti-armed-robbery-related activities, shall be required to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/6-2.

7 表A-VI/6-2第2欄所列科目之知識水準，應足以確使申請人能執行船上指派之保全職責，包括防海盜與防武裝搶劫相關之活動。

7 The level of knowledge of the subjects in column 2 of table A-VI/6-2 shall be sufficient to enable every candidate to perform on board designated security duties, including anti-piracy and anti-armed-robbery-related activities.

8 凡申請發證者應要求其提供下列業已達到所要求適任標準之證據：

8 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence through:

.1 依表 A-VI/6-2 第 3 欄及第 4 欄所列之適任性之證明方法及適任性之評估標準，證明其能力能承擔表 A-VI/6-2 第 1 欄所列之任務、職責與責任；及

.1 demonstration of competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/6-2, in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of that table; and

.2 以測驗或連續評估，作為表 A-VI/6-1 第 2 欄所列科目之認可訓練計畫之一部分。

.2 examination or continuous assessment as part of an approved training programme covering the material set out in column 2 of table A-VI/6-2.

過渡規定

Transitional provisions

9 迄2014年1月1日，在本節生效前業已開始經認可海勤資歷之航海人員，應以下列證實其能符合表A-VI/6-2 第1欄之要求：

9 Until 1 January 2014, seafarers with designated security duties who commenced an approved seagoing service prior to the date of entry into force of this section shall be able to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/6-2 by:

- .1 在前 3 年內合計至少有 6 個月之期間，為經認可之船上人員海勤資歷；或
.1 approved seagoing service as shipboard personnel with designated security duties, for a period of at least six months in total during the preceding three years; or
- .2 具有執行保全之專長，可認為與第 9.1 項所要求的海勤資歷相當；或
.2 having performed security functions considered to be equivalent to the seagoing service required in paragraph 9.1; or
- .3 通過認可之測試；或
.3 passing an approved test; or
- .4 成功的完成經認可之訓練。
.4 successfully completing approved training.

表 A-VI/6-1

保全意識最低適任標準規範

Table A-VI/6-1

Specification of minimum standard of competence in security awareness

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>通過意識之提升以加強海上保全</u> Contribute to the enhancement of maritime security through heightened awareness	<u>海上保全詞彙與定義之基本工作知識，包括可能與海盜與武裝搶劫有關者</u> Basic working knowledge of maritime security terms and definitions, including elements that may relate to piracy and armed robbery <u>國際海上保全政策與政府，公司及個人責任之基本知識</u> Basic knowledge of international maritime security policy and responsibilities of Governments, companies and persons <u>海上保全等級及其對在海上與港口設施採取海上保全措施與程式衝擊之基本知識</u> Basic knowledge of maritime security levels and their impact on security measures and procedures aboard ship and in port facilities <u>保全報告程式之基本知識</u> Basic knowledge of security reporting procedures <u>與保全相關應急計畫之基本知識</u> Basic knowledge of security-related contingency plans	<u>從認可之講習或參加經認可之課程所獲得之證據予以評估</u> Assessment of evidence obtained from approved instruction or during attendance at an approved course	<u>對有關加強海上保全之要求有正確認識</u> Requirements relating to enhanced maritime security are correctly identified

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>保全威脅之認知</u> Recognition of security threats	<u>規避保全措施技術之基本知識</u> Basic knowledge of techniques used to circumvent security measures <u>確認包括海盜與武裝搶劫有關事項之潛在保全威脅之基本知識</u> Basic knowledge enabling recognition of potential security threats, including elements that may relate to piracy and armed robbery <u>辨識武器、危險物質與設備及瞭解其可能肇致損壞之基本知識</u> Basic knowledge enabling recognition of weapons, dangerous substances and devices and awareness of the damage they can cause <u>處理與保全相關資訊及通信之基本知識</u> Basic knowledge in handling security-related information and security-related communications	<u>從認可之講習或參加經認可之課程所獲得之證據予以評估</u> Assessment of evidence obtained from approved instruction or during attendance at an approved course	<u>對海上保全威脅有正確認識</u> Maritime security threats are correctly identified
<u>瞭解保持保全意識與警惕性之必要性與方法</u> Understanding of the need for and methods of maintaining security awareness and vigilance	<u>依相關公約、章程及IMO 通函包括有關防海盜及防武裝搶劫之訓練、演習與練習之知識</u> Basic knowledge of training, drill and exercise requirements under relevant conventions, codes and IMO circulars, including those relevant for anti-piracy and anti-armed robbery	<u>從認可之講習或參加經認可之課程所獲得之證據予以評估</u> Assessment of evidence obtained from approved instruction or during attendance at an approved course	<u>對有關加強海上保全之要求有正確認識</u> Requirements relating to enhanced maritime security are correctly identified

表 A-VI/6-2

經指派負保全職責航海人員之最低適任標準規範

Table A-VI/6-2

Specifications of minimum standards of competence for seafarers with designated security duties

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>保持船舶保全計畫所設定之狀態</u> Maintain the conditions set forth in a ship security plan	<u>海上保全詞彙與定義之工作知識，包括可能與海盜與武裝搶劫有關者</u> Working knowledge of maritime security terms and definitions, including elements that may relate to piracy and armed robbery <u>國際海上保全政策與政府，公司及個人責任之知識，包括可能與海盜與武裝搶劫有關部分之工作知識</u> Knowledge of international maritime security policy and responsibilities of Governments, companies and persons, including working knowledge of elements that may relate to piracy and armed robbery <u>海上保全等級及其對在海上與港口設施採取海上保全措施與程式衝擊之知識</u> Knowledge of maritime security levels and their impact on security measures and procedures aboard ship and in the port facilities <u>保全報告程式之知識</u> Knowledge of security reporting procedures <u>依相關公約、章程及IMO 通函包括海盜及武裝搶劫有關演習與練習程式與要求之知識</u> Knowledge of procedures and requirements for drills and exercises under relevant conventions, codes and IMO circulars, including working knowledge of those that may relate to piracy and armed robbery	<u>從認可之講習或參加經認可之課程所獲得之證據予以評估</u> Assessment of evidence obtained from approved instruction or during attendance at an approved course	<u>程式與行動係依據國際船舶與港口設施保全（ISPS）章程與經修正海上人命安全國際公約所制定之原則</u> Procedures and actions are in accordance with the principles established by the ISPS Code and the SOLAS Convention, as amended <u>對保全相關之法定要求有正確認識</u> Legislative requirements relating to security are correctly identified <u>在其責任範圍內之溝通清晰明瞭</u> Communications within the area of responsibility are clear and understood

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>保持船舶保安計畫所設定之狀態 (續)</u> Maintain the conditions set forth in a ship security plan (continued)	<u>施行檢查與檢驗、控制與監控船舶保安計畫所列保安活動程式之知識</u> Knowledge of the procedures for conducting inspections and surveys and for the control and monitoring of security activities specified in a ship security plan <u>與保安相關應急計畫及回應保安威脅或保安破壞程式之知識，包括保持船/岸介面關鍵操作之程式，尚包括可能與海盜及武裝搶劫有關之知識</u> Knowledge of security-related contingency plans and the procedures for responding to security threats or breaches of security, including provisions for maintaining critical operations of the ship/port interface, and including also working knowledge of those that may relate to piracy and armed robbery		
<u>保安威脅之認知</u> Recognition of security risks and threats	<u>保安檔，包括安全宣告之知識</u> Knowledge of security documentation, including the Declaration of Security <u>規避保安措施技術之知識，包括海盜及武裝搶劫分子所使用技術之知識</u> Knowledge of techniques used to circumvent security measures, including those used by pirates and armed robbers <u>確認潛在保安危險之知識</u> Knowledge enabling recognition of potential security threats <u>辨識武器、危險物質與設施並瞭解其可能肇致損壞之知識</u> Knowledge enabling recognition of weapons, dangerous substances and devices and awareness of the damage they can cause <u>群眾管理與控制技術之知識（適用時）</u> Knowledge of crowd management and control techniques, where appropriate <u>處理與保安相關資訊及通信之基本知識</u> Knowledge in handling security-related information and security-related communications	<u>從認可之講習或參加經認可之課程所獲得之證據予以評估</u> Assessment of evidence obtained from approved instruction or during attendance at an approved course	<u>程式與行動係依據國際船舶與港口設施保安（ISPS）章程與經修正海上人命安全國際公約所制定之原則</u> Procedures and actions are in accordance with the principles established by the ISPS Code and the SOLAS Convention, as amended

第 1 欄 Column 1	第 2 欄 Column 2	第 3 欄 Column 3	第 4 欄 Column 4
適任 Competence	知識、瞭解及熟練 Knowledge, understanding and proficiency	適任性之證明方法 Methods for demonstrating competence	適任性之評估標準 Criteria for evaluating competence
<u>保全威脅之認知(續)</u> Recognition of security risks and threats (continued)	<u>人身搜查與非侵入性檢查方法之知識</u> Knowledge of the methods for physical searches and non-intrusive inspections		
<u>對船舶施行定期之保全檢查</u> Undertake regular security inspections of the ship	<u>監控限制區域技術之知識</u> Knowledge of the techniques for monitoring restricted areas <u>管制進入船舶與船上限制區域之知識</u> Knowledge of controlling access to the ship and to restricted areas on board ship <u>有效監控船舶甲板區域與船舶周圍區域方法之知識</u> Knowledge of methods for effective monitoring of deck areas and areas surrounding the ship <u>有關貨物與船用物料檢查方法之知識</u> Knowledge of inspection methods relating to the cargo and ship's stores <u>管制在船人員及其物品上下船方法之知識</u> Knowledge of methods for controlling the embarkation, disembarkation and access while on board of persons and their effects	<u>從認可之講習或參加經認可之課程所獲得之證據予以評估</u> Assessment of evidence obtained from approved instruction or during attendance at an approved course	<u>程式與行動係依據國際船舶與港口設施保全 (ISPS) 章程與經修正海上人命安全國際公約所制定之原則</u> Procedures and actions are in accordance with the principles established by the ISPS Code and the SOLAS Convention, as amended
<u>正確使用保全設備與系統 (如備有時)</u> Proper usage of security equipment and systems, if any	<u>各種保全設備與系統及其限制之一般知識，包括海盜及武裝搶劫分子可能用作襲擊者，包括其限制</u> General knowledge of various types of security equipment and systems, including those that could be used in case of attacks by pirates and armed robbers, including their limitations <u>測試、校準與維護保全系統與設備之必要性 (尤其是在海上) 之知識</u> Knowledge of the need for testing, calibrating, and maintaining security systems and equipment, particularly whilst at sea	<u>從認可之講習或參加經認可之課程所獲得之證據予以評估</u> Assessment of evidence obtained from approved instruction or during attendance at an approved course	<u>設備與系統之操作已依據既定之設備操作說明書並考慮及該設備與系統之限制性</u> Equipment and systems operations are carried out in accordance with established equipment operating instructions and taking into account the limitations of the equipment and systems <u>程式與行動係依據國際船舶與港口設施保全 (ISPS) 章程與經修正海上人命安全國際公約所制定之原則</u> Procedures and actions are in accordance with the principles established by the ISPS Code and the SOLAS Convention, as amended

第七章 另一發證方式之標準

CHAPTER VII

Standards regarding alternative certification

第 A-VII/1 節

替代證書之簽發

Section A-VII/1

Issue of alternative certificates

1 凡依公約附錄第 VII 章規定申請操作級證書者，應被要求完成相關之教育及訓練，並符合表 A-II/1 或表 A-III/1 所列之所有專長之適任標準。分別列於表 A-II/1 或表 A-III/1 之專長得予以增加，但該申請者應完成另增之相關教育及訓練，並符合該等表中所述有關專長之適任標準；

1 Every candidate for certification at the operational level under the provisions of chapter VII of the annex to the Convention shall be required to complete relevant education and training and meet the standard of competence for all the functions prescribed in either table A-II/1 or table A-III/1. Functions specified in table A-II/1 or A-III/1 respectively may be added provided the candidate completes, as appropriate, additional relevant education and training and meets the standards of competence prescribed in those tables for the functions concerned.

2 凡申請管理級證書以指揮總噸位 500 以上船舶，或萬一該指揮者不能履行職務時將指揮船舶者，除應要求其符合表 A-II/1 所列之適任標準外，尚應完成相關之教育及訓練，並符合表 A-II/2 所列之所有專長之適任標準，本篇第 III 章各表中所列之各項專長得予以增加，但該申請者應完成（適當時）另增之相關教育及訓練，並符合該等表中有關專長之適任標準。

2 Every candidate for certification at the management level as the person having command of a ship of 500 gross tonnage or more, or the person upon whom the command of such a ship will fall in the event of the incapacity of the person in command, shall be required, in addition to compliance with the standard of competence specified in table A-II/1, to complete relevant education and training and meet the standards of competence for all of the functions prescribed in table A-II/2. Functions specified in the tables of chapter III of this part may be added provided the candidate completes, as appropriate, additional relevant education and training and meets the standards of competence prescribed in those tables for the functions concerned.

3 凡申請管理級證書以負責主機推進動力在 750 瓩以上船舶機械推進者，或萬一該負責船舶機械推進人員不能履行職務時將負責該責任之管理級人員，除應被要求符合表 A-III/1 所列之適任標準外，尚應完成相關之教育及訓練；並符合表 A-III/2 所列之所有專

長之適任標準，本篇第 II 章各表中所列之各專長得予以增加；但該申請者適當時應完成另增之相關教育及訓練，並符合該等表中有關專長之適任標準；

3 Every candidate for certification at the management level as the person responsible for the mechanical propulsion of a ship powered by main propulsion machinery of 750 kW or more, or the person upon whom such responsibility will fall in the event of the incapacity of the person responsible for the mechanical propulsion of the ship, shall be required, in addition to compliance with the standard of competence specified in table A-III/1, to complete relevant education and training and meet the standards of competence for all of the functions prescribed in table A-III/2, as appropriate. Functions specified in the tables of chapter II of this part may be added provided the candidate completes, as appropriate, additional relevant education and training and meets the standards of competence prescribed in those tables for the functions concerned.

4 凡申請助理級證書者：

4 Every candidate for certification at the support level:

.1 航海或輪機應要求完成相關之訓練，並符合表 A-II/4 或表 A-III/4 所列之所有專長之適任標準。表 A-II/4 或表 A-III/4 所列之所有專長得分別予以增加，但該申請者適當時應完成另增之訓練，並符合該等表中有關專長之適任標準。

.1 in navigation or marine engineering shall be required to complete relevant training and meet the standard of competence for the function prescribed in either table A-II/4 or table A-III/4. Functions specified in table A-III/4 or A-II/4 respectively may be added provided the candidate completes, as appropriate, additional relevant training and meets the standard of competence prescribed in those tables for the function concerned;

.2 幹練水手，除應要求其符合表 A-II/4 所列有關專長之適任標準外，尚應完成相關之訓練，並符合表 A-II/5 所列之所有專長之適任標準。表 A-III/4 或表 A-III/5 所列之所有專長得予以增加，但該申請者適當時應完成另增之訓練，並符合該等表中有關專長之適任標準。

.2 as able seafarer deck shall be required, in addition to compliance with the standard of competence specified in table A-II/4, to complete relevant training and meet the standard of competence for all of the functions prescribed in table A-II/5. Functions specified in table A-III/4 or A-III/5 may be added provided the candidate completes, as appropriate, additional relevant training and meets the standard of competence prescribed in that (those) table(s) for the function(s) concerned; and

.3 幹練機匠，除應要求其符合表 A-III/4 所列有關專長之適任標準外，尚應完成相關之訓練，並符合表 A-III/5 所列之所有專長之適任標準。表 A-II/4 或

A-II/5 所列之所有專長得予以增加，但該申請者適當時應完成另增之訓練，並符合該等表中有關專長之適任標準。

- .3 as able seafarer engine shall be required, in addition to compliance with the standard of competence specified in table A-III/4, to complete relevant training and meet the standard of competence for all of the functions prescribed in table A-III/5. Functions specified in table A-II/4 or A-II/5 may be added provided the candidate completes, as appropriate, additional relevant training and meets the standard of competence prescribed in that (those) table(s) for the function(s) concerned.

第 A-VII/2 節

航海人員之發證

Section A-VII/2

Certification of seafarers

1 依據規則 VII/1 第 1.3 項要求，凡依第 VII 章規定申請發給表 A-II/1 及表 A-III/1 所列操作級專長之證書者應：

1 In accordance with the requirements of regulation VII/1, paragraph 1.3, every candidate for certification under the provisions of chapter VII at operational level in functions specified in tables A-II/1 and A-III/1 shall:

- .1 具有至少 12 個月 經認可之海勤資歷，該資歷應包括在適格之輪機員監督下至少執行 6 個月之機艙職責。如要求航海專長，則應在適格駕駛台之當值甲級船員監督下至少執行 6 個月之駕駛台當值職責；及
- .1 have approved seagoing service of not less than 12 months, which service shall include a period of at least six months performing engine-room duties under the supervision of a qualified engineer officer and, where the function of navigation is required, a period of at least six months performing bridge watchkeeping duties under the supervision of a qualified bridge watchkeeping officer; and
- .2 在此海勤資歷期間，業已完成經認可，符合第 A-II/1 節及第 A-III/1 節相關要求之船上訓練計畫，並在認可之訓練紀錄簿中記載之。
- .2 have completed, during this service, onboard training programmes approved as meeting the relevant requirements of sections A-II/1 and A-III/1 and documented in an approved training record book.

2 凡依第 VII 章規定申請發給表 A-II/2 及表 A-III/2 所列管理級多種專長之證書者，應具有下列將於證書加簽顯示其有關專長之認可之海勤資歷：

2 Every candidate for certification under the provisions of chapter VII at the management level in a combination of functions specified in tables A-II/2 and A-III/2 shall have approved

seagoing service related to the functions to be shown in the endorsement to the certificate as follows:

- .1 對於指揮船舶或負責船舶機械推進以外之人員，執行與規則 III/2 或規則 III/3 適當有關之操作級職責 12 個月；如要求管理級之航海專長，則執行操作級之駕駛台當值職責至少 12 個月；
- .1 *for persons other than those having command or responsibility for the mechanical propulsion of a ship – 12 months performing duties at the operational level related to regulation III/2 or III/3 as appropriate and, where the function of navigation at the management level is required, at least 12 months performing bridge watchkeeping duties at the operational level;*
- .2 對於指揮船舶及負責船舶機械推進之人員，包括依本節第 2.1 項規定執行將於證書加簽上記載之合格甲板船員職責至少應有 48 個月，其中 24 個月應執行表 A-III/1 所列之專長；及 24 個月應執行表 A-III/1 及表 A-III/2 所列之專長。
- .2 *for those having command or the responsibility for the mechanical propulsion of a ship – not less than 48 months, including the provisions in paragraph 2.1 of this section, performing, as a certificated officer, duties related to the functions to be shown in the endorsement to the certificate, of which 24 months shall be served performing functions set out in table A-III/1 and 24 months shall be served performing functions set out in tables A-III/1 and A-III/2.*

3 依據規則 VII/1 第 1.3 項要求，凡依第 VII 章規定申請發給表 A-II/4 與表 A-III/4 所列助理級專長之證書者應完成：

3 In accordance with the requirements of regulation VII/1, paragraph 1.3, every candidate for certification under the provisions of chapter VII at support level in functions specified in tables A-II/4 and A-III/4 shall have completed:

.1 經認可之海勤資歷，包括至少 12 個月下列之經驗：

- .1 approved seagoing service including not less than 12 months' experience, made up of:

.1.1 與航行當值職責相關至少 6 個月及

- .1.1 not less than 6 months associated with navigational watchkeeping duties; and

.1.2 與機艙當值職責相關至少 6 個月；或

- .1.2 not less than 6 months associated with engine-room duties; or

.2 上船前或在船上之特殊訓練，包括至少 4 個月下列經認可之海勤資歷：

- .2 special training, either pre-sea or on board ship, including an approved period of

seagoing service which shall not be less than 4 months, made up of:

.2.1 與航行當值職責相關至少 2 個月；及

.2.1 not less than 2 months associated with navigational watchkeeping duties;
and

.2.2 與機艙當值職責相關至少 2 個月；

.2.2 not less than 2 months associated with engine-room duties;

.3 3.1 項或 3.2 項所要求之海勤資歷、訓練與經驗應在具有適當資格之甲級船員或乙級船員之直接監督下施行。

.3 the seagoing service, training and experience required by paragraph 3.1 or 3.2 shall be carried out under the direct supervision of an appropriately qualified officer or rating.

4 依據規則 VII/1 第 1.3 項要求，凡依第 VII 章規定申請發給表 A-II/5 與表 A-III/5 所列助理級專長之證書者，當構成航行當值及機艙當值一部分之乙級船員時，應符合 STCW 章程第 A-II/5 節或第 A-III/5 節所述之適任標準，並已完成：

4 In accordance with the requirements of regulation VII/1, paragraph 1.3, every candidate for certification under the provisions of chapter VII at support level in functions specified in tables A-II/5 and A-III/5 shall, while qualified to serve as a rating forming part of a navigational and engine-room watch, meet the standards of competence specified in sections A-II/5 and A-III/5 of the STCW Code and have completed:

.1 至少 30 個月下列認可之海勤資歷：

.1 approved seagoing service of not less than 30 months, made up of:

.1.1 與幹練水手職責相關至少 18 個月，及

.1.1 not less than 18 months associated with able seafarer deck duties, and

.1.2 與幹練機匠職責相關至少 12 個月；或

.1.2 not less than 12 months associated with able seafarer engine duties; or

.2 認可之訓練計畫及至少 18 個月認可之下列海勤資歷：

.2 an approved training programme and not less than 18 months of approved seagoing service, made up of:

.2.1 與幹練水手職責相關至少 12 個月；及

.2.1 not less than 12 months associated with able seafarer deck duties; and

.2.2 與幹練機匠職責相關至少 6 個月；或

.2.2 not less than 6 months associated with able seafarer engine duties; or

.3 認可之特殊甲板與機艙綜合訓練計畫，包括在甲板與機艙綜合部門至少 12 個月認可之下列海勤資歷：

.3 an approved special integrated deck and engine training programme, including not less than 12 months' approved seagoing service in an integrated deck and engine department, made up of:

.3.1 與幹練水手職責相關至少 6 個月；及

.3.1 not less than 6 months associated with able seafarer deck duties; and

.3.2 與幹練機匠職責相關至少 6 個月。

.3.2 not less than 6 months associated with able seafarer engine duties.

第 A-VII/3 節

簽發替代證書之原則

Section A-VII/3

Principles governing the issue of alternative certificates

(無條文)

(No provisions)

第八章
當值標準
CHAPTER VIII
Standards regarding watchkeeping

第 A-VIII/1 節

適於當值

Section A-VIII/1

Fitness for duty

1 主管機關應考慮航海人員，尤其是其職責涉及船舶操作安全與保全之人員，由於疲勞所肇致之危險。

1 Administrations shall take account of the danger posed by fatigue of seafarers, especially those whose duties involve the safe and secure operation of a ship.

2 所有經指派負責航行當值之甲級船員或構成當值一部分之乙級船員及其職責涉及特定之安全、防止污染及保全職責者，應提供不少於下列之休息期間：

2 All persons who are assigned duty as officer in charge of a watch or as a rating forming part of a watch and those whose duties involve designated safety, prevention of pollution and security duties shall be provided with a rest period of not less than:

.1 在任何 24 小時之期間內最少 10 小時之休息；及

.1 a minimum of 10 hours of rest in any 24-hour period; and

.2 在任何 7 天之期間內 77 小時。

.2 77 hours in any 7-day period.

3 休息時間可以分段，但不超過二時段，其中一段至少有 6 小時。連續兩休息期間之間隔不應超過 14 小時。

3 The hours of rest may be divided into no more than two periods, one of which shall be at least 6 hours in length, and the intervals between consecutive periods of rest shall not exceed 14 hours.

4 第 2 及第 3 項所規定之休息時間要求，在緊急情況或其他意外之操作狀況下得免予保持之。召集、消防與救生艇演習，及國內法規與國際文書所規定之演習，應以對休息期間之干擾最小並不致產生疲勞之方式為之。

4 The requirements for rest periods laid down in paragraphs 2 and 3 need not be maintained in the case of an emergency or in other overriding operational conditions. Musters, fire-fighting and lifeboat drills, and drills prescribed by national laws and regulations and by international

instruments, shall be conducted in a manner that minimizes the disturbance of rest periods and does not induce fatigue.

5 主管機關應要求將當值配置表張貼於船員易接近之處。該當值配置表應以標準格式*制定，並以工作語文或船舶語文及英文為之。

5 Administrations shall require that watch schedules be posted where they are easily accessible. The schedules shall be established in a standardized format* in the working language or languages of the ship and in English.

6 當航海人員係處於隨時待命狀態，例如無人當值機艙，如該航海人員之休息期間為臨時安排之工作所干擾，則應具有適當之補償性休息期間。

6 When a seafarer is on call, such as when a machinery space is unattended, the seafarer shall have an adequate compensatory rest period if the normal period of rest is disturbed by call-outs to work.

7 主管機關應要求將航海人員每日休息之時間以工作語文或船舶語文及英文記錄於標準格式*，俾能符合本節之規定予以監督與核實。有關該航海人員之紀錄應經船長或經船長與航海人員授權之人員簽證，其複本並應送一份與該員。

7 Administrations shall require that records of daily hours of rest of seafarers be maintained in a standardized format , in the working language or languages of the ship and in English, to allow monitoring and verification of compliance with the provisions of this section. The seafarers shall receive a copy of the records pertaining to them, which shall be endorsed by the master or by a person authorized by the master and by the seafarers.

8 本節之規定不應視為妨礙船舶之船長為船舶、船上人員或貨物立即之安全需要或為對海上遇險之其他船舶或人員給予協助而要求航海人員施行任何工作時間之權。因此，船長得暫時中止該休息時間表並要求其進行必要的工作迄正常之情況業已恢復之時止。但正常情況恢復之後，船長應確保儘可能快為在預定休息時間而參加工作之航海人員提供適當之休息時間。

8 Nothing in this section shall be deemed to impair the right of the master of a ship to require a seafarer to perform any hours of work necessary for the immediate safety of the ship, persons on board or cargo, or for the purpose of giving assistance to other ships or persons in distress at sea. Accordingly, the master may suspend the schedule of hours of rest and require a seafarer to perform any hours of work necessary until the normal situation has been restored. As soon as practicable after the normal situation has been restored, the master shall ensure that any seafarers who have performed work in a scheduled rest period are provided with an adequate period of rest.

*得使用IMO/ILO 制定航海人員船上工作安排表與航海人員工作時間或休息時間紀錄表格式之準則。

* The IMO/ILO Guidelines for the development of tables of seafarers' shipboard working arrangements and formats of records of seafarers' hours of work or hours of rest may be used.

9 締約國得許豁免上述第 2.2 項及第 3 項有關。但在任何 7 天之期間內休息時間不應少於 70 小時。

9 Parties may allow exceptions from the required hours of rest in paragraphs 2.2 and 3 above provided that the rest period is not less than 70 hours in any 7-day period.

豁免第 2.2 項每週休息期間之規定，不應允許超過連續兩週。該船上兩次豁免期間之間隔不應少於該豁免期間之兩倍。

Exceptions from the weekly rest period provided for in paragraph 2.2 shall not be allowed for more than two consecutive weeks. The intervals between two periods of exceptions on board shall not be less than twice the duration of the exception.

第 2.1 項規定之休息期間得予分段不超過三時段，其中一段至少有 6 小時，而其他之兩段則不應少於一小時。連續兩休息期間之間隔不應超過 14 小時。豁免並不應在 7 天之期間內超過 24 小時。

The hours of rest provided for in paragraph 2.1 may be divided into no more than three periods, one of which shall be at least 6 hours in length and neither of the other two periods shall be less than one hour in length. The intervals between consecutive periods of rest shall not exceed 14 hours. Exceptions shall not extend beyond two 24-hour periods in any 7-day period.

豁免應儘可能考慮及第 B-VIII/1 節有關防止疲勞之準則。

Exceptions shall, as far as possible, take into account the guidance regarding prevention of fatigue in section B-VIII/1.

10 為防止酗酒之目的，主管機關應制定對正在執行特定安全、保全與海洋環境職責之船長、甲級船員與其他航海人員血液之酒精濃度（BAC）不超過 0.05%，或呼吸中酒精濃度不超過 0.25mg/l 之限制。

10 Each Administration shall establish, for the purpose of preventing alcohol abuse, a limit of not greater than 0.05% blood alcohol level (BAC) or 0.25 mg/l alcohol in the breath or a quantity of alcohol leading to such alcohol concentration for masters, officers and other seafarers while performing designated safety, security and marine environmental duties.

第 A-VIII/2 節

當值安排及應遵守之原則

Section A-VIII/2

Watchkeeping arrangements and principles to be observed

第 1 部分 — 發證

PART 1 – CERTIFICATION

1 負責航行或甲板當值之甲級船員，應依第 II 章或第 VII 章之規定具有適當資格適於

有關航行或甲板當值之職責。

1 The officer in charge of the navigational or deck watch shall be duly qualified in accordance with the provisions of chapter II or chapter VII appropriate to the duties related to navigational or deck watchkeeping.

2 負責輪機當值之甲級船員，應依第 III 章或第 VII 章之規定具有適當資格適於有關輪機當值之職責。

2 The officer in charge of the engineering watch shall be duly qualified in accordance with the provisions of chapter III or chapter VII appropriate to the duties related to engineering watchkeeping.

第 2 部分 — 航次計畫

PART 2 – VOYAGE PLANNING

一般要求

General requirements

3 對預定之航次，應在考慮及所有之適切資料後事先計畫，並應在發航前對所制定之任何航線予以核對。

3 The intended voyage shall be planned in advance, taking into consideration all pertinent information, and any course laid down shall be checked before the voyage commences.

4 輪機長應與船長協商後，事先決定計劃航次之需要，考慮及燃料、淡水、潤滑油、化學藥劑、消耗品及其他配件、工具、供應品之需求以及其他任何需求。

4 The chief engineer officer shall, in consultation with the master, determine in advance the needs of the intended voyage, taking into consideration the requirements for fuel, water, lubricants, chemicals, expendable and other spare parts, tools, supplies and any other requirements.

每一航次前之計畫

Planning prior to each voyage

5 在每一航次前，各船舶之船長應確保從發航港至第一靠泊港之預定航線係利用預定航程所需之適當海圖及其他航海刊物予以計畫，包括該次航行之限制與危險之正確、完整及最新資料，不論是永久性或可預測現象及與航行安全有關者均含之。

5 Prior to each voyage, the master of every ship shall ensure that the intended route from the port of departure to the first port of call is planned using adequate and appropriate charts and other nautical publications necessary for the intended voyage, containing accurate, complete and up-to-date information regarding those navigational limitations and hazards which are of a permanent or predictable nature and which are relevant to the safe navigation of the ship.

計劃航線之查證及標繪

Verification and display of planned route

6 在考慮及所有適切資料，查證航線計劃時，計劃航線應清楚地標繪在適當之海圖上，並應隨時備便供當值甲級船員之用，當值甲級船員在航程中之使用前應查證遵循之航向。

6 When the route planning is verified, taking into consideration all pertinent information, the planned route shall be clearly displayed on appropriate charts and shall be continuously available to the officer in charge of the watch, who shall verify each course to be followed prior to using it during the voyage.

計劃航線偏離

Deviation from planned route

7 在航程中如經決定改變計劃航線之次一停泊港，或因其他原因船舶需要大幅度偏離計劃航線，則在大幅度偏離原計劃航線前，修正航線應予以計劃之。

7 If a decision is made, during a voyage, to change the next port of call of the planned route, or if it is necessary for the ship to deviate substantially from the planned route for other reasons, then an amended route shall be planned prior to deviating substantially from the route originally planned.

第3部分 當值的一般原則

PART 3 – WATCHKEEPING PRINCIPLES IN GENERAL

8 當值應基於下列駕駛台與機艙資源管理之原則：

8 Watches shall be carried out based on the following bridge and engine-room resource management principles:

.1 應確保依據情況合理之安排當值人員；

.1 proper arrangements for watchkeeping personnel shall be ensured in accordance with the situations;

.2 在安排當值人員時應考慮當值人員之資格或健康方面之任何限制；

.2 any limitation in qualifications or fitness of individuals shall be taken into account when deploying watchkeeping personnel;

.3 應制定當值人員對其個人有關之任務、責任與在團隊中之任務有所瞭解；

.3 understanding of watchkeeping personnel regarding their individual roles, responsibility and team roles shall be established;

.4 船長、輪機長與負責當值之甲級船員應保持適當之當值，並最有效之應用可用之資源，如資訊、裝置/設備與其他人員；

- .4 the master, chief engineer officer and officer in charge of watch duties shall maintain a proper watch, making the most effective use of the resources available, such as information, installations/equipment and other personnel;
- .5 當值人員應瞭解裝置/設備之功能與操作，並熟練之使用；
- .5 watchkeeping personnel shall understand functions and operation of installations/equipment, and be familiar with handling them;
- .6 當值人員應瞭解資訊及如何回應由各站/裝置/設備所獲得之資訊；
- .6 watchkeeping personnel shall understand information and how to respond to information from each station/installation/equipment;
- .7 由各站/裝置/設備所獲得之資訊，應適當之與所有當值人員共用；
- .7 information from the stations/installations/equipment shall be appropriately shared by all the watchkeeping personnel;
- .8 當值人員應在任何狀態下保持適當之通信交換；及
- .8 watchkeeping personnel shall maintain an exchange of appropriate communication in any situation; and
- .9 當值人員在為有關安全應採取何種行動有任何疑問時，應毫不遲疑之通知船長、輪機長與負責當值之甲級船員。
- .9 watchkeeping personnel shall notify the master/chief engineer officer/officer in charge of watch duties without any hesitation when in any doubt as to what action to take in the interest of safety.

第 4 部分 — 海上當值

PART 4 – WATCHKEEPING AT SEA

當值基本原則

Principles applying to watchkeeping generally

2 締約國應促請公司、船長、輪機長及當值人員注意並遵守下列原則，以確保隨時保持安全當值。

9 Parties shall direct the attention of companies, masters, chief engineer officers and watchkeeping personnel to the following principles, which shall be observed to ensure that safe watches are maintained at all times.

10 每艘船舶之船長應負有確保當值之安排適於保持安全航行或貨物當值之義務。在船長一般之監督下，航行當值甲級船員在其當值期間，尤其是涉及避免碰撞及坐礁時，負責船舶安全航行。

10 The master of every ship is bound to ensure that watchkeeping arrangements are adequate for maintaining a safe navigational or cargo watch. Under the master's general direction, the officers of the navigational watch are responsible for navigating the ship safely during their periods of duty, when they will be particularly concerned with avoiding collision and stranding.

11 每艘船舶之輪機長與船長協商後，負有確保當值之安排適於保持安全輪機當值之責任。

11 The chief engineer officer of every ship is bound, in consultation with the master, to ensure that watchkeeping arrangements are adequate to maintain a safe engineering watch.

海上環境之保護

Protection of marine environment

12 船長、甲級船員及乙級船員，應瞭解由於操作或意外污染海上環境之嚴重後果，並應採取一切可能防止污染之預防措施，尤其是在有關國際規則及港口規則內之架構。

12 The master, officers and ratings shall be aware of the serious effects of operational or accidental pollution of the marine environment and shall take all possible precautions to prevent such pollution, particularly within the framework of relevant international and port regulations.

第4-1部分 — 航行當值應遵守之原則

Part 4-1 – Principles to be observed in keeping a navigational watch

13 負責航行當值之甲級船員為船長之代表，其主要之職責在隨時注意船舶之安全航行，並遵守經修正 1972 年國際海上避碰規則。

13 The officer in charge of the navigational watch is the master's representative and is primarily responsible at all times for the safe navigation of the ship and for complying with the International Regulations for Preventing Collisions at Sea, 1972, as amended.

瞭望

Lookout

14 應遵照經修正 1972 年國際海上避碰規則第 5 條之規定隨時保持適當瞭望，並應達到下列目的：

14 A proper lookout shall be maintained at all times in compliance with rule 5 of the International Regulations for Preventing Collisions at Sea, 1972, as amended and shall serve the purpose of:

- .1 對操縱環境所發生之重大變化，利用視覺、聽覺及其他所有可行之方法維持連續之警覺狀態；
- .1 maintaining a continuous state of vigilance by sight and hearing, as well as by all other available means, with regard to any significant change in the operating

environment;

- .2 充分地評估碰撞、坐礁及其他危害航行安全之情況及危險；
- .2 fully appraising the situation and the risk of collision, stranding and other dangers to navigation; and
- .3 搜尋遇險船舶及飛機、船舶遇險人員、受損船舶、殘骸及其他危及航行安全之物。
- .3 detecting ships or aircraft in distress, shipwrecked persons, wrecks, debris and other hazards to safe navigation.

15 瞭望者須全神貫注以保持適當之瞭望，並不得擔負或被指派為其他會影響瞭望之任務。

15 The lookout must be able to give full attention to the keeping of a proper lookout and no other duties shall be undertaken or assigned which could interfere with that task.

16 瞭望者與舵工之職責係屬分開，舵工在操舵時不應認係瞭望者；但小型船舶於操舵位置四周具有無遮擋之視野，並無夜視障礙或無保持適當瞭望之其他妨礙者，則不在此限；負責航行當值之甲級船員在白天之下列情況得單獨瞭望：

16 The duties of the lookout and helmsperson are separate and the helmsperson shall not be considered to be the lookout while steering, except in small ships where an unobstructed all-round view is provided at the steering position and there is no impairment of night vision or other impediment to the keeping of a proper lookout. The officer in charge of the navigational watch may be the sole lookout in daylight provided that, on each such occasion:

- .1 經謹慎評估當時情況，並已確認無疑，則如此處理是安全的；
- .1 the situation has been carefully assessed and it has been established without doubt that it is safe to do so;
- .2 經充分考慮所有有關因素，包括但不限於下列：
- .2 full account has been taken of all relevant factors, including, but not limited to:

—天氣情況，
—state of weather,

—能見度，
—visibility,

—交通密度，
—traffic density,

—接近航行危險區（物），及

—proximity of dangers to navigation, and

—航行於或接近分道通航制所應注意者；及

—the attention necessary when navigating in or near traffic separation schemes;
and

- .3 當情況有任何變化而有需要時，能傳喚至駕駛台以得到立即協助。
- .3 assistance is immediately available to be summoned to the bridge when any change in the situation so requires.

17 決定航行當值之組成足以確保能連續保持適當的瞭望，船長應考慮及所有有關因素，包括本章程本節所述者及下列因素：

17 In determining that the composition of the navigational watch is adequate to ensure that a proper lookout can continuously be maintained, the master shall take into account all relevant factors, including those described in this section of the Code, as well as the following factors:

- .1 能見度、天氣狀況及海況；
- .1 visibility, state of weather and sea;
- .2 交通密度及船舶航行區域所發生之其他事務；
- .2 traffic density, and other activities occurring in the area in which the vessel is navigating;
- .3 航行於或接近分道通航制或其他航路措施時，所應注意者；
- .3 the attention necessary when navigating in or near traffic separation schemes or other routing measures;
- .4 由於船舶功能、立即操縱要求及預期操縱等性質所引起之額外工作量；
- .4 the additional workload caused by the nature of the ship's functions, immediate operating requirements and anticipated manoeuvres;
- .5 所傳喚之任何船員應適於職責，始可指派為當值人員；
- .5 the fitness for duty of any crew members on call who are assigned as members of the watch;
- .6 船上甲級船員及乙級船員稱職之知識及信心；
- .6 knowledge of, and confidence in, the professional competence of the ship's officers and crew;
- .7 每位負責航行當值甲級船員之經驗及該員對船舶設備、程式及操縱能力之熟悉程度；
- .7 the experience of each officer of the navigational watch, and the familiarity of that

officer with the ship's equipment, procedures, and manoeuvring capability;

- .8 任何特定時刻，船上所發生之事務，包括：無線電通信事務，及在需要時立即傳喚至駕駛台協助之可行性；
- .8 activities taking place on board the ship at any particular time, including radiocommunication activities, and the availability of assistance to be summoned immediately to the bridge when necessary;
- .9 駕駛台儀器及控制器包括警報系統之操作狀況；
- .9 the operational status of bridge instrumentation and controls, including alarm systems;
- .10 舵及俥葉之控制，以及船舶操縱特性；
- .10 rudder and propeller control and ship manoeuvring characteristics;
- .11 船舶之大小及指揮位置之視界；
- .11 the size of the ship and the field of vision available from the conning position;
- .12 駕駛台之配置，該配置可能妨礙當值人員利用視覺及聽覺察覺外部情況之程度；及
- .12 the configuration of the bridge, to the extent such configuration might inhibit a Member of the watch from detecting by sight or hearing any external development; and
- .13 任何其他本組織所採納涉及當值安排及適於職責之標準、程式或準則。
- .13 any other relevant standard, procedure or guidance relating to watchkeeping arrangements and fitness for duty which has been adopted by the Organization.

當值安排

Watch arrangements

18 在決定可能包括適格乙級船員駕駛台當值之組成時，尤應考慮下列因素：

18 When deciding the composition of the watch on the bridge, which may include appropriately qualified ratings, the following factors, *inter alia*, shall be taken into account:

- .1 任何時刻，駕駛台不得無人值守；
- .1 at no time shall the bridge be left unattended;
- .2 天氣情況、能見度及不論白天或黑夜；
- .2 weather conditions, visibility and whether there is daylight or darkness;
- .3 接近航行危險區（物）時，負責航行當值之甲級船員可能需要執行額外的航

行職責；

- .3 proximity of navigational hazards which may make it necessary for the officer in charge of the watch to carry out additional navigational duties;
- .4 航儀，如電子海圖顯示與資料系統（ECDIS）、雷達或電子定位儀，及其他影響船舶安全航行之設備等之使用及操作狀況；
- .4 use and operational condition of navigational aids such as ECDIS, radar or electronic position-indicating devices and any other equipment affecting the safe navigation of the ship;
- .5 船上是否裝設自動操舵裝置；
- .5 whether the ship is fitted with automatic steering;
- .6 是否需執行無線電職責；
- .6 whether there are radio duties to be performed;
- .7 裝設於駕駛台之無人值守機艙之控制器、警報及指示器之使用程式及限制；
及
- .7 unmanned machinery space (UMS) controls, alarms and indicators provided on the bridge, procedures for their use and their limitations; and
- .8 由於特殊的操作環境可能造成航行當值之任何不尋常要求。
- .8 any unusual demands on the navigational watch that may arise as a result of special operational circumstances.

接班

Taking over the watch

19 負責航行當值之甲級船員如有理由相信接班甲級船員不能有效地執行當值職責時，就不應交班，並應就此事通知船長。

19 The officer in charge of the navigational watch shall not hand over the watch to the relieving officer if there is reason to believe that the latter is not capable of carrying out the watchkeeping duties effectively, in which case the master shall be notified.

20 接班甲級船員應確保接班之人員完全皆能執行其職責，尤其是有關夜視之調適。接班甲級船員在其視力尚未完全調適至光線狀況前，不應接班。

20 The relieving officer shall ensure that the members of the relieving watch are fully capable of performing their duties, particularly as regards their adjustment to night vision. Relieving officers shall not take over the watch until their vision is fully adjusted to the light conditions.

21 在當值交接前，接班之甲級船員應親自掌握船舶預估船位或真船位，並確認預定之航跡、航向與航速及機艙無人當值時之控制，並應注意在其當值期間預期可能遭受之任何航行危險。

21 Prior to taking over the watch, relieving officers shall satisfy themselves as to the ship's estimated or true position and confirm its intended track, course and speed, and UMS controls as appropriate and shall note any dangers to navigation expected to be encountered during their watch.

22 接班甲級船員應親自掌握下列情況：

22 Relieving officers shall personally satisfy themselves regarding the:

- .1 與船舶航行有關之船長所頒布當值常規及其他特別指示；
- .1 standing orders and other special instructions of the master relating to navigation of the ship;
- .2 船位、航向、航速及吃水；
- .2 position, course, speed and draught of the ship;
- .3 當時及預測之潮汐、海流、氣象、能見度及該等因素對航向及航速之影響；
- .3 prevailing and predicted tides, currents, weather, visibility and the effect of these factors upon course and speed;
- .4 當主機在駕駛台操控時之主機操縱之使用程式；
- .4 procedures for the use of main engines to manoeuvre when the main engines are on bridge control; and
- .5 航行情況，包括但不限於下列各項：
- .5 navigational situation, including, but not limited to:
 - .5.1 正在使用或當值期間可能使用所有航行及安全設備之操作情況；
 - .5.1 the operational condition of all navigational and safety equipment being used or likely to be used during the watch;
 - .5.2 電羅經及磁羅經之誤差；
 - .5.2 the errors of gyro- and magnetic compasses;
 - .5.3 在視線內或知其在附近之船舶情況及動態；
 - .5.3 the presence and movement of ships in sight or known to be in the vicinity;
 - .5.4 當值期間可能遭遇之情況及危險；及
 - .5.4 the conditions and hazards likely to be encountered during the watch; and

- .5.5 由於船舶之橫傾、俯仰、水之密度及艫坐對餘裕水深可能的影響。
- .5.5 the possible effects of heel, trim, water density and squat on under-keel clearance.

23 任何時刻，如航行當值之甲級船員將換班時，船舶正在操縱，或正在採取其他行動以避免發生危險，接班甲級船員應俟該行動完成後，再行接班。

23 If, at any time, the officer in charge of the navigational watch is to be relieved when a manoeuvre or other action to avoid any hazard is taking place, the relief of that officer shall be deferred until such action has been completed.

執行航行當值

Performing the navigational watch

24 負責航行當值之甲級船員應：

24 The officer in charge of the navigational watch shall:

- .1 在駕駛台保持當值；
- .1 keep the watch on the bridge;
- .2 在正式交班前，無論如何不得離開駕駛台；
- .2 in no circumstances leave the bridge until properly relieved; and
- .3 不論船長是否在駕駛台，應繼續負責船舶安全航行，除非船長特別告知其業已承擔該責任，雙方並就此相互瞭解，方得離位。
- .3 continue to be responsible for the safe navigation of the ship, despite the presence of the master on the bridge, until informed specifically that the master has assumed that responsibility and this is mutually understood.

25 當值期間，應每隔適當時間使用船上一切必要之航儀，對所駕駛之航向、船位及航速予以核對，以確保本船循預定航線。

25 During the watch, the course steered, position and speed shall be checked at sufficiently frequent intervals, using any available navigational aids necessary, to ensure that the ship follows the planned course.

26 負責航行當值之甲級船員對船上所有安全及航行設備之位置及操作方法應有充分之知識，並應瞭解及考慮此等設備操作上之限制。

26 The officer in charge of the navigational watch shall have full knowledge of the location and operation of all safety and navigational equipment on board the ship and shall be aware and take account of the operating limitations of such equipment.

27 負責航行當值之甲級船員，不應再被指派或擔負妨礙船舶安全航行之任何職責。

27 The officer in charge of the navigational watch shall not be assigned or undertake any duties which would interfere with the safe navigation of the ship.

28 使用雷達時，負責航行當值之甲級船員應牢記，任何時刻都必須遵守現行經修正 1972 年國際海上避碰規則所載之使用雷達規定。

28 When using radar, the officer in charge of the navigational watch shall bear in mind the necessity to comply at all times with the provisions on the use of radar contained in the International Regulations for Preventing Collisions at Sea, 1972, as amended in force.

29 需要時，負責航行當值之甲級船員應毫不猶豫地使用舵、機器及音響信號裝置。但可能時應及時將所擬改變之機器轉速予以通知，或依適當的程式有效使用安裝於駕駛台之機艙無人值守機器控制。

29 In cases of need, the officer in charge of the navigational watch shall not hesitate to use the helm, engines and sound signalling apparatus. However, timely notice of intended variations of engine speed shall be given where possible or effective use shall be made of UMS engine controls provided on the bridge in accordance with the applicable procedures.

30 航行當值之甲級船員應知道其船舶之操縱性能，包括其停止距離，並應深知其他船舶可能具有不同之操縱性能。

30 Officers of the navigational watch shall know the handling characteristics of their ship, including its stopping distances, and should appreciate that other ships may have different handling characteristics.

31 當值時與航行安全有關之行動與事務，應保持正確紀錄。

31 A proper record shall be kept during the watch of the movements and activities relating to the navigation of the ship.

32 特別重要者為：負責航行當值之甲級船員確保隨時保持適當的瞭望。在設有獨立海圖室之船上負責航行當值之甲級船員於必要時，得前往海圖室作短暫之停留以便執行必要之航行職責，但事前應確知如此做法是安全的，並確保仍保持有效的瞭望。

32 It is of special importance that at all times the officer in charge of the navigational watch ensures that a proper lookout is maintained. In a ship with a separate chartroom, the officer in charge of the navigational watch may visit the chartroom, when essential, for a short period for the necessary performance of navigational duties, but shall first ensure that it is safe to do so and that proper lookout is maintained.

33 只要情況允許，船上之航行設備應儘可能經常在海上施行操作試驗，特別是在預知將可能遭遇影響航行安全之危險情況前為然；如實施該等試驗時應予記錄之。該等試驗亦應在進出港前實施之。

33 Operational tests of shipboard navigational equipment shall be carried out at sea as

frequently as practicable and as circumstances permit, in particular before hazardous conditions affecting navigation are expected. Whenever appropriate, these tests shall be recorded. Such tests shall also be carried out prior to port arrival and departure.

34 負責航行當值之甲級船員應定期檢查，以確保：

34 The officer in charge of the navigational watch shall make regular checks to ensure that:

- .1 人工操舵工或自動操舵係按正確之航向行駛；
.1 the person steering the ship or the automatic pilot is steering the correct course;
- .2 每次當值期間至少測定標準羅經之誤差一次；如屬可能，於每次重大改變航向後，亦測定之；標準羅經及電羅經應經常進行比對，複示器與主羅經應同步；
.2 the standard compass error is determined at least once a watch and, when possible, after any major alteration of course; the standard and gyro-compasses are frequently compared and repeaters are synchronized with their master compass;
- .3 每次當值期間，以手動方式試驗自動舵至少一次；
.3 the automatic pilot is tested manually at least once a watch;
- .4 航行燈與信號燈及其他航行設備之功能正常；
.4 the navigation and signal lights and other navigational equipment are functioning properly;
- .5 無線電設備依本節第 86 項之規定功能正常；
.5 the radio equipment is functioning properly in accordance with paragraph 86 of this section; and
- .6 機艙無人值守控制器、警報及指示器之功能正常。
.6 the UMS controls, alarms and indicators are functioning properly.

35 負責航行當值之甲級船員應牢記隨時須遵守現行 1974 年海上人命安全國際公約*之規定。航行當值甲級船員應考慮及下列事項：

35 The officer in charge of the navigational watch shall bear in mind the necessity to comply at all times with the requirements in force of the International Convention for the Safety of Life at Sea (SOLAS), 1974*. The officer of the navigational watch shall take into account:

- .1 適時派遣舵工至駕駛室操舵，並將自動舵改為人工操舵，以使潛在之危險情勢轉危為安之必要性。

*見 SOLAS 規則 V/24、V/25 及 V/26。

* See SOLAS regulations V/24, V/25 and V/26.

- .1 the need to station a person to steer the ship and to put the steering into manual control in good time to allow any potentially hazardous situation to be dealt with in a safe manner; and
- .2 船舶在以自動操舵中，如聽任某種情勢發展，致使負責航行當值之甲級船員無法獲得協助，而必須中斷瞭望，以便採取應急措施，是非常危險的。
- .2 that, with a ship under automatic steering, it is highly dangerous to allow a situation to develop to the point where the officer in charge of the navigational watch is without assistance and has to break the continuity of the lookout in order to take emergency action.

36 航行當值之甲級船員應徹底熟悉所裝設電子航儀之使用方法，包括其能力及限制。並應並在適當之時使用之，應牢記回聲測深儀為極具價值之航儀。

36 Officers of the navigational watch shall be thoroughly familiar with the use of all electronic navigational aids carried, including their capabilities and limitations, and shall use each of these aids when appropriate and shall bear in mind that the echo-sounder is a valuable navigational aid.

37 負責航行當值之甲級船員於能見度受限制時，或預期能見度將受限制時，應使用雷達；在交通擁塞水域內航行之全部時間並應特別注意其使用之限制。

37 The officer in charge of the navigational watch shall use the radar whenever restricted visibility is encountered or expected, and at all times in congested waters, having due regard to its limitations.

38 負責航行當值之甲級船員應確保所使用之雷達距離圈，應經常每隔適當時間予以變更之，俾能及早偵測回跡。應記住微弱之回跡可能無法偵測。

38 The officer in charge of the navigational watch shall ensure that the range scales employed are changed at sufficiently frequent intervals so that echoes are detected as early as possible. It shall be borne in mind that small or poor echoes may escape detection.

39 使用雷達時，負責航行當值之甲級船員應選擇合適之距離圈，仔細觀察顯示器，並應確保有充分時間測繪或進行有系統之分析。

39 Whenever radar is in use, the officer in charge of the navigational watch shall select an appropriate range scale and observe the display carefully, and shall ensure that plotting or systematic analysis is commenced in ample time.

40 負責航行當值之甲級船員應將在下列情況立即告知船長：

40 The officer in charge of the navigational watch shall notify the master immediately:

- .1 如遇到能見度受限制或預期能見度受限制時；
- .1 if restricted visibility is encountered or expected;

- .2 如對海上交通情況或他船之動態發生疑慮時；
- .2 if the traffic conditions or the movements of other ships are causing concern;
- .3 如難以維持航向時；
- .3 if difficulty is experienced in maintaining course;
- .4 如在預期之時間未能看到陸地、航行標識或無法獲得測深資料時；
- .4 on failure to sight land, or a navigation mark or to obtain soundings by the expected time;
- .5 如意外地看到陸地、航行標識或水深突然發生改變時；
- .5 if, unexpectedly, land or a navigation mark is sighted or a change in soundings occurs;
- .6 在機器、推進裝置之遙控、舵機或任何主要之航行設備、警報或指示器發生故障時；
- .6 on breakdown of the engines, propulsion machinery remote control, steering gear or any essential navigational equipment, alarm or indicator;
- .7 如無線電設備故障時；
- .7 if the radio equipment malfunctions;
- .8 在天候惡劣，如有任何懷疑天氣可能造成損害時；
- .8 in heavy weather, if in any doubt about the possibility of weather damage;
- .9 如船舶遭遇危及安全航行之危險，諸如冰或無主之漂流船舶時；及
- .9 if the ship meets any hazard to navigation, such as ice or a derelict; and
- .10 其他任何緊急情況，或如有任何疑慮時。
- .10 in any other emergency or if in any doubt.

41 儘管規定上述情況應立即通知船長，但情況需要時，負責航行當值之甲級船員爲了船舶之安全，應毫不猶豫地採取立即行動。

41 Despite the requirement to notify the master immediately in the foregoing circumstances, the officer in charge of the navigational watch shall, in addition, not hesitate to take immediate action for the safety of the ship, where circumstances so require.

42 負責航行當值之甲級船員應給予當值人員一切適當之指示及資料，俾確保維持包括適當瞭望之安全當值。

42 The officer in charge of the navigational watch shall give watchkeeping personnel all appropriate instructions and information which will ensure the keeping of a safe watch, including a proper lookout.

在不同情況及不同區域之當值

Watchkeeping under different conditions and in different areas

天氣良好時

Clear weather

43 負責航行當值之甲級船員應以羅經精確測定接近船舶之方位，俾作為及早偵測碰撞危險之方法；切記縱使些微的船位變化顯然可見時，碰撞危險仍可能存在，尤其是當接近一艘巨型船舶或一艘被拖帶之船舶，或者接近一艘近距離船舶時為然。負責航行當值之甲級船員應按經修正 1972 年國際海上避碰規則可適用之規定及早地採取正確之行動，隨後並即時察看此種行動是否已發生預期之效果。

43 The officer in charge of the navigational watch shall take frequent and accurate compass bearings of approaching ships as a means of early detection of risk of collision and shall bear in mind that such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large ship or a tow or when approaching a ship at close range. The officer in charge of the navigational watch shall also take early and positive action in compliance with the applicable International Regulations for Preventing Collisions at Sea, 1972, as amended and subsequently check that such action is having the desired effect.

44 天氣良好時，如屬可能，負責航行當值之甲級船員應實施雷達操練。

44 In clear weather, whenever possible, the officer in charge of the navigational watch shall carry out radar practice.

能見度受限制

Restricted visibility

45 當能見度遭受或預期受限制時，負責航行當值甲級船員之首要責任在遵照經修正 1972 年國際海上避碰規則有關規則之規定，尤應注意霧號之施放，以安全航速航行，並使主機備便俾立即操縱。此外負責航行當值之甲級船員應：

45 When restricted visibility is encountered or expected, the first responsibility of the officer in charge of the navigational watch is to comply with the relevant rules of the International Regulations for Preventing Collisions at Sea, 1972, as amended with particular regard to the sounding of fog signals, proceeding at a safe speed and having the engines ready for immediate manoeuvre. In addition, the officer in charge of the navigational watch shall:

- .1 通知船長；
- .1 inform the master;
- .2 派人就瞭望位置；
- .2 post a proper lookout;

- .3 顯示航行燈；及
- .3 exhibit navigation lights; and
- .4 操作並使用雷達。
- .4 operate and use the radar.

黑夜航行時

In hours of darkness

46 船長及負責航行當值之甲級船員在安排瞭望職責時，應充分考慮駕駛台設備與可使用之航儀、其使用上限制、所實施之程式及安全措施。

46 The master and the officer in charge of the navigational watch, when arranging lookout duty, shall have due regard to the bridge equipment and navigational aids available for use, their limitations, procedures and safeguards implemented.

沿岸及擁擠水域

Coastal and congested waters

47 應使用船上所置備適於該地區並有最新資料之最大比例海圖。船位應經常每隔適當時間測定之，如情況許可時，並應使用一種以上方法為之。使用 ECDIS 時應採用適當比例之電子海圖，並應於適當之時間間隔內以通獨立定位之方法確定船位。

47 The largest scale chart on board, suitable for the area and corrected with the latest available information, shall be used. Fixes shall be taken at frequent intervals, and shall be carried out by more than one method whenever circumstances allow. When using ECDIS, appropriate usage code (scale) electronic navigational charts shall be used and the ship's position shall be checked by an independent means of position fixing at appropriate intervals.

48 負責航行當值之甲級船員應確實辨識所有有關之航行標識。

48 The officer in charge of the navigational watch shall positively identify all relevant navigation marks.

引水人在船時之航行

Navigation with pilot on board

49 引水人在船上領航儘管有其職責及義務，但並不解除船長或負責航行當值之甲級船員對船舶安全所負之職責及義務。船長及引水人應交換有關航行程式、當地情況及船舶特性等資料。船長、及/或負責航行當值之甲級船員應與引水人密切合作，並對船位及動態保持正確的核對。

49 Despite the duties and obligations of pilots, their presence on board does not relieve the master or the officer in charge of the navigational watch from their duties and obligations for the safety of the ship. The master and the pilot shall exchange information regarding navigation

procedures, local conditions and the ship's characteristics. The master and/or the officer in charge of the navigational watch shall co-operate closely with the pilot and maintain an accurate check on the ship's position and movement.

50 如負責航行當值甲級船員對引水人之行動或意圖有所懷疑，則應要求引水人澄清之，如未能釋疑，應立即通知船長，並在船長到達前採取必要之行動。

50 If in any doubt as to the pilot's actions or intentions, the officer in charge of the navigational watch shall seek clarification from the pilot and, if doubt still exists, shall notify the master immediately and take whatever action is necessary before the master arrives.

船舶在錨泊時

Ship at anchor

51 如船長認為必要時，錨泊時亦應保持連續的航行當值。在錨泊情況下，負責航行當值之甲級船員應：

51 If the master considers it necessary, a continuous navigational watch shall be maintained at anchor. While at anchor, the officer in charge of the navigational watch shall:

- .1 儘速測定船位，並將之標於適當的海圖上；
- .1 determine and plot the ship's position on the appropriate chart as soon as practicable;
- .2 如情況許可時，應經常每隔適當時間，利用固定航行標識或岸上容易辨認之標的物測定方位，以查核船舶是否仍繫於原錨地；
- .2 when circumstances permit, check at sufficiently frequent intervals whether the ship is remaining securely at anchor by taking bearings of fixed navigation marks or readily identifiable shore objects;
- .3 確保保持有效之瞭望；
- .3 ensure that proper lookout is maintained;
- .4 確保定時巡視全船；
- .4 ensure that inspection rounds of the ship are made periodically;
- .5 觀察氣象與潮汐之情況，及海況；
- .5 observe meteorological and tidal conditions and the state of the sea;
- .6 如船舶走錨，通知船長，並採取一切必要之措施；
- .6 notify the master and undertake all necessary measures if the ship drags anchor;
- .7 根據船長之指示，確保主機與其他機器處於備便狀態；
- .7 ensure that the state of readiness of the main engines and other machinery is in

accordance with the master's instructions;

- .8 如能見度惡化時，通知船長；
- .8 if visibility deteriorates, notify the master;
- .9 確保船上顯示適當之燈號及號標，並依所有可適用之規則施放適當之音響信號；及
- .9 ensure that the ship exhibits the appropriate lights and shapes and that appropriate sound signals are made in accordance with all applicable regulations; and
- .10 採取防止船舶污染環境之措施，並符合可適用之防止污染規則。
- .10 take measures to protect the environment from pollution by the ship and comply with applicable pollution regulations.

第 4-2 部分 — 輪機當值應遵守之原則

Part 4-2 – Principles to be observed in keeping an engineering watch

52 本節第 4-2、5-2 及 5-4 部分之「輪機當值」一詞，指構成當值一個人或一組人員，或指甲級船員負責一段之期間，在該期間中該甲級船員得被要求或不被要求親臨機艙。

52 The term *engineering watch* as used in parts 4-2, 5-2 and 5-4 of this section means either a person or a group of personnel comprising the watch or a period of responsibility for an officer during which the physical presence in machinery spaces of that officer may or may not be required.

53 “負責輪機當值之甲級船員”為輪機長之代表，其主要之職責在隨時安全有效操作，並維護影響船舶安全之機器；並在負責輪機當值之責任下，於必要時對所有機器及設備予以檢查、操作與測試。

53 The *officer in charge of the engineering watch* is the chief engineer officer's representative and is primarily responsible, at all times, for the safe and efficient operation and upkeep of machinery affecting the safety of the ship and is responsible for the inspection, operation and testing, as required, of all machinery and equipment under the responsibility of the engineering watch.

當值安排

Watch arrangements

54 在任何時候，輪機當值之組成應適於確保影響船舶操作之所有機器之安全操作，不論為自動抑是手動模式皆然，並應適於當時之環境及情況。

54 The composition of the engineering watch shall, at all times, be adequate to ensure the safe operation of all machinery affecting the operation of the ship, in either automated or manual mode, and be appropriate to the prevailing circumstances and conditions.

55 決定輪機當值之組成時，得包括適格之乙級船員在內，下列標準應特別予以考慮：

55 When deciding the composition of the engineering watch, which may include appropriately qualified ratings, the following criteria, *inter alia*, shall be taken into account:

- .1 船舶型式、機器型式及狀況；
- .1 the type of ship and the type and condition of the machinery;
- .2 影響船舶安全操作之機器，隨時予以妥善地監督；
- .2 the adequate supervision, at all times, of machinery affecting the safe operation of the ship;
- .3 由於情況之變化，如天候、冰、污染水域、淺水、緊急情況、損害抑制或減少污染所導致之任何特殊操作模式；
- .3 any special modes of operation dictated by conditions such as weather, ice, contaminated water, shallow water, emergency conditions, damage containment or pollution abatement;
- .4 輪機當值人員之資格及經驗；
- .4 the qualifications and experience of the engineering watch;
- .5 人命、船舶、貨物與港口之安全，及環境保護；
- .5 the safety of life, ship, cargo and port, and protection of the environment;
- .6 國際、國家及當地規則之遵守；及
- .6 the observance of international, national and local regulations; and
- .7 維持船舶正常操作。
- .7 maintaining the normal operations of the ship.

接班

Taking over the watch

56 負責輪機當值之甲級船員，如有理由相信接班之甲級船員不能有效執行當值職責時，就不應交班，在此種情況下，應就此事通知輪機長。

56 The officer in charge of the engineering watch shall not hand over the watch to the relieving officer if there is reason to believe that the latter is obviously not capable of carrying out the watchkeeping duties effectively, in which case the chief engineer officer shall be notified.

57 接班之輪機當值甲級船員應確保接班人員顯然能完全執行其職責。

57 The relieving officer of the engineering watch shall ensure that the members of the relieving engineering watch are apparently fully capable of performing their duties effectively.

58 在輪機當值交接前，接班之甲級船員，至少應親自掌握下列情況：

58 Prior to taking over the engineering watch, relieving officers shall satisfy themselves regarding at least the following:

- .1 與船舶系統及機器操作有關之輪機長當值常規及特別指示；
- .1 the standing orders and special instructions of the chief engineer officer relating to the operation of the ship's systems and machinery;
- .2 所執行機器與系統之所有工作性質、參與人員及潛在危險；
- .2 the nature of all work being performed on machinery and systems, the personnel involved and potential hazards;
- .3 在艙底部、壓載艙、污水艙、備用艙、淡水艙、污水艙中，水或殘留物之液位及情況（適用時），及對其內容物之使用與處理之任何特別要求；
- .3 the level and, where applicable, the condition of water or residues in bilges, ballast tanks, slop tanks, reserve tanks, fresh water tanks, sewage tanks and any special requirements for use or disposal of the contents thereof;
- .4 在備用艙、沉澱櫃、日用櫃及其他燃油貯存設施內之燃油情況及液位高度；
- .4 the condition and level of fuel in the reserve tanks, settling tank, day tank and other fuel storage facilities;
- .5 有關衛生水系統處理之特別要求；
- .5 any special requirements relating to sanitary system disposals;
- .6 各種主、輔機系統包括配電系統之情況及操作方式；
- .6 condition and mode of operation of the various main and auxiliary systems, including the electrical power distribution system;
- .7 如適用時，監視及控制盤設備及其手動操作設備之情況；
- .7 where applicable, the condition of monitoring and control console equipment, and which equipment is being operated manually;
- .8 如適用時，鍋爐自動控制情況及操作方式；諸如火焰安全控制系統、限制控制系統、燃燒控制系統、燃油供給控制系統及其他與蒸汽鍋爐操縱有關之設備；
- .8 where applicable, the condition and mode of operation of automatic boiler controls such as flame safeguard control systems, limit control systems, combustion control systems, fuel-supply control systems and other equipment related to the operation of steam boilers;

- .9 由於惡劣天氣、冰、污染之水或淺水所引起之潛在不利情況；
- .9 any potentially adverse conditions resulting from bad weather, ice, or contaminated or shallow water;
- .10 由於設備故障或不利於船舶情況所導致之任何特別操作方式；
- .10 any special modes of operation dictated by equipment failure or adverse ship conditions;
- .11 有關指派機艙乙級船員職責之報告；
- .11 the reports of engine-room ratings relating to their assigned duties;
- .12 滅火設備之有效性；及
- .12 the availability of fire-fighting appliances; and
- .13 輪機日誌之填寫情況。
- .13 the state of completion of the engine-room log.

執行輪機當值

Performing the engineering watch

59 負責輪機當值之甲級船員應確保維持既定之當值安排。機艙乙級船員如構成輪機當值人員之一部分時，在當值甲級船員之指導下，協助使推進機器及輔設備得以安全有效操作。

59 The officer in charge of the engineering watch shall ensure that the established watchkeeping arrangements are maintained and that, under direction, engine-room ratings, if forming part of the engineering watch, assist in the safe and efficient operation of the propulsion machinery and auxiliary equipment.

60 不論輪機長是否在機艙，負責輪機當值之甲級船員應繼續負責機艙內之操作，除非輪機長特別告知其業已承擔該責任，雙方並均已就此互相瞭解，方得離位。

60 The officer in charge of the engineering watch shall continue to be responsible for machinery-space operations, despite the presence of the chief engineer officer in the machinery spaces, until specifically informed that the chief engineer officer has assumed that responsibility and this is mutually understood.

61 所有輪機當值人員皆應熟悉其被指派之當值職責。此外，每位人員對其所服務之船舶應具有下列知識：

61 All members of the engineering watch shall be familiar with their assigned watchkeeping duties. In addition, every member shall, with respect to the ship they are serving in, have knowledge of:

- .1 使用適當的內部通信系統；
- .1 the use of appropriate internal communication systems;
- .2 從機艙之逃生路線；
- .2 the escape routes from machinery spaces;
- .3 機艙警報系統；有能力區別各種警報，特別是滅火系統警報；及
- .3 the engine-room alarm systems and be able to distinguish between the various alarms, with special reference to the fire-extinguishing media alarm; and
- .4 機器空間之滅火設備及損害管制用具之數量、位置及型式、及其使用與應遵守之各種安全預防措施。
- .4 the number, location and types of fire-fighting equipment and damage-control gear in the machinery spaces, together with their use and the various safety precautions to be observed.

62 任何機器功能不正常或預期將發生故障或需特別檢修時，應對業已採取之任何措施予以注意。如需進一步之措施則應擬定計劃。

62 Any machinery not functioning properly, expected to malfunction or requiring special service shall be noted along with any action already taken. Plans shall be made for any further action if required.

63 需要有人值守之機艙，負責輪機當值之甲級船員應隨時能立即操縱推進設備以應付變向或變速之需要。

63 When the machinery spaces are in the manned condition, the officer in charge of the engineering watch shall at all times be readily capable of operating the propulsion equipment in response to needs for changes in direction or speed.

64 定期無人值守機艙，指派負責輪機當值職責之甲級船員應隨時備便，一經傳喚，立即到達機艙。

64 When the machinery spaces are in the periodic unmanned condition, the designated duty officer in charge of the engineering watch shall be immediately available and on call to attend the machinery spaces.

65 所有駕駛台之命令應迅速地予以執行。主推進裝置變向或變速時，應予以記錄，但經主管機關認為特定船舶之大小或特性，作此記錄為不可行，則不在此限。當手動操作時，負責輪機當值之甲級船員應確保主推進裝置之控制處於備便或操縱狀態，繼續有人值守。

65 All bridge orders shall be promptly executed. Changes in direction or speed of the main propulsion units shall be recorded, except where an Administration has determined that the size or characteristics of a particular ship make such recording impracticable. The officer in charge of the engineering watch shall ensure that the main propulsion unit controls, when in the manual

mode of operation, are continuously attended under stand-by or manoeuvring conditions.

66 對所有機器在進行中的保養及支援應予以特別注意，包括機械、電機、電子、液壓及氣壓系統、其控制裝置及相關之安全設備。所有起居艙服務系統之設備及物料與備品之使用記錄。

66 Due attention shall be paid to the ongoing maintenance and support of all machinery, including mechanical, electrical, electronic, hydraulic and pneumatic systems, their control apparatus and associated safety equipment, all accommodation service systems equipment and the recording of stores and spare gear usage.

67 輪機長應確保將一切預防保養、損害管制或在當值時所執行之修理工作等告知負責輪機當值之甲級船員。負責輪機當值之甲級船員則應在其輪機當值責任下將工作中之所有機器予以切斷、旁通及調整，並將所執行之所有工作予以記錄。

67 The chief engineer officer shall ensure that the officer in charge of the engineering watch is informed of all preventive maintenance, damage control, or repair operations to be performed during the engineering watch. The officer in charge of the engineering watch shall be responsible for the isolation, bypassing and adjustment of all machinery under the responsibility of the engineering watch that is to be worked on, and shall record all work carried out.

68 當機艙係處於備便狀態時，負責輪機當值之甲級船員應確保所有在操縱時可能用到之機器及設備處於備用狀態，並保留足夠電機，以供舵機及其他需求。

68 When the engine-room is put in a stand-by condition, the officer in charge of the engineering watch shall ensure that all machinery and equipment which may be used during manoeuvring is in a state of immediate readiness and that an adequate reserve of power is available for steering gear and other requirements.

69 負責輪機當值之甲級船員不應再被指派或擔負任何職責足以妨礙其對推進系統及其附屬設備之監督職責。而應確使主推進裝置及輔助系統處於經常的監督之下，直到正式交班為止，並應定時檢查其負責之機器。該等甲級船員尚應確保在機艙及舵機空間進行適度之巡視，以便觀察並報告設備之故障或損壞、執行或指導例行之調整、必要的保養以及其他必要之工作。

69 Officers in charge of an engineering watch shall not be assigned or undertake any duties which would interfere with their supervisory duties in respect of the main propulsion system and ancillary equipment. They shall keep the main propulsion plant and auxiliary systems under constant supervision until properly relieved, and shall periodically inspect the machinery in their charge. They shall also ensure that adequate rounds of the machinery and steering-gear spaces are made for the purpose of observing and reporting equipment malfunctions or breakdowns, performing or directing routine adjustments, required upkeep and any other necessary tasks.

70 負責輪機當值之甲級船員應指示其他輪機當值人員，使其瞭解將嚴重影響機器或危

及人命或船舶安全之潛在危險情況。

70 Officers in charge of an engineering watch shall direct any other member of the engineering watch to inform them of potentially hazardous conditions which may adversely affect the machinery or jeopardize the safety of life or of the ship.

71 負責輪機當值之甲級船員應確保機艙係在其監督之下，並應安排替代人員於當值人員無當值能力時替代之。輪機當值不能使機艙無人監督而處於無法手動操縱機艙設備及節流控制之狀態。

71 The officer in charge of the engineering watch shall ensure that the machinery space watch is supervised, and shall arrange for substitute personnel in the event of the incapacity of any engineering watch personnel. The engineering watch shall not leave the machinery spaces unsupervised in a manner that would prevent the manual operation of the engine-room plant or throttles.

72 負責輪機當值之甲級船員應採取必要之措施，以對付由於設備損壞、失火、泛水、破裂、碰撞、坐礁及其他原因所引起的損害之影響。

72 The officer in charge of the engineering watch shall take the action necessary to contain the effects of damage resulting from equipment breakdown, fire, flooding, rupture, collision, stranding, or other cause.

73 負責輪機當值之甲級船員在離開當值職責前，應確使在其當值期間所發生之有關主、輔機事故均作適當之紀錄。

73 Before going off duty, the officer in charge of the engineering watch shall ensure that all events related to the main and auxiliary machinery which have occurred during the engineering watch are suitably recorded.

74 在所有預防保養、損害管制或維修工作進行期間，負責輪機當值之甲級船員應與負責保養工作之任何甲級船員合作。此項合作應包括但不限於下列各項：

74 The officer in charge of the engineering watch shall co-operate with any engineer in charge of maintenance work during all preventive maintenance, damage control or repairs. This shall include, but not necessarily be limited to:

- .1 對將進行工作之機器予加以隔離與旁通；
- .1 isolating and bypassing machinery to be worked on;
- .2 調整其餘裝備使在該保養期間其功能正常，並且安全；
- .2 adjusting the remaining plant to function adequately and safely during the maintenance period;
- .3 在輪機日誌或其他適當之文件上，記載經過保養之設備、參加保養工作之人員、所採取之安全步驟及由何人採取，以利接班人員及記錄之目的；

- .3 recording, in the engine-room log or other suitable document, the equipment worked on and the personnel involved, and which safety steps have been taken and by whom, for the benefit of relieving officers and for record purposes; and
- .4 將已修復之機器或設備予以試驗，必要時投入使用。
- .4 testing and putting into service, when necessary, the repaired machinery or equipment.

75 負責輪機當值之甲級船員應確保執行保養工作之任何機艙乙級船員，在自動設備故障時，可用以協助以手動方式操作機器。

75 The officer in charge of the engineering watch shall ensure that any engine-room ratings who perform maintenance duties are available to assist in the manual operation of machinery in the event of automatic equipment failure.

76 負責輪機當值之甲級船員應牢記，因機器故障而造成之航速變更或舵機失效，可能危及海上人命及船舶之安全。遇有機艙失火、及在機艙內任何即將採取之行動，可能導致船速減低、舵機之瞬間故障、船舶推進系統之停止、或發電量之任何改變、或影響安全之類似事件時，應立即通知駕駛台。如屬可能此通知，應於發生變化前完成之，俾駕駛台有足夠時間，採取任何可能之行動以避免潛在之海上事故。

76 The officer in charge of the engineering watch shall bear in mind that changes in speed, resulting from machinery malfunction, or any loss of steering may imperil the safety of the ship and life at sea. The bridge shall be immediately notified in the event of fire and of any impending action in machinery spaces that may cause reduction in the ship's speed, imminent steering failure, stoppage of the ship's propulsion system or any alteration in the generation of electric power or similar threat to safety. This notification, where possible, shall be accomplished before changes are made, in order to afford the bridge the maximum available time to take whatever action is possible to avoid a potential marine casualty.

77 負責輪機當值之甲級船員應將下列立即通知輪機長：

77 The officer in charge of the engineering watch shall notify the chief engineer officer without delay:

- .1 當機器受損或發生故障，可能危及船舶之安全操作時；
- .1 when engine damage or a malfunction occurs which may be such as to endanger the safe operation of the ship;
- .2 當任何故障發生被認為可能使推進機器、輔機或監測與調整系統受損或損壞時；
- .2 when any malfunction occurs which, it is believed, may cause damage or breakdown of propulsion machinery, auxiliary machinery or monitoring and governing systems; and

- .3 發生任何緊急狀況或應作何種決定或措施有任何懷疑時。
.3 in any emergency or if in any doubt as to what decision or measures to take.

78 儘管有將上述情況報告輪機長之規定，爲了船舶、機器及船員之安全，負責輪機當值之甲級船員，在必要之情況下，毫不猶豫地採取應立即措施。

78 Despite the requirement to notify the chief engineer officer in the foregoing circumstances, the officer in charge of the engineering watch shall not hesitate to take immediate action for the safety of the ship, its machinery and crew where circumstances require.

79 負責輪機當值之甲級船員應給予當值人員一切適當指示及資料，俾確保維持安全輪機當值。例行之機器保養，於當作維持安全當值工作一部分之附帶任務予以實施時，應納入當值期間之例行工作。有關全船電機、機械、液壓、氣壓或可適用之電子設備之詳細修理保養工作應在負責輪機當值之甲級船員及輪機長認知之情況下爲之。此等修理應予記錄。

79 The officer in charge of the engineering watch shall give the watchkeeping personnel all appropriate instructions and information which will ensure the keeping of a safe engineering watch. Routine machinery upkeep, performed as incidental tasks as a part of keeping a safe watch, shall be set up as an integral part of the watch routine. Detailed repair maintenance involving repairs to electrical, mechanical, hydraulic, pneumatic or applicable electronic equipment throughout the ship shall be performed with the cognizance of the officer in charge of the engineering watch and chief engineer officer. These repairs shall be recorded.

不同情況及不同水域之輪機當值

Engineering watchkeeping under different conditions and in different areas

能見度受限制

Restricted visibility

80 負責輪機當值之甲級船員應確保經常有空氣或蒸汽壓力供音響信號之用，並立即執行駕駛台隨時所作有關任何變速或變向之命令，此外，操縱用之輔機隨時備便可用。

80 The officer in charge of the engineering watch shall ensure that permanent air or steam pressure is available for sound signals and that at all times bridge orders relating to changes in speed or direction of operation are immediately implemented and, in addition, that auxiliary machinery used for manoeuvring is readily available.

沿海及擁擠水域航行

Coastal and congested waters

81 負責輪機當值之甲級船員，當接獲船舶將在擁擠水域中航行之通知時，應確保所有與操縱船舶有關之機器能立即處於手動操作方式。負責輪機當值甲級船員亦應確保有足夠之備用電機，供操舵及其他操縱要求之使用。應急操舵及其他輔助設備應予備便俾可立即

操作。

81 The officer in charge of the engineering watch shall ensure that all machinery involved with the manoeuvring of the ship can immediately be placed in the manual mode of operation when notified that the ship is in congested waters. The officer in charge of the engineering watch shall also ensure that an adequate reserve of power is available for steering and other manoeuvring requirements. Emergency steering and other auxiliary equipment shall be ready for immediate operation.

船舶在錨泊時

Ship at anchor

82 在開敞錨地，輪機長應與船長協商，是否仍維持與航行時相同之輪機當值。

82 At an unsheltered anchorage the chief engineer officer shall consult with the master whether or not to maintain the same engineering watch as when under way.

83 當船舶在開敞之港外錨地拋錨或其他任何事實上處於「在海上」之情況時，負責輪機當值之甲級船員應確保：

83 When a ship is at anchor in an open roadstead or any other virtually “at-sea” condition, the engineer officer in charge of the engineering watch shall ensure that:

- .1 保持有效之輪機當值；
- .1 an efficient engineering watch is kept;
- .2 定時檢查所有在運轉中及備便之機器；
- .2 periodic inspection is made of all operating and stand-by machinery;
- .3 依駕駛台所下達之命令，使主、輔機處於備便之狀態；
- .3 main and auxiliary machinery is maintained in a state of readiness in accordance with orders from the bridge;
- .4 採取措施保護環境，防止船舶之污染，並遵守可適用之防止污染規則；及
- .4 measures are taken to protect the environment from pollution by the ship, and that applicable pollution-prevention regulations are complied with; and
- .5 所有損害管制及滅火系統係處於備便狀況。
- .5 all damage-control and fire-fighting systems are in readiness.

第 4-3 部分 — 無線電當值應遵守之原則

Part 4-3 – Principles to be observed in keeping a radio watch

總則

General provisions

84 主管機關應指示公司、船長及無線電當值人員注意並遵守下列規定，以確保船舶在海上時保持適當之安全無線電當值；在遵守本章程時，應考慮及無線電規則。

84 Administrations shall direct the attention of companies, masters and radio watchkeeping personnel to comply with the following provisions to ensure that an adequate safety radio watch is maintained while a ship is at sea. In complying with this Code, account shall be taken of the Radio Regulations.

當值安排

Watch arrangements

85 在決定無線電當值安排時，航行船舶之船長應：

85 In deciding the arrangements for the radio watch, the master of every seagoing ship shall:

- .1 確保無線電當值係依無線電規則及 SOLAS 公約有關規定予以保持；
- .1 ensure that the radio watch is maintained in accordance with the relevant provisions of the Radio Regulations and the SOLAS Convention;
- .2 確保在進行無線電通信時，不致有與船舶安全動態及安全航行無關之無線電通信，而嚴重影響無線電當值之主要任務。
- .2 ensure that the primary duties for radio watchkeeping are not adversely affected by attending to radio traffic not relevant to the safe movement of the ship and safety of navigation; and
- .3 考慮及船上所安裝之無線電設備及其工作狀態。
- .3 take into account the radio equipment fitted on board and its operational status.

執行無線電當值

Performing the radio watch

86 執行無線電當值任務之無線電操作員應：

86 The radio operator performing radio watchkeeping duties shall:

- .1 確保當值係以無線電規則及 SOLAS 公約所指定之頻率上；及
- .1 ensure that watch is maintained on the frequencies specified in the Radio Regulations and the SOLAS Convention; and
- .2 當值期間，定時檢查無線電設備之操作及其電源，並將所發現此設備之故障，報告船長。
- .2 while on duty, regularly check the operation of the radio equipment and its sources of energy and report to the master any observed failure of this equipment.

87 無線電規則及 SOLAS 公約所要求應置備之無線電報日誌或無線電日誌如屬適當應

予以遵守。

87 The requirements of the Radio Regulations and the SOLAS Convention on keeping a radiotelegraph or radio log, as appropriate, shall be complied with.

88 依無線電規則及 SOLAS 公約之要求，保持無線電紀錄為在發生遇險事故時被指派具有無線電通信主要責任之無線電操作人員之責任。下列事項連同其發生時間應予以記錄：

88 The maintenance of radio records, in compliance with the requirements of the Radio Regulations and the SOLAS Convention, is the responsibility of the radio operator designated as having primary responsibility for radiocommunications during distress incidents. The following shall be recorded, together with the times at which they occur:

- .1 遇險、緊急及安全之無線電通信摘要；
- .1 a summary of distress, urgency and safety radiocommunications;
- .2 與無線電業務有關之重要事故；
- .2 important incidents relating to the radio service;
- .3 如適當時，至少每天一次之船位；及
- .3 where appropriate, the position of the ship at least once per day; and
- .4 無線電設備之狀況，包括其電源之摘要。
- .4 a summary of the condition of the radio equipment, including its sources of energy.

89 無線電紀錄應置於遇險通信操作位置，且應隨時備便：

89 The radio records shall be kept at the distress communications operating position, and shall be made available:

- .1 供船長之查閱；及
- .1 for inspection by the master; and
- .2 供主管機關任何授權官員及依本公約第 X 條實施管制之任何經適當授權官員之查閱。
- .2 for inspection by any authorized official of the Administration and by any duly authorized officer exercising control under article X of the Convention.

第 5 部分 — 在港當值

PART 5 – WATCHKEEPING IN PORT

適於所有當值之原則

Principles applying to all watchkeeping

總則

General

90 在正常情況下，在港內安全繫泊或安全錨泊之任何船舶，為安全之目的，船長應安排保持適當有效之當值。對於具有特殊型式之船舶推進系統或輔助設備，及對裝載有害、危險、有毒或高易燃物或其他特殊型式貨物之船舶，可能需要特別之要求。

90 On any ship safely moored or safely at anchor under normal circumstances in port, the master shall arrange for an appropriate and effective watch to be maintained for the purpose of safety. Special requirements may be necessary for special types of ships' propulsion systems or ancillary equipment and for ships carrying hazardous, dangerous, toxic or highly flammable materials or other special types of cargo.

當值安排

Watch arrangements

91 船舶在港期間之艙面當值安排應隨時適於：

91 Arrangements for keeping a deck watch when the ship is in port shall at all times be adequate to:

- .1 確保人命、船舶、港口及環境之安全，並確保所有與貨物操作有關機械之安全操作；
- .1 ensure the safety of life, of the ship, the port and the environment, and the safe operation of all machinery related to cargo operation;
- .2 遵守國際、國家及當地之規則；及
- .2 observe international, national and local rules; and
- .3 保持船上之秩序及正常例行工作。
- .3 maintain order and the normal routine of the ship.

92 船長應根據繫泊情況、船舶型式及職責特性，決定甲板當值之編組及期間。

92 The master shall decide the composition and duration of the deck watch depending on the conditions of mooring, type of the ship and character of duties.

93 如船長認為需要，艙面當值應由適格之甲級船員負責。

93 If the master considers it necessary, a qualified officer shall be in charge of the deck watch.

94 應安排必要之設備以提供有效之當值。

94 The necessary equipment shall be so arranged as to provide for efficient watchkeeping.

95 輪機長與船長協商後，應確保輪機當值之安排係適於保持在港之安全輪機當值，在

決定包括適當之輪機乙級船員在內之輪機當值編組時，應考慮下列各項：

95 The chief engineer officer, in consultation with the master, shall ensure that engineering watchkeeping arrangements are adequate to maintain a safe engineering watch while in port. When deciding the composition of the engineering watch, which may include appropriate engine-room ratings, the following points are among those to be taken into account:

- .1 凡推進動力為 3,000 瓩以上之船舶，應經常有一名負責輪機當值之甲級船員；
- .1 on all ships of 3,000 kW propulsion power and over there shall always be an officer in charge of the engineering watch;
- .2 凡推進動力未滿 3,000 瓩之船舶，在船長酌情考量並與輪機長協商之後，得不派負責輪機當值之甲級船員；及
- .2 on ships of less than 3,000 kW propulsion power there may be, at the master's discretion and in consultation with the chief engineer officer, no officer in charge of the engineering watch; and
- .3 甲級船員在負責輪機當值期間不應再被指派或承擔將妨礙其對船上機器系統任何監督職責之任務與職責。
- .3 officers, while in charge of an engineering watch, shall not be assigned or undertake any task or duty which would interfere with their supervisory duty in respect of the ship's machinery system.

接班

Taking over the watch

96 負責艙面或輪機當值之甲級船員，如有任何理由相信接班甲級船員顯然不能有效地執行其職責時，就不應交班。在此情況下，因而應就此事通知船長或輪機長。艙面或輪機接班甲級船員應確保所有接班人員顯然能完全有效執行其職責。

96 Officers in charge of the deck or engineering watch shall not hand over the watch to their relieving officer if they have any reason to believe that the latter is obviously not capable of carrying out watchkeeping duties effectively, in which case the master or chief engineer shall be notified accordingly. Relieving officers of the deck or engineering watch shall ensure that all members of their watch are apparently fully capable of performing their duties effectively.

97 在交接艙面或機艙當值時，如正在執行重要操作，則除船長或輪機長另有指令外，該操作應由交班之甲級船員完成。

97 If, at the moment of handing over the deck or engineering watch, an important operation is being performed, it shall be concluded by the officer being relieved, except when ordered otherwise by the master or chief engineer officer.

第 5-1 部分 — 艙面當值之交接

Part 5-1 – Taking over the deck watch

98 在艙面當值交接前負責艙面當值之甲級船員應就下列各項告知接班甲級船員：

98 Prior to taking over the deck watch, the relieving officer shall be informed by the officer in charge of the deck watch as to the following:

- .1 泊位水深、船舶吃水、高低潮之水位及時間、繫纜情況、錨之安排及錨鏈之情況，及對船舶安全至為重要之其他繫泊情況。主機狀況及是否備便以供緊急之用；
- .1 the depth of the water at the berth, the ship's draught, the level and time of high and low waters; the securing of the moorings, the arrangement of anchors and the scope of the anchor chain, and other mooring features important to the safety of the ship; the state of main engines and their availability for emergency use;
- .2 所有船上應施行之工作；所裝或未裝貨物及卸貨後任何殘留在船上者之性質、數量以及其配置狀況；
- .2 all work to be performed on board the ship; the nature, amount and disposition of cargo loaded or remaining, and any residue on board after unloading the ship;
- .3 在艙底及壓載艙內之水位；
- .3 the level of water in bilges and ballast tanks;
- .4 所顯示之信號或燈號或音響信號；
- .4 the signals or lights being exhibited or sounded;
- .5 要求在船之船員人數及在船其他人員之情況；
- .5 the number of crew members required to be on board and the presence of any other persons on board;
- .6 滅火設備之狀況；
- .6 the state of fire-fighting appliances;
- .7 任何特別之港口規則；
- .7 any special port regulations;
- .8 船長當值常規及特別命令；
- .8 the master's standing and special orders;
- .9 發生緊急情況或需要援助時，船舶與岸方人員包括港口當局間之通信線路備便；
- .9 the lines of communication available between the ship and shore personnel, including port authorities, in the event of an emergency arising or assistance being

required;

- .10 對船舶、其船員、貨物安全及保護環境防止污染之任何其他重要情況；及
- .10 any other circumstances of importance to the safety of the ship, its crew, cargo or protection of the environment from pollution; and
- .11 由於船舶行為所造成任何環境污染，通知有關當局之程式。
- .11 the procedures for notifying the appropriate authority of any environmental pollution resulting from ship activities.

99 接班甲級船員在承擔艙面當值之前，應查證：

99 Relieving officers, before assuming charge of the deck watch, shall verify that:

- .1 纜繩繫泊及錨鏈係屬適當；
- .1 the securing of moorings and anchor chain is adequate;
- .2 適當之信號或燈號係正確顯示或發出音響；
- .2 the appropriate signals or lights are properly exhibited or sounded;
- .3 安全措施及防火規定正予以保持；
- .3 safety measures and fire-protection regulations are being maintained;
- .4 知道正在裝卸之任何有害或危險貨物之性質；並知道發生溢漏或失火時，應採取之適當措施；及
- .4 they are aware of the nature of any hazardous or dangerous cargo being loaded or discharged and the appropriate action to be taken in the event of any spillage or fire; and
- .5 無外界之狀況或環境危及本船，而本船亦不危及他船。
- .5 no external conditions or circumstances imperil the ship and that it does not imperil others.

第 5-2 部分 — 輪機當值之交接

Part 5-2 – Taking over the engineering watch

100 在輪機當值交接前，負責輪機當值之甲級船員應就下列各項告知接班甲級船員：

100 Prior to taking over the engineering watch, the relieving officer shall be informed by the officer in charge of the engineering watch as to:

- .1 當日下達之當值常規，有關船舶操作、保養工作、船舶機器或控制設備修理之特別命令；
- .1 the standing orders of the day, any special orders relating to the ship operations,

- maintenance functions, repairs to the ship's machinery or control equipment;
- .2 船上機器及系統正在進行所有工作之性質、參與人員及潛在之危險；
 - .2 the nature of all work being performed on machinery and systems on board ship, personnel involved and potential hazards;
 - .3 如可適用，艙底、壓載艙、污油水艙、污水艙、備用櫃內之水或殘留物之液位及情況，及其內容物之使用或處理之特別要求；
 - .3 the level and condition, where applicable, of water or residue in bilges, ballast tanks, slop tanks, sewage tanks, reserve tanks and special requirements for the use or disposal of the contents thereof;
 - .4 有關衛生水系統處理之特別要求；
 - .4 any special requirements relating to sanitary system disposals;
 - .5 輕便滅火設備及固定式滅火裝置、暨火警偵測系統之備便狀況；
 - .5 the condition and state of readiness of portable fire-extinguishing equipment and fixed fire-extinguishing installations and fire-detection systems;
 - .6 經授權在船上從事工程活動之修理人員，其工作位置與修理項目，及其他經授權在船之人員及必要之船員；
 - .6 authorized repair personnel on board engaged in engineering activities, their work locations and repair functions and other authorized persons on board and the required crew;
 - .7 有關船舶排出物、滅火要求及船舶備便之任何港口規則，尤其以天氣轉壞時應予備便之港口規定；
 - .7 any port regulations pertaining to ship effluents, fire-fighting requirements and ship readiness, particularly during potential bad weather conditions;
 - .8 發生緊急情況或需要援助時，船舶與岸方人員包括港口當局間之通信線路備便；
 - .8 the lines of communication available between the ship and shore personnel, including port authorities, in the event of an emergency arising or assistance being required;
 - .9 對船舶、其船員、貨物安全及保護環境防止污染之其他任何重要情況；及
 - .9 any other circumstance of importance to the safety of the ship, its crew, cargo or the protection of the environment from pollution; and
 - .10 由於船舶行為所造成任何環境污染時，通知有關當局之程式。

- .10 the procedures for notifying the appropriate authority of environmental pollution resulting from engineering activities.

101 接班甲級船員在承擔輪機當值之前，應自認滿意上述事項已完全由交班甲級船員告知，並：

101 Relieving officers, before assuming charge of the engineering watch, shall satisfy themselves that they are fully informed by the officer being relieved, as outlined above, and:

- .1 熟悉現有及潛存之電源、熱源與照明來源，及其分配情況；
- .1 be familiar with existing and potential sources of power, heat and lighting and their distribution;
- .2 瞭解船上之燃油、潤滑油及所有水之供應，其可用程度及情況；及
- .2 know the availability and condition of ship's fuel, lubricants and all water supplies; and
- .3 在可能範圍內，將船及其機器設備處於備便狀態，俾於需要時備便或應付緊急狀況。
- .3 be ready to prepare the ship and its machinery, as far as is possible, for stand-by or emergency conditions as required.

第5-3部分 — 執行艙面當值

Part 5-3 – Performing the deck watch

102 負責艙面當值之甲級船員應：

102 The officer in charge of the deck watch shall:

- .1 以適當之時間間隔巡視全船；
- .1 make rounds to inspect the ship at appropriate intervals;
- .2 特別注意：
- .2 pay particular attention to:
 - .2.1 舷梯、錨鏈或繫泊繩索之情況及穩固，特別在轉潮時或在有較大潮差之船席時為然；如必要時，採取措施以確保該等設備處於正常工作狀況；
 - .2.1 the condition and securing of the gangway, anchor chain and moorings, especially at the turn of the tide and in berths with a large rise and fall, if necessary, taking measures to ensure that they are in normal working condition;
 - .2.2 在裝卸貨或調整壓艙水時，吃水、餘裕水深及船舶之一般狀態；以避

- 免危險之橫傾與縱傾；
- .2.2 the draught, under-keel clearance and the general state of the ship, to avoid dangerous listing or trim during cargo handling or ballasting;
- .2.3 天氣情況及海況；
- .2.3 the weather and sea state;
- .2.4 遵守所有有關安全及防火之規則；
- .2.4 the observance of all regulations concerning safety and fire protection;
- .2.5 艙底及艙櫃之液位；
- .2.5 the water level in bilges and tanks;
- .2.6 所有在船人員及其所在位置，尤應注意在較偏遠位置或圍蔽艙間之人員；及
- .2.6 all persons on board and their location, especially those in remote or enclosed spaces; and
- .2.7 適當時，燈號及信號之顯示及發放音響；
- .2.7 the exhibition and sounding, where appropriate, of lights and signals;
- .3 天氣惡劣或接獲風暴警報時，採取必要之措施以保護船舶、在船人員及貨物；
- .3 in bad weather, or on receiving a storm warning, take the necessary measures to protect the ship, persons on board and cargo;
- .4 採取各種預防措施以防止船舶污染環境；
- .4 take every precaution to prevent pollution of the environment by the ship;
- .5 有危及船舶之緊急事件發生時，發出警報、通知船長，採取所有可能的措施，以防止船舶、其貨物與人員受到任何損害，並於必要時，請求岸上有關當局或鄰近船舶提供協助；
- .5 in an emergency threatening the safety of the ship, raise the alarm, inform the master, take all possible measures to prevent any damage to the ship, its cargo and persons on board, and, if necessary, request assistance from the shore authorities or neighbouring ships;
- .6 掌握船舶之穩度情況，俾於火災發生時得向岸上消防單位提供可泵送至船上之大約水量而不致危及船舶；
- .6 be aware of the ship's stability condition so that, in the event of fire, the shore fire-fighting authority may be advised of the approximate quantity of water that can be pumped on board without endangering the ship;

- .7 對遇險之船舶或人員提供協助；
- .7 offer assistance to ships or persons in distress;
- .8 當推進器將轉動時，採取必要的預防措施，以防止發生事故或損害；
- .8 take necessary precautions to prevent accidents or damage when propellers are to be turned; and
- .9 將所有影響船舶之重大事件記錄於適當之航海日誌。
- .9 enter, in the appropriate log-book, all important events affecting the ship.

第5-4 部分 — 執行輪機當值

Part 5-4 – Performing the engineering watch

103 負責輪機當值甲級船員應特別注意：

103 Officers in charge of the engineering watch shall pay particular attention to:

- .1 遵守在其所負責所有區域內之所有命令、有關危險情況及其防止之特殊操作程式與規則；
- .1 the observance of all orders, special operating procedures and regulations concerning hazardous conditions and their prevention in all areas in their charge;
- .2 儀表與控制系統、所有電機供應之監測，操作中之機件及系統；
- .2 the instrumentation and control systems, monitoring of all power supplies, components and systems in operation;
- .3 防止違反當地主管機關污染規則所必需之技術、方法及程式；
- .3 the techniques, methods and procedures necessary to prevent violation of the pollution regulations of the local authorities; and
- .4 艙底之情況。
- .4 the state of the bilges.

104 負責輪機當值之甲級船員應：

104 Officers in charge of the engineering watch shall:

- .1 在緊急情況下，如經判斷當時情況需要時，應立即發出警報，並採取一切可能的措施，以防止船舶、船上人員及貨物之損害；
- .1 in emergencies, raise the alarm when, in their opinion, the situation so demands, and take all possible measures to prevent damage to the ship, persons on board and cargo;
- .2 瞭解艙面甲級船員有關在裝卸貨物時所需設備之要求；及壓載與其他船舶穩

度管制系統之額外規定；

- .2 be aware of the deck officer's needs relating to the equipment required in the loading or unloading of the cargo and the additional requirements of the ballast and other ship stability control systems;
- .3 經常巡視各處以確定各種設備可能發生之故障或損壞，並立即採取補救措施，以確保船舶、貨物之裝卸、港口及環境之安全；
- .3 make frequent rounds of inspection to determine possible equipment malfunction or failure, and take immediate remedial action to ensure the safety of the ship, of cargo operations, of the port and the environment;
- .4 確保採取其職責範圍內之必要預防措施，以防止船上各種電機、電子、液壓、氣壓及機械系統之事故或損壞。及
- .4 ensure that the necessary precautions are taken, within their area of responsibility, to prevent accidents or damage to the various electrical, electronic, hydraulic, pneumatic and mechanical systems of the ship; and
- .5 確使所有影響船舶機械操作、調整或修理之重要事項均予以妥善記錄。
- .5 ensure that all important events affecting the operation, adjustment or repair of the ship's machinery are satisfactorily recorded.

第 5-5 部分 — 載運危險貨物船上之在港當值

Part 5-5 – Watch in port on ships carrying hazardous cargo

總則

General

105 每艘載運危險貨物船舶之船長，不論該危險貨物是易爆的、易燃的、有毒的、有害健康的、或污染環境的，皆應確保保持安全當值之安排。對於載運散裝危險貨物之船舶，該當值應由船上所安排之一位或多位適格之航行員，適當時，尚包括乙級船員予以達成。縱使該船係安全地在港繫泊或在港錨泊亦然。

105 The master of every ship carrying cargo that is hazardous, whether explosive, flammable, toxic, health-threatening or environment-polluting, shall ensure that safe watchkeeping arrangements are maintained. On ships carrying hazardous cargo in bulk, this will be achieved by the ready availability on board of a duly qualified officer or officers, and ratings where appropriate, even when the ship is safely moored or safely at anchor in port.

106 每艘載運非散裝危險貨物之船舶船長應充分考慮及該等危險貨物之性質、數量、包裝與積載，及船上、水上與岸上之任何特殊情況。

106 On ships carrying hazardous cargo other than in bulk, the master shall take full account of the nature, quantity, packing and stowage of the hazardous cargo and of any special conditions

on board, afloat and ashore.

第 5-6 部分 – 貨物當值

Part 5-6 – Cargo watch

107 負有貨物作業計劃與執行責任之甲級船員應確保此作業透過特殊風險之管制，包括當涉及非船舶之人員時安全之施行。

107 Officers with responsibility for the planning and conduct of cargo operations shall ensure that such operations are conducted safely through the control of the specific risks, including when non-ship's personnel are involved.”

1978年航海人員訓練、發證

及當值標準(STCW)國際公約締約國會議

議程 10

CONFERENCE OF PARTIES TO THE
INTERNATIONAL CONVENTION ON
STANDARDS OF TRAINING,
CERTIFICATION AND WATCHKEEPING
FOR SEAFARERS, 1978

Agenda item 10

附錄二

ANNEX 2

航海人員訓練、發證及當值(STCW)章程修正案

DRAFT AMENDMENTS TO THE SEAFARERS' TRAINING, CERTIFICATION AND WATCHKEEPING (STCW) CODE

全文經起草委員會審核認可

Text examined and approved by the Drafting Committee

航海人員訓練、發證及當值(STCW)章程 B 篇業以下列代之：

The part B of the Seafarers' Training, Certification and Watchkeeping (STCW) Code is
replaced by the following:

B 篇

“PART B

有關 STCW 公約及其附錄之建議準則

**Recommended guidance regarding provisions of
the STCW Convention and its annex**

引言

Introduction

1 STCW 章程之本篇所涵蓋之建議準則，旨在協助 STCW 公約締約國及其所涉及之執行、適用或加強其措施，以統一方式使該公約完全並徹底有效。

1 his part of the STCW Code contains recommended guidance intended to assist Parties to

the STCW Convention and those involved in implementing, applying or enforcing its measures to give the Convention full and complete effect in a uniform manner.

2 所建議之措施並非強制性，且所例舉者僅為說明如何符合公約之某些要求，但該等建議概括地代表對有關問題之解決方法。該等方法係經國際海事組織內部討論後予以統一者，適當時並與國際勞工組織、國際電信聯合會及世界衛生組織諮商。

2 The measures suggested are not mandatory and the examples given are only intended to illustrate how certain Convention requirements may be complied with. However, the recommendations in general represent an approach to the matters concerned which has been harmonized through discussion within IMO involving, where appropriate, consultation with the International Labour Organization, the International Telecommunication Union and the World Health Organization.

3 遵守本篇所涵蓋之建議將有助於本組織實現所有國籍及懸掛所有船旗船舶之船員維持最高可行的適任標準之目標。

3 Observance of the recommendations contained in this part will assist the Organization in achieving its goal of maintaining the highest practicable standards of competence in respect of crews of all nationalities and ships of all flags.

4 本篇除對本公約某些條款提供準則外，尚對本公約附錄某些規則提供準則，是以本篇章節之編碼與本公約之條款及規則是相互對應的。與 A 篇相同，每節之內容可能再分為若干部分及項款，但此編碼僅專用於該節之內容。

4 Guidance is provided in this part in respect of certain articles of the Convention, in addition to guidance on certain regulations in its annex. The numbering of the sections of this part therefore corresponds with that of the articles and the regulations of the Convention. As in part A, the text of each section may be divided into numbered parts and paragraphs, but such numbering is unique to that text alone.

有關公約條款之準則

GUIDANCE REGARDING PROVISIONS OF THE ARTICLES

第 B-I 節

有關本公約一般義務之準則

Section B-I

Guidance regarding general obligations under the Convention

(無條文)

(No provisions)

第 B-II 節

有關定義及釋義之準則

Section B-II

Guidance regarding definitions and clarifications

1 公約第 II 條所述之定義及公約附錄規則 I/1 所述之定義及釋義同樣適用於本章程 A 篇及 B 篇。僅適用於本章程規定之補充定義，則列於第 A-I/1 節中。

1 The definitions contained in article II of the Convention, and the definitions and clarifications contained in regulation I/1 of its annex, apply equally to the terms used in parts A and B of this Code. Supplementary definitions which apply only to the provisions of this Code are contained in section A-I/1.

2 第 II 條第(c)項所出現之「證書」，其定義有三種可能性發生：

2 The definition of *certificate* appearing in article II (c) provides for three possibilities:

.1 主管機關得簽發證書；

.1 the Administration may issue the certificate;

.2 主管機關得授權簽發證書；或

.2 the Administration may have the certificate issued under its authority; or

.3 主管機關得按規則 I/10 認可另一締約國所簽發之證書。

.3 the Administration may recognize a certificate issued by another Party, as provided for in regulation I/10.

第 B-III 節

有關公約適用範圍之準則

Section B-III

Guidance regarding the application of the Convention

1 雖然公約第 II 條第 (h) 項有「漁船」之定義，本公約仍將從事捕撈魚、鯨、海豹、海象或其他海生物資源之船舶予以排除，但不從事捕撈活動之船舶不得享有此項免除。

1 While the definition of *fishing vessel* contained in article II, paragraph (h) excludes vessels used for catching fish, whales, seals, walrus or other living resources of the sea from application of the Convention, vessels not engaged in the catching activity cannot enjoy such exclusion.

2 本公約不適用於所有原始方式建造之木船（包括中國帆船）。

2 The Convention excludes all wooden ships of primitive build, including junks.

第 B-IV 節

有關資料遞送之準則

Section B-IV

Guidance regarding the communication of information

1 第 IV 條第 (1) (b) 款中「適當時」一詞意指包括：

1 In paragraph (1)(b) of article IV, the words “where appropriate” are intended to include:

.1 認可另一締約國所簽發之證書；或

.1 the recognition of a certificate issued by another Party; or

.2 可適用時，基於認可另一締約國所簽發之證書，由主管機關簽發自己的證書。

.2 the issue of the Administration’s own certificate, where applicable, on the basis of recognition of a certificate issued by another Party.

第 B-V 節

有關其他條約及解釋之準則

Section B-V

Guidance regarding other treaties and interpretation

1 第 V 條第 (1) 項中「協定」一詞意指包括國與國間以往所簽定有關相互認可證書之規定。

1 The word “arrangements” in paragraph (1) of article V is intended to include provisions previously established between States for the reciprocal recognition of certificates.

第 B-VI 節

有關證書之準則

Section B-VI

Guidance regarding certificates

見第 B-II 節及第 B-I/2 節之準則。

See the guidance given in sections B-II and B-I/2.

1 將應予遵循之政策說明及程式大綱公佈，以供公司作為操縱懸掛該主管機關國旗船舶之資料。

1 A policy statement and an outline of the procedures to be followed should be published for the information of companies operating ships under the flag of the Administration.

第 B-VII 節

有關過渡時期之規定之準則

Section B-VII

Guidance regarding transitional provisions

1 對簽發擔任某一職務之證書，如目前經締約國認可具有適當資格以擔任另一職務（例如：大副證書經認可擔任船長職務）者，應依第 VII 條之規定繼續有效認可該職務，此認可亦適用於依第 VII 條第 2 項規定所簽發之證書。

1 Certificates issued for service in one capacity which are currently recognized by a Party as an adequate qualification for service in another capacity, e.g., chief mate certificates recognized for service as master, should continue to be accepted as valid for such service under article VII. This acceptance also applies to such certificates issued under the provisions of paragraph (2) of article VII.

第 B-VIII 節

有關特許證之準則

Section B-VIII

Guidance regarding dispensations

1 將應予遵循之政策說明及程式大綱公佈，以供公司作為操縱懸掛該主管機關國旗船舶之資料。應提供準則予主管機關授權簽發特許證之官員。所採取措施之資料，應按第 A-I/7 節之要求，彙總於最初報告遞送秘書長。

1 A policy statement and an outline of the procedures to be followed should be published for the information of companies operating ships under the flag of the Administration. Guidance should be provided to those officials authorized by the Administration to issue dispensations. Information on action taken should be summarized in the initial report communicated to the Secretary-General in accordance with the requirements of section A-I/7.

第 B-IX 節

有關同等措施之準則

Section B-IX

Guidance regarding equivalents

1 海軍證書如符合本公約之要求得予繼續認可，服務證書得認係第 IX 條之同等措施繼續簽發予海軍軍官。

1 Naval certificates may continue to be accepted and certificates of service may continue to be issued to naval officers as equivalents under article IX, provided that the requirements of the Convention are met.

第 B-X 節

有關管制之準則

Section B-X

Guidance regarding control

(無條文—見第 B-I/4 節)

(No provisions – see section B-I/4.)

第 B-XI 節

有關促進技術合作之準則

Section B-XI

Guidance regarding the promotion of technical co-operation

1 各國政府應與 IMO 合作，對符合公約要求有困難並請求協助之國家提供或安排提供協助。

1 Governments should provide, or arrange to provide, in collaboration with IMO, assistance to States which have difficulty in meeting the requirements of the Convention and which request such assistance.

2 應強調服務於油輪、化學液體船、液化氣體船及駛上／駛下客船之船長及其他人員適當訓練之重要性，並認識到在某些情況下，為取得所要求之經驗及提供特殊訓練計劃之設施可能受到限制，尤以發展中國家為然。

2 The importance of adequate training for masters and other personnel serving on board oil, chemical and liquefied gas tankers and ro-ro passenger ships is stressed, and it is recognized that in some cases there may be limited facilities for obtaining the required experience and providing specialized training programmes, particularly in developing countries.

測驗題庫

Examination database

3 鼓勵具有海事訓練專科院校或測驗中心以服務數個國家，及欲建立測驗題庫及答案之締約國，與一個以上業已建立該題庫之國家，以雙邊合作之基礎進行之。

3 Parties with maritime training academies or examination centres serving several countries and wishing to establish a database of examination questions and answers are encouraged to do so, on the basis of bilateral co-operation with a country or countries which already have such a database.

海事訓練模擬設施之取得

Availability of maritime training simulators

4 IMO 秘書處備有一份海事訓練模擬設施之清單，作為向締約國及其他各國，尤其是國內尚無法獲得該等訓練設施之國家，提供可用以訓練航海人員各型模擬設施之資訊來源。

4 The IMO Secretariat maintains a list of maritime training simulators, as a source of information for Parties and others, on the availability of different types of simulators for training seafarers, in particular where such training facilities may not be available to them nationally.

5 敦請各締約國*向 IMO 秘書處提供有關其國家海事訓練模擬設施之資料，並在改變及增加模擬設施時更新該資料。

5 Parties are urged* to provide information on their national maritime training simulators to the IMO Secretariat and to update the information whenever any change or addition is made to their maritime training simulator facilities.

技術合作之資料

Information on technical co-operation

6 有關技術諮詢服務，享用隸屬於 IMO 之國際訓練機構之資料，及 IMO 所提供或經由其提供之有關成員資料與其他技術合作資料，得與秘書長連繫索取，其地址為 4 Albert Embankment，倫敦 SE1 7SR，英國

6 Information on technical advisory services, access to international training institutions affiliated with IMO, and information on fellowships and other technical co-operation which may be provided by or through IMO may be obtained by contacting the Secretary-General at 4 Albert Embankment, London SE1 7SR, United Kingdom.

(對第 XII 條至第 XVII 條未提供準則)。

(No guidance is provided regarding articles XII to XVII.)

*見 MSC.1/Circ.1209。

* See MSC.1/Circ.1209.

有關 STCW 公約附錄之準則
GUIDANCE REGARDING PROVISIONS OF THE ANNEX TO
THE STCW CONVENTION

第一章
有關總則之準則
CHAPTER I
Guidance regarding general provisions

第 B-I/1 節
有關定義及釋義之準則

Section B-I/1

Guidance regarding definitions and clarifications

1 本公約第 II 條所述之定義及公約附錄規則 I/1 所述之定義及釋義同樣適用於本章程 A 篇及 B 篇。僅適用於本章程規定之補充定義，則列於第 A-I/1 節中。

1 The definitions contained in article II of the Convention, and the definitions and interpretations contained in regulation I/1 of its annex, apply equally to the terms used in parts A and B of this Code. Supplementary definitions which apply only to the provisions of this Code are contained in section A-I/1.

2 甲級船員具有第 VII 章所述之職務，依可適用之安全配額要求所使用之術語，得指派為“多專長甲級船員”、“雙專長甲級船員”或其他經主管機關認可之任命；

2 Officers with capacities covered under the provisions of chapter VII may be designated as “polyvalent officer”, “dual-purpose officer” or other designations as approved by the Administration, in accordance with the terminology used in the applicable safe manning requirements.

3 具有資格擔任第 VII 章所述職務之乙級船員，依可適用之安全配額要求所使用之術語，得指派為“多專長乙級船員”或其他經主管機關認可之任命。

3 Ratings qualified to serve in capacities covered under the provisions of chapter VII may be designated as “polyvalent ratings” or other designations as approved by the Administration, in accordance with the terminology used in the applicable safe manning requirements.

第 B-I/2 節
有關證書及加簽之準則

Section B-I/2

Guidance regarding certificates and endorsements

1 如加簽係併於第 A-I/2 節所提供之證書格式內，則相關之資料應以下述之說明方式填入證書中，但編號.2 之空白欄予以省略。否則在製作加簽以證明證書之簽發時，在本文後所附格式編號.1 至.17 之空白欄中，應按下列說明予以填寫：

1 Where an endorsement is integrated in the format of a certificate as provided by section A-I/2, paragraph 1, the relevant information should be inserted in the certificate in the manner explained hereunder, except for the omission of the space numbered .2. Otherwise, in preparing endorsements attesting the issue of a certificate, the spaces numbered .1 to .17 in the form which follows the text hereunder should be completed as follows:

- .1 填入簽發國名稱；
- .1 Enter the name of the issuing State.
- .2 填入主管機關對證書所指配之編號；
- .2 Enter the number assigned to the certificate by the Administration.
- .3 填入被簽發證書航海人員之姓名全稱，姓名應與航海人員之護照、身分證及主管機關所簽發之其他官方文件之姓名一致；
- .3 Enter the full name of the seafarer to whom the certificate is issued. The name should be the same as that appearing in the seafarer's passport, seafarer's identity certificate and other official documents issued by the Administration
- .4 於此填入航海人員已獲認定具有資格所依據之 STCW 公約規則之一條或多條條款之編號，例如：
- .4 The number or numbers of the STCW Convention regulation or regulations under which the seafarer has been found qualified should be entered here, for example:
 - .4.1 “規則 II/1”，如該航海人員已獲認定具備資格擔任負責航行當值之甲級船員職務；
 - .4.1 “Regulation II/1”, if the seafarer has been found qualified to fill the capacity of officer in charge of a navigational watch;
 - .4.2 “規則 III/1”，如該航海人員已獲認定具備資格作為有人值守機艙負責當值之輪機員，或作為定期無人值守機艙指派之輪機員職責，
 - .4.2 “Regulation III/1”, if the seafarer has been found qualified to act as engineer officer in charge of a watch in a manned engine-room, or as designated duty engineer officer in a periodically unmanned engine-room;
 - .4.3 “規則 IV/2”，如該航海人員已獲認定具備資格擔任無線電操作員職務，
 - .4.3 “Regulation IV/2”, if the seafarer has been found qualified to fill the capacity of radio operator;

- .4.4 “規則 VII/1”，如證書為替代證書，而該航海人員已獲認定具備資格執行本章程 A 篇所規定之專長；例如：管理級之輪機工程專長，及
- .4.4 “Regulation VII/1”, if the certificate is a functional certificate and the seafarer has been found qualified to perform functions specified in part A of the Code, for example, the function of marine engineering at the management level; and
- .4.5 “規則 III/1 及 V/1”，如已獲認定具備資格作為有人值守機艙負責當值之輪機員或作為液貨船定期無人值守機艙指派之輪機員職責。（見下述第.8 項及第.10 項之限制）
- .4.5 “Regulations III/1 and V/1”, if found qualified to act as the engineer officer in charge of a watch in a manned engine-room, or as designated duty engineer officer in a periodically unmanned engine-room in tankers. (See limitations in paragraphs .8 and .10 below.)
- .5 填入加簽之屆滿日期。該日期不得遲於與簽發加簽相關證書之屆滿日，如有時，亦不得遲於自簽發加簽之日起算屆滿五年之日。
- .5 Enter the date of expiry of the endorsement. This date should not be later than the date of expiry, if any, of the certificate in respect of which the endorsement is issued, nor later than five years after the date of issue of the endorsement.
- .6 在本欄應填入本章程 A 篇所規定該航海人員有資格執行之各項專長。各專長及與其相關之責任層級在本章程 A 篇之第 II 章、第 III 章及第 IV 章之適任表中已有規定，為方便參照起見，亦列於 A 篇之引言中。當參照係依上述第.4 款所列之第 II 章，第 III 章或第 IV 章規則時，則無須將特定專長列出。
- .6 In this column should be entered each of the functions specified in part A of the Code which the seafarer is qualified to perform. Functions and their associated levels of responsibility are specified in the tables of competence set out in chapters II, III and IV of part A of the Code, and are also listed for convenient reference in the introduction to part A. When reference is made under .4 above to regulations in chapter II, III or IV it is not necessary to list specific functions.
- .7 在本欄應填入該航海人員有資格執行第.6 空白欄所填入之每一專長之責任層級該責任層級在本章程 A 篇第 II 章、第 III 章及第 IV 章之適任表中已有規定，為方便參照起見，亦列於 A 篇之引言中。
- .7 In this column should be entered the levels of responsibility at which the seafarer is qualified to perform each of the functions entered in column .6. These levels are specified in the tables of competence set out in chapters II, III and IV of part A of the Code, and are also listed, for convenient reference, in the introduction to part A.

.8 一般限制，諸如執行職責時應配戴矯正眼鏡之要求，應在限制欄上方顯著記載之，適用於第.6 空白欄之專長限制應填於對該等專長有關之適當線上；例如：

.8 A general limitation, such as the requirement to wear corrective lenses when performing duties, should be entered prominently at the top of this limitations column. Limitations applying to the functions listed in column .6 should be entered on the appropriate line against the function concerned, for example:

.8.1 “在液貨船上服務無效”——如未按第 V 章取得資格；

.8.1 “Not valid for service in tankers” if not qualified under chapter V;

.8.2 “在非油輪之液貨船上服務無效”——如按第 V 章取得僅能在油輪上服務之資格；

.8.2 “Not valid for service in tankers other than oil tankers” if qualified under chapter V for service only in oil tankers;

.8.3 “在蒸汽鍋爐構成船舶機器一部分之船上服務無效”——如有關之知識業已依 STCW 章程之規定予以刪減；及

.8.3 “Not valid for service in ships in which steam boilers form part of the ship’s machinery” if the related knowledge has been omitted in accordance with STCW Code provisions; and

.8.4 “僅限於近岸航程有效”——如有關之知識業已依 STCW 章程之規定予以刪減。

.8.4 “Valid only on near-coastal voyages” if the related knowledge has been omitted in accordance with STCW Code provisions.

註：如在證書之標題及第.9 空白欄所填之職務中業已註明，則此處無須再填寫總噸位及動力限制。

Note: Tonnage and power limitations need not be shown here if they are already indicated in the title of the certificate and in the capacity entered in column .9.

.9 證書如係依第 II 章或第 III 章予以簽發，則第.9 空白欄所填入之一種或多種職務應為 STCW 規則一條或多條標題所列之職務，或適當時應為主管機關可適用之安全配額要求所列之職務。

.9 The capacity or capacities entered in this column should be those specified in the title to the STCW regulation or regulations concerned in the case of certificates issued under chapter II or III, or should be as specified in the applicable safe manning requirements of the Administration, as appropriate.

.10 一般限制，諸如執行職責時應配戴矯正眼鏡之要求，亦應在該限制欄上方顯

著記載之。第.10 空白欄內所填入之限制條件須與第.8 空白欄內所填入之對每一職務所執行專長之限制條件一致。

- .10 A general limitation, such as the requirement to wear corrective lenses when performing duties, should be entered prominently at the top of this limitations column also. The limitations entered in column .10 should be the same as those shown in column .8 for the functions performed in each capacity entered.
- .11 在此空白欄所填入之編號應與證書一致，因此證書與加簽都具有同一專用編號，以供該證書及/或加簽記錄之相互對照及歸檔。
- .11 The number entered in this space should be that of the certificate, so that both certificate and endorsement have the same unique number for reference and for location in the register of certificates and/or endorsements, etc.
- .12 此處應填入加簽之原簽發日期；該日期得依情況與簽發證書之日期相同，亦可以不同。
- .12 The date of original issue of the endorsement should be entered here; it may be the same as, or differ from, the date of issue of the certificate, in accordance with the circumstances.
- .13 此處應在官員簽名之下方應以正體字將經適當授權簽發加簽之官員姓名填於此處。
- .13 The name of the official authorized to issue the endorsement should be shown here in block letters below the official's signature.
- .14 所填之出生日期應與主管機關紀錄或以其他方法確認之日期相符。
- .14 The date of birth shown should be the date confirmed from Administration records or as otherwise verified.
- .15 加簽應在一位官員在場情況下由航海人員簽字，或可將已正式完成並確認之航海人員申請表予以併入。
- .15 The endorsement should be signed by the seafarer in the presence of an official, or may be incorporated from the seafarer's application form duly completed and verified.
- .16 相片應為顯示頭部及肩部之黑白或彩色護照格式，由航海人員提供，一式二張，其中一張存入或附於證書登記簿中。
- .16 The photograph should be a standard black and white or colour passport-type head and shoulders photograph, supplied in duplicate by the seafarer so that one may be kept in or associated with the register of certificates.
- .17 如重新生效之空格係供作加簽格式之一部分（見第 A-I/2 節第 1 項），則主管

機關得在航海人員業已證實達到如規則 I/11 所要求之持續熟練後，填寫該空格，使加簽再生效。

- .17 If the blocks for revalidation are shown as part of the endorsement form (see section A-I/2, paragraph 1), the Administration may revalidate the endorsement by completing the block after the seafarer has demonstrated continuing proficiency as required by regulation I/11.

(關防)

(Official Seal)

(國家名稱)

(COUNTRY)

經修正之 1978 年航海人員訓練、發證及當值標準國際公約

之規定辦理證明證書簽發之加簽

**ENDORSEMENT ATTESTING THE ISSUE OF A CERTIFICATE
UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION
ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING
FOR SEAFARERS, 1978, AS AMENDED**

_____ .1 _____ 政府茲證明證書編號_____ .2 _____ 已簽發予_____ .3 _____，依據上述經修正公約規則_____ .4 _____之規定已取得資格，得適任執行下述專長之特定層級，但受表列之限制迄至_____ .5 _____，或迄至記載於背面本加簽延期之屆滿日。

The Government of1 certifies that Certificate No.2 has been issued to3 who has been found duly qualified in accordance with the provisions of regulation4 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until5 or until the date of expiry of any extension of the validity of this endorsement as may be shown overleaf:

.6 專長 .6 FUNCTION	.7 層級 .7 LEVEL	.8 適用之限制(若有限制時) .8 LIMITATIONS APPLYING (IF ANY)

本加簽之合法持有人得服務於主管機關所頒佈可適用之安全配額規定之職務：

The lawful holder of this endorsement may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration:

.9 職務 .9 CAPACITY	.10 適用之限制(若有限制時) .10 LIMITATIONS APPLYING (IF ANY)

加簽編號 _____ .11 簽發日期 _____ .12
 Endorsement No.11 issued on12

(關防)

(Official Seal)

.....
 奉命代簽

Signature of duly authorized official

..... .13

正式授權官員

Name of duly authorized official

依本公約規則 I/2 第 9 項之規定，本加簽正本在船上服務時，須隨時攜備。

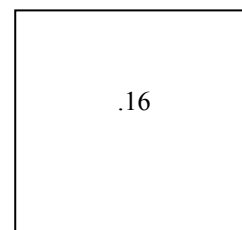
The original of this endorsement must be kept available in accordance with regulation I/2, paragraph 11 of the Convention while its holder is serving on a ship.

持證人出生日期 _____ .14
 Date of birth of the holder of the certificate14

持證人簽字 _____ .15
 Signature of the holder of the certificate15

持證人照片

Photograph of the holder of the certificate



本加簽之有效期茲延至

The validity of this endorsement is hereby extended until.

(關防)

(Official Seal)

奉命代簽

Signature of duly authorized official

重新生效日期_____ .17

Date of revalidation..... .17

正式授權官員

Name of duly authorized official

本加簽之有效期茲延至

The validity of this endorsement is hereby extended until

(關防)

(Official Seal)

奉命代簽

Signature of duly authorized official

重新生效日期_____ .17

Date of revalidation n..... .17

正式授權官員

Name of duly authorized official

2 證明認可證書之加簽得附於證書構成所加簽證書之一部分，亦得以單獨檔簽發之（見 STCW 規則 I/2 第 8 項）表格中所填寫者均要求使用羅馬字母及阿拉伯數字（見 STCW 規則 I/2 第 10 項）。在本文後所附格式中編號 .1 至 .17 之空白欄亦按前述第 1 項予以填寫，但下列空白欄除外：

2 An endorsement attesting the recognition of a certificate may be attached to and form part of the certificate endorsed, or may be issued as a separate document (see STCW regulation I/2, paragraph 8). All entries made in the form are required to be in Roman characters and Arabic figures (see STCW regulation I/2, paragraph 10). The spaces numbered .1 to .17 in the form which follows the text hereunder are intended to be completed as indicated in paragraph 1 above, except in respect of the following spaces:

- .2 應填入所認可證書原簽發締約國所指配之編號；
- .2 where the number assigned by the Party which issued the certificate being recognized should be entered;
- .3 此處所填之姓名應與所認可證書之姓名一致；

- .3 where the name entered should be the same as that appearing in the certificate being recognized;
- .4 此處應填入所認可證書之原簽發締約國名稱；
- .4 where the name of the Party which issued the certificate being recognized should be entered;
- .9 此處應填入之一種或多種職務，適當時從認可該證書之主管機關所適用之安全配額要求所列之職務選取；
- .9 where the capacity or capacities entered should be selected, as appropriate, from those specified in the safe applicable manning requirements of the Administration which is recognizing the certificate;
- .11 此處所填之編號應為專用之簽證編號，以供加簽登錄之相互對照及歸檔；
- .11 where the number entered should be unique to the endorsement both for reference and for location in the register of endorsements; and
- .12 此處應填入加簽之原簽發日期。
- .12 where the date of original issue of the endorsement should be entered.

(關防)

(Official Seal)

(國家名稱)

(COUNTRY)

經修正之 1978 年航海人員訓練、發證及當值標準國際公約之規定證明證書認可之加簽
**ENDORSEMENT ATTESTING THE RECOGNITION OF A CERTIFICATE
UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION
ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING
FOR SEAFARERS, 1978, AS AMENDED**

_____ .1 _____ 政府茲證明證書編號 _____ .2 _____ 係由或代表 _____ .4 _____ 政府簽發
予 _____ .3 _____，依據上述經修正公約規則 I/10 之規定予以認可合法持有人授權執行下列專長
之特定層級，但應受表列之限制迄至 _____ .5 _____，或迄至記載於背面本加簽延期之屆滿日止。
The Government of 1 certifies that Certificate No. 2
issued to 3 by or on behalf of the Government of 4
is duly recognized in accordance with the provisions of regulation I/10 of the above Convention, as
amended, and the lawful holder is authorized to perform the following functions, at the levels specified,
subject to any limitations indicated until 5 or until the date of expiry
of any extension of the validity of this endorsement as may be shown overleaf:

.6 專長 .6 FUNCTION	.7 層級 .7 LEVEL	.8 適用之限制(若有限制時) .8 LIMITATIONS APPLYING (IF ANY)

本加簽之合法持有人得服務於主管機關所頒佈可適用之安全配額規定之職務：

The lawful holder of this endorsement may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration:

.9 職務 .9 CAPACITY	.10 適用之限制(若有限制時) .10 LIMITATIONS APPLYING (IF ANY)

加簽編號 _____ .11 簽發日期 _____ .12
 Endorsement No.11 issued on12

(關防)

(Official Seal)

.....
 奉命代簽

Signature of duly authorized official

..... .13

正式授權官員

Name of duly authorized official

依本公約規則 I/2 第 9 項之規定，本加簽正本在船上服務時，須隨時攜備。

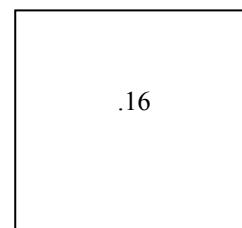
The original of this endorsement must be kept available in accordance with regulation I/2, paragraph 11 of the Convention while its holder is serving on a ship.

持證人出生日期 _____ .14
 Date of birth of the holder of the certificate14

持證人簽字 _____ .15
 Signature of the holder of the certificate15

持證人照片

Photograph of the holder of the certificate



本加簽之有效期茲延至

The validity of this endorsement is hereby extended until.

(關防)

(Official Seal)

奉命代簽

Signature of duly authorized official

重新生效日期_____ .17

Date of revalidation..... .17

正式授權官員

Name of duly authorized official

本加簽之有效期茲延至

The validity of this endorsement is hereby extended until

(關防)

(Official Seal)

奉命代簽

Signature of duly authorized official

重新生效日期_____ .17

Date of revalidation n..... .17

正式授權官員

Name of duly authorized official

3 當證書或加簽業已遺失或毀損，則締約國應以新編號補發之，以避免與舊加簽互相混淆。

3 When replacing a certificate or endorsement which has been lost or destroyed, Parties should issue the replacement under a new number, to avoid confusion with the document to be replaced.

4 如在加簽到期前 6 個月內申請重新生效，規則第 I/2 條中的第 4、5、6 項所述之加簽可重新生效迄：

4 If an application for revalidation is made within six months before the expiry of an endorsement, the endorsement referred to in paragraphs 5, 6 and 7 of regulation I/2 may be revalidated until:

.1 加簽生效日期或延長生效日期之第 5 年；或

.1 the fifth anniversary of the date of validity, or extension of the validity, of the endorsement; or

.2 加簽證書失效之日期，兩者以較早者為準。

- .2 the date the certificate endorsed expires, whichever is earlier.

5 所簽發之專業訓練證書至少應包括下列資料：

5 Where a Certificate of Proficiency is issued, it should contain at least the following information:

.1 簽發之締約國與機構名稱；

- .1 names of the issuing Party and authority;

.2 簽發機構指配予該證書之編號；

- .2 number assigned to the certificate by the issuing authority;

.3 所簽發證書予航海人員之全名與出生日期。該姓名與出生日期應與該航海人員護照或身分證明文件相同；

- .3 full name and date of birth of the seafarer to whom the certificate is issued. The name and birthdate should be the same as that appearing in the seafarer's passport or seafarer's identification document;

.4 證書標題。例如，如所簽發之證書係與規則第 VI/3 條第 2 項有關，證書標題應為“進階滅火”，如所簽發之證書係與規則第 VI/5 條第 1 項有關，則標題應為“船舶保全人員”；

- .4 title of the certificate. For example, if the certificate is issued in relation to regulation VI/3, paragraph 2, the title used should be “advanced fire fighting” and if it is issued in relation to regulation VI/5, paragraph 1, the title used should be “ship security officer”;

.5 證明航海人員適格所依據之公約規則或 STCW 章程章節之編號；

- .5 number, or numbers, of the Convention regulation(s) or of the STCW Code section under which the seafarer has been found qualified;

.6 證書簽發日期與失效日期。如證書之有效期並無限制，則應在失效日期之前填寫“無限制”一詞以資澄清；

- .6 dates of issue and expiry of the certificate. If validity of the certificate is unlimited, then, for the benefit of clarification, the “unlimited” term should be entered in front of the date of expiry;

.7 如屬可行，應填入限制，縱使是一般之限制，（例如規定戴矯正眼鏡），船舶型式限制（例如限服務於總噸位小於 500 之船舶有效）或航程限制（例如限近岸航程有效）；

- .7 if applicable, limitations, either general limitation (such as the requirement to wear corrective lenses), ship's type limitation (such as “valid only for service on ships

of GT<500”) or, voyage limitation (such as “valid only on near-coastal voyages”);

.8 授權簽發證書人員之姓名與簽名。

.8 name and signature of the authorized person who issues the certificate;

.9 航海人員之照片。該照片應為標準之黑白或彩色護照型顯示頭部與肩部者。

.9 photograph of the seafarer. The photograph should be a standard black and white or colour passport-type head and shoulders photograph;

.10 如證書需要重新生效，則應填入重新生效日期、延長生效日期，授權人員之姓名與簽名；及

.10 if the certificate is intended to be revalidated then, the date of revalidation, extension of the validity, name and signature of the authorized person; and

.11 簽發機構之詳細連絡方式。

.11 the contact details of the issuing Authority.

表 B-I/2
依據 STCW 公約要求之證書或書面證據表

Table B-I/2

List of certificates or documentary evidence required under the STCW Convention

下表確認公約所有之證書或書面證據，該公約授權持證人得在船舶上執行某些專長。該證書係依規則第 I/2 條有關語文及其可獲得原始形式之要求。

The list below identifies all certificates or documentary evidence in the Convention which authorize the holder to serve in certain functions on board ships. The certificates are subject to the requirements of regulation I/2 regarding language and their availability in original form.

下表並參考加簽登記與重新生效有關之規則與要求。

The list also references the relevant regulations and the requirements for endorsement registration and revalidation.

<u>規則</u> Regulations	<u>證書類型與簡要說明</u> Type of certificate and brief description	<u>是否加簽以證明認可之證書¹</u> Endorsement attesting recognition of a certificate ¹	<u>登記是否需要²</u> Registration required ²	<u>證書是否重新生效³</u> Revalidation of certificate ³
<u>II/1, II/2, II/3, III/1, III/2, III/3, III/6, IV/2, VII/2</u> II/1, II/2, II/3, III/1, III/2, III/3, III/6, IV/2, VII/2	<u>適任證書－對船長、甲級船員及 GMDSS 無線電操作員</u> Certificate of Competency – For masters, officers and GMDSS radio operator	<u>是</u> Yes	<u>是</u> Yes	<u>是</u> Yes
<u>II/4, III/4, VII/2</u> II/4, III/4, VII/2	<u>專業訓練證書－對乙級船員適當證明為構成航海或機艙當值之一部分</u> Certificate of Proficiency – For Ratings duly certified to be a part of a navigational or engine-room watch	<u>否</u> No	<u>是</u> Yes	<u>否</u> No
<u>II/5, III/5, III/7, VII/2</u> II/5, III/5, III/7, VII/2	<u>專業訓練證書－對乙級船員適當證明為幹練水手、幹練機匠及電匠</u> Certificate of Proficiency – For Ratings duly certified as able seafarer deck, able seafarer engine electro-technical rating	<u>否</u> No	<u>是</u> Yes	<u>否</u> No
<u>V/1-1</u> V/1-1	<u>專業訓練證書或對適任證書加簽－對油輪與化學液體船之船長與甲級船員</u> Certificate of Proficiency or endorsement to a Certificate of Competency – For masters and officers on oil and chemical tankers	<u>是</u> Yes	<u>是</u> Yes	<u>是</u> Yes
<u>V/1-1</u> V/1-1	<u>專業訓練證書或對適任證書加簽－對油輪與化學液體船之乙級船員</u> Certificate of Proficiency or endorsement to a Certificate of Competency – For ratings on oil and chemical tankers	<u>否</u> No	<u>是</u> Yes	<u>否</u> No
<u>V/1-2</u> V/1-2	<u>專業訓練證書－對液化氣體船之船長與甲級船員</u> Certificate of Proficiency – For masters and officers on liquefied gas tankers	<u>是</u> Yes	<u>是</u> Yes	<u>是</u> Yes

<u>規則</u> Regulations	<u>證書類型與簡要說明</u> Type of certificate and brief description	<u>是否加簽以證明認可之證書¹</u> Endorsement attesting recognition of a certificate ¹	<u>登記是否需要²</u> Registration required ²	<u>證書是否重新生效³</u> Revalidation of certificate ³
<u>V/1-2</u> V/1-2	<u>專業訓練證書－對液化氣體船之乙級船員</u> Certificate of Proficiency – For ratings on liquefied gas tankers	<u>否</u> No	<u>是</u> Yes	<u>否</u> No
<u>V/2</u> V/2	<u>書面證據－對客船之船長、甲級船員、乙級船員與在船服務之其他人員之訓練</u> Documentary evidence – Training for masters, officers, ratings and other personnel serving on passenger ships	<u>否</u> No	<u>否</u> No	<u>否</u> No
<u>VI/1</u> VI/1	<u>書面證據－基本訓練或適任證書之一部分－對船長與甲級船員</u> Documentary evidence – Basic training Or As part of the Certificate of Competency – for masters and officers	<u>否</u> No	<u>否</u> No	<u>是</u> Yes
<u>VI/2</u> VI/2	<u>專業訓練證書－救生艇筏、救難艇與快速救難艇或適任證書之一部分－對船長與甲級船員</u> Certificate of Proficiency – Survival craft, rescue boats and fast rescue boats Or As part of the Certificate of Competency – For masters and officers	<u>否</u> No	<u>否</u> No	<u>是</u> Yes
<u>VI/3</u> VI/3	<u>專業訓練證書－進階滅火或適任證書之一部分－對船長與甲級船員</u> Certificate of Proficiency – Advanced fire fighting Or As part of the Certificate of Competency – For masters and officers	<u>否</u> No	<u>否</u> No	<u>是</u> Yes
<u>VI/4</u> VI/4	<u>專業訓練證書－醫療急救與醫護</u> Certificate of Proficiency – Medical first aid and medical care	<u>否</u> No	<u>否</u> No	<u>否</u> No
<u>VI/5</u> VI/5	<u>專業訓練證書－船舶保全人員</u> Certificate of Proficiency – Ship security officer	<u>否</u> No	<u>否</u> No	<u>否</u> No
<u>VI/6</u> VI/6	<u>專業訓練證書－指派保全職責航海人員之保全訓練</u> Certificate of Proficiency – Security training for seafarers with designated security duties	<u>否</u> No	<u>否</u> No	<u>否</u> No
	<u>專業訓練證書－保全意識訓練</u> Certificate of Proficiency – Security awareness training	<u>否</u> No	<u>否</u> No	<u>否</u> No

註：

Notes:

1 加簽以證明認可之證書 指依規則第 I/2 條第 7 項之加簽。

1 Endorsement attesting recognition of certificate means endorsement in accordance with regulation I/2, paragraph 7.

2 需要登記 指依規則第 I/2 條第 14 項作為登記之一部分。

2 Registration required means as part of a register or registers in accordance with regulation I/2, paragraph 14.

3 證書重新生效 指證實持續稱職。

3 Revalidation of certificate means establishing continued professional competence.

規則 Regulations	證書類型與簡要說明 Type of certificate and brief description	是否加簽以證明認可之證書 ¹ Endorsement attesting recognition of a certificate ¹	登記是否需要 ² Registration required ²	證書是否重新生效 ³ Revalidation of certificate ³
<u>II/1, II/2, II/3, III/1, III/2, III/3, III/6, IV/2, VII/2</u> II/1, II/2, II/3, III/1, III/2, III/3, III/6, IV/2, VII/2	<u>適任證書－對船長、甲級船員及 GMDSS無線電操作員</u> Certificate of Competency – For masters, officers and GMDSS radio operators	<u>是</u> Yes	<u>是</u> Yes	<u>是</u> Yes
<u>II/4, III/4, VII/2</u> II/4, III/4, VII/2	<u>專業訓練證書－對乙級船員適當證明為構成航海或機艙當值之一部分</u> Certificate of Proficiency – For ratings duly certified to be a part of a navigational or engine-room watch	<u>否</u> No	<u>是</u> Yes	<u>否</u> No
<u>II/5, III/5, III/7, VII/2</u> II/5, III/5, III/7, VII/2	<u>專業訓練證書－對乙級船員適當證明為幹練水手、幹練機匠及電匠</u> Certificate of Proficiency – For ratings duly certified as able seafarer deck, able seafarer engine or electro-technical rating	<u>否</u> No	<u>是</u> Yes	<u>否</u> No
<u>V/1-1, V/1-2</u> V/1-1, V/1-2	<u>專業訓練證書或對適任證書加簽－對油輪與化學液體船之船長與甲級船員</u> Certificate of Proficiency or endorsement to a Certificate of Competency – For masters and officers on oil, chemical or liquefied gas tankers	<u>是</u> Yes	<u>是</u> Yes	<u>是</u> Yes
<u>V/1-1, V/1-2</u> V/1-1, V/1-2	<u>專業訓練證書－對油輪與化學液體船之乙級船員</u> Certificate of Proficiency – For ratings on oil, chemical or liquefied gas tankers	<u>否</u> No	<u>是</u> Yes	<u>否</u> No
<u>V/2</u> V/2	<u>書面證據－對客船之船長、甲級船員、乙級船員與在船服務之其他人員之訓練</u> Documentary evidence – Training for masters, officers, ratings and other personnel serving on passenger ships	<u>否</u> No	<u>否</u> No	<u>否</u> ⁴ No ⁴
<u>VI/1</u> VI/1	<u>專業訓練證書⁵－基本訓練</u> Certificate of Proficiency ⁵ – Basic training	<u>否</u> No	<u>是</u> Yes	<u>是</u> ⁶ Yes ⁶
<u>VI/2</u> VI/2	<u>專業訓練證書⁵－救生艇筏、救難艇與快速救難艇</u> Certificate of Proficiency ⁵ – Survival craft, rescue boats and fast rescue boats	<u>否</u> No	<u>是</u> Yes	<u>是</u> Yes
<u>VI/3</u> VI/3	<u>專業訓練證書⁵－進階滅火</u> Certificate of Proficiency ⁵ – Advanced fire fighting	<u>否</u> No	<u>是</u> Yes	<u>是</u> Yes
<u>VI/4</u> VI/4	<u>專業訓練證書－醫療急救與醫護</u> Certificate of Proficiency ⁵ – Medical first aid and medical care	<u>否</u> No	<u>是</u> Yes	<u>否</u> No
<u>VI/5</u> VI/5	<u>專業訓練證書－船舶保全人員</u> Certificate of Proficiency – Ship security officer	<u>否</u> No	<u>是</u> Yes	<u>否</u> No
<u>VI/6</u> VI/6	<u>專業訓練證書⁷－保全意識訓練或指派保全職責航海人員之保全訓練</u> Certificate of Proficiency ⁷ – Security awareness training or security training for seafarers with designated security duties	<u>否</u> No	<u>是</u> Yes	<u>否</u> No

註：

Notes:

- 1 加簽以證明認可之證書 指依規則第 I/2 條第 7 項之加簽。
1 Endorsement attesting recognition of certificate means endorsement in accordance with regulation I/2, paragraph 7.
- 2 需要登記 指依規則第 I/2 條第 14 項作為登記之一部分。
2 Registration required means as part of register or registers in accordance with regulation I/2, paragraph 14.
- 3 證書重新生效 指依規則第 I/11 條證實持續稱職或適用時依 A-VI/1 節至 A-VI/3 節保持所需之適任標準。
3 Revalidation of certificate means establishing continued professional competence in accordance with regulation I/11 or maintaining the required standards of competence in accordance with sections A-VI/1 to A-VI/3, as applicable.
- 4 如規則第 V/2 條第 3 項之要求業已完成“群眾管理”“危機管理與人員行為管理”或“旅客安全、貨物安全與船體完整性”訓練之航海人員，應在不超過 5 年之期間內接受適當之新知訓練或提出在以往之 5 年內業已達成適任標準之證據。
4 As required by regulation V/2, paragraph 3 seafarers who have completed training in “crowd management”, “crisis management and human behaviour” or “passenger safety, cargo safety and hull integrity” shall at intervals not exceeding five years, undertake appropriate refresher training or to provide evidence of having achieved the required standards of competence within the previous five years.
- 5 依據規則第 II/1，II/2，II/3，III/1，III/2，III/3，III/6 與 VII/2 所簽發之適任證書，包含有“基本訓練”、“救生艇筏及救難艇除快速救難艇外”、“進階滅火”與“醫療急救”之熟練要求，因此，持有所述之適任證書者並不要求備有有關第 VI 章適任性之專業訓練證書。
5 The certificates of competency issued in accordance with regulations II/1, II/2, II/3, III/1, III/2, III/3, III/6 and VII/2 include the proficiency requirements in “basic training”, “survival craft and rescue boats other than fast rescue boats”, “advanced fire fighting” and “medical first aid” therefore, holders of mentioned certificates of competency are not required to carry Certificates of Proficiency in respect of those competences of chapter VI.
- 6 如依據 A-VI/1、A-VI/2 及 A-VI/3 節之要求航海人員提出業已保持每 5 年所需適任標準之證據。
6 As required in accordance with sections A-VI/1, A-VI/2 and A-VI/3, seafarers have to provide evidence of having maintained the required standards of competence every five years.
- 7 如保全意識訓練或指派保全職責訓練並未包括於所簽發之資格證書內。
7 Where security awareness training or training in designated security duties is not included in the qualification for the certificate to be issued.

第 B—I/3 節

有關近岸航程之準則

Section B-I/3

Guidance regarding near-coastal voyages

1 沿岸國得經雙方或多方之協議採納區域性之“近岸航程限制”。該協議之細節應提報秘書長，秘書長並應將該細節分送所有之締約國。

1 Coastal States may adopt regional “near-coastal voyage limits” through bilateral or multilateral arrangements. Details of such arrangements shall be reported to the Secretary-General, who shall circulate such particulars to all Parties.

第 B—I/4 節

有關管制程式之準則*

Section B-I/4

*Guidance regarding control procedures**

引言

Introduction

1 規則 I/4 管制程式之目的在使港口國經適當授權之官員能確保船上之航海人員具有足夠適任性，以保證安全及無污染之船舶操作。

1 The purpose of the control procedures of regulation I/4 is to enable officers duly authorized by port States to ensure that the seafarers on board have sufficient competence to ensure safe and pollution-free operation of the ship.

2 本規定與對船舶結構及設備所要求之檢查原則上並無不同之處。實際上，船上安全及防止污染之整體系統鑑定係建立於此等檢查。

2 This provision is no different in principle from the need to make checks on ships' structures and equipment. Indeed, it builds on these inspections to make an appraisal of the total system of onboard safety and pollution prevention.

評估

Assessment

3 利用第 A-I/4 節所述之有限制評估，得將所有管制程式中不可避免之主觀因素減少至最低程度，並不比其他型式之管制檢查明顯。

3 By restricting assessment as indicated in section A-I/4, the subjectivity which is an unavoidable element in all control procedures is reduced to a minimum, no more than would be

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

evident in other types of control inspection.

4 規則 I/4 第 1.3 項所述之明顯理由通常足以導致檢查官員注意到特定之適任範圍，繼而查尋有疑問之技能訓練證據。如證據不足、或不可信、授權官員得要求觀察有關技能之示範。

4 The clear grounds given in regulation I/4, paragraph 1.3 will usually be sufficient to direct the inspector's attention to specific areas of competency, which could then be followed up by seeking evidence of training in the skills in question. If this evidence is inadequate or unconvincing, the authorized officer may ask to observe a demonstration of the relevant skill.

5 不論是在規則 I/4 所述之事故發生後，抑或船舶操作可能對人身、財產或環境造成危險之例行檢查，在船上檢查之檢查官員仍以專業判斷為主。*

5 It will be a matter for the professional judgement of the inspector when on board, either following an incident as outlined in regulation I/4 or for the purposes of a routine inspection, whether the ship is operated in a manner likely to pose a danger to persons, property or the environment*.

第 B—I/5 節

有關國家規定之準則

Section B-I/5

Guidance regarding national provisions

(無條文)

(No provisions)

第 B—I/6 節

有關訓練及評估之準則

Section B-I/6

Guidance regarding training and assessment

講師及評審員之資格

Qualifications of instructors and assessors

1 各締約國須確保講師及評審員對於公約所要求之特定型式及訓練層級或航海人員適任性評估，係依本章節內之準則，具有適當之資格及經驗。

1 Each Party should ensure that instructors and assessors are appropriately qualified and experienced for the particular types and levels of training or assessment of competence of seafarers, as required under the Convention, in accordance with the guidelines in this section.

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

在職訓練及評估

In-service training and assessment

2 凡在船上或岸上為依本公約取得發證資格而執行航海人員在職訓練之人員，應接受適當之教學技術指導。^{*}

2 Any person, on board or ashore, conducting in-service training of a seafarer intended to be used in qualifying for certification under the Convention should have received appropriate guidance in instructional techniques^{*}.

3 凡負責監督為依公約取得發證資格而執行航海人員在職訓練之人員，應具有教學技能及訓練方法與實作之適當知識。

3 Any person responsible for the supervision of in-service training of a seafarer intended to be used in qualifying for certification under the Convention should have appropriate knowledge of instructional techniques and of training methods and practice.

4 凡在船上或岸上為依公約取得發證資格而執行在職航海人員適任性評估之人員應：

4 Any person, on board or ashore, conducting an in-service assessment of the competence of a seafarer intended to be used in qualifying for certification under the Convention should have:

.1 接受對評估方法及實作之適當指導^{*}；及

.1 received appropriate guidance in assessment methods and practice^{*}; and

.2 在有經驗評審員之監督下取得實際考核經驗，並令有經驗評審員滿意。

.2 gained practical assessment experience under the supervision and to the satisfaction of an experienced assessor.

5 凡負責監督為依公約取得發證資格而執行在職航海人員適任性評估之人員，應對評估制度、評估方法及實作有全盤之瞭解。³

5 Any person responsible for the supervision of the in-service assessment of competence of a seafarer intended to be used in qualifying for certification under the Convention should have a full understanding of the assessment system, assessment methods and practice³.

遠距教學與e化教學

Use of distance learning and e-learning

6 依據第 A-I/6 節與下列之指導所定訓練與評估之標準，締約國得許以遠距教學與 e 化教學之方式對航海人員施行訓練。

6 Parties may allow the training of seafarers by distance learning and e-learning in

^{*} 相關之 IMO 典型課程可能有助於課程之準備。

^{*} The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

accordance with the standards of training and assessment set forth in section A-I/6 and the guidance given below.

以遠距教學與e化教學訓練之指導

Guidance for training by distance learning and e-learning

7 各締約國應確保任何遠距教學與 e 化教學之課程：

7 Each Party should ensure that any distance learning and e-learning programme:

.1 係由經締約國認可之機構所提供；

.1 is provided by an entity that is approved by the Party;

.2 係適於選修之目標與訓練之任務以符合該科目所涵蓋之適任標準；

.2 is suitable for the selected objectives and training tasks to meet the competence level for the subject covered;

.3 對學員具有清晰、明確之指導，使其瞭解課程該如何操作；

.3 has clear and unambiguous instructions for the trainees to understand how the programme operates;

.4 提供能符合所有要求之學習成果，以提供基礎之知識並熟練該科目；

.4 provides learning outcomes that meet all the requirements to provide the underpinning knowledge and proficiency of the subject;

.5 具有能使學員透過自我評估及由導師批改之結構方式，有系統之仔細考慮其所學；及

.5 is structured in a way that enables the trainee to systematically reflect on what has been learnt through both self assessment and tutor-marked assignments; and

.6 通過電話、傳真或電子郵件等通信方式提供專業導師之指導。

.6 provides professional tutorial support through telephone, facsimile or e-mail communications.

8 公司應確保提供安全之學習環境，並使學員有充分之時間進行學習。

8 Companies should ensure that a safe learning environment is provided and that there has been sufficient time provided to enable the trainee to study.

9 當提供 e 化教學時，應使用共通之資訊格式如 XML(可擴展標識語言)，該格式係在全球網與內聯網及其他分享格式與數據之靈活方式。

9 Where e-learning is provided, common information formats such as XML (Extensible Markup Language), which is a flexible way to share both the format and the data on the World Wide Web, intranets, and elsewhere, should be used.

10 該 e 化教學系統應安全避免被篡改及企圖侵入系統。

10 The e-learning system should be secured from tampering and attempts to hack into the system.

對遠距教學與e化教學訓練學員之進步與成果評估之準則

Guidance for assessing a trainee's progress and achievements by training by distance learning and e-learning

11 各締約國應確保對任何遠距教學與 e 化教學之課程提供經認可之評估程式，包括：

11 Each Party should ensure that approved assessment procedures are provided for any distance learning and e-learning programme, including:

.1 對學員提供明確之資訊有關測驗與考試進行之途徑及其結果如何傳遞；

.1 clear information to the students on the way that tests and examinations are conducted and how the results are communicated;

.2 測驗之試題具有廣泛之範圍能充分評估出學員之能力並適於所測驗之層級；

.2 have test questions that are comprehensive and will adequately assess a trainee's competence and are appropriate to the level being examined;

.3 適當之程式以確保試題保持更新；

.3 procedures in place to ensure questions are kept up to date and;

.4 測驗進行之條件及應施行監考之程式；

.4 the conditions where the examinations can take place and the procedures for invigilation to be conducted;

.5 測驗系統之安全程式以防止作弊；

.5 secure procedures for the examination system so that it will prevent cheating;

.6 安全確認之程式以記錄對締約國有利結果。

.6 secure validation procedures to record results for the benefit of the Party.

經認可之訓練機構、科目與課程之登記

Register of approved training providers, courses and programmes

12 各締約國應確保已保存有經認可之訓練機構、科目與課程之登記資料，並當公司和其他締約國之請求時能予以提供。

12 Each Party should ensure that a register or registers of approved training providers, courses and programmes are maintained and made available to Companies and other Parties on request.

第 B—I/7 節

有關資料遞送之準則

Section B-I/7

Guidance regarding communication of information

遇到困難之報告

Reports of difficulties encountered

1 殷望各締約國在依據本公約第IV條及規則 I/7 遞送資料時，能包括一份如下述之目錄指出所需資料之位置：

1 Parties are encouraged, when communicating information in accordance with article IV and regulation I/7 of the Convention, to include an index specifically locating the required information as follows:

依 STCW 公約第IV條及規則 I/7 提送資料目錄

Index of materials submitted in accordance with article IV and regulation I/7 of the STCW Convention

STCW 公約第IV條

Article IV of the STCW Convention

位置

Location

1 法律、法令、命令、規則及檔之本文

(第IV(1)(a)條)

- 1 Text of laws, decrees, orders, regulations and instruments
(article IV(1)(a))

2 研習課程細節

(第IV(1)(b)條)

- 2 Details on study courses
(article IV(1)(b))

3 國家測驗與其他規定

(第IV(1)(b)條)

- 3 National examination and other requirements
(article IV(1)(b))

4 證書樣本

(第IV(1)(c)條)

- 4 Specimen certificates
(article IV(1)(c))

STCW 章程 A-I/7 節

Section A-I/7 part 1 of the STCW Code

位置

Location

5 政府組織資料

(第 A-I/7 節第 2.1 項)

- 5 Information on Governmental organization
(section A-I/7, paragraph 2.1)

6 法律與行政措施之說明

(第 A-I/7 節第 2.2 項)

- 6 Explanation of legal and administrative measures
(section A-I/7, paragraph 2.2)

7 教育、訓練、測驗、評估及發證政策之敘述 (A-I/7 節第 2.3 項)

(第 A-I/7 節第 2.7 項)

- 7 Statement of the education, training, examination, assessment and certification policies
(section A-I/7, paragraph 2.3)

8 發證所需之課程、訓練計畫、測驗及評估之摘要

(第 A-I/7 節第 2.4 項)

- 8 Summary of the courses, training programmes, examinations, assessments by certificate
(section A-I/7, paragraph 2.4)

9 授權、委託及認可之程式與條件之大綱

(第 A-I/7 節第 2.5 項)

- 9 Outline of the procedures and conditions for authorizations, accreditations and approvals
(section A-I/7, paragraph 2.5)

10 經核准授權、委託及認可之表冊

(第 A-I/7 節第 2.5 項)

- 10 List of authorizations, accreditations and approvals granted
(section A-I/7, paragraph 2.5)

11 特許程式之摘要

(第 A-I/7 節第 2.6 項)

- 11 Summary of procedures for dispensations
(section A-I/7, paragraph 2.6)

12 依規則 I /11 所施行之比較

(第 A-I/7 節第 2.7 項)

- 12 Comparison carried out pursuant to regulation I/11
(section A-I/7, paragraph 2.7)

13 強制性知識更新及提昇訓練之大綱

(第 A-I/7 節第 2.7 項)

- 13 Outline of refresher and upgrading training mandated
(section A-I/7, paragraph 2.7)

STCW 章程 A-I/7 節第 2 部分第 3 項

Section A-I/7, part 2, paragraph 3 of the STCW Code

位置

Location

14 依第IX條採納等效安排之說明

(第 A-I/7 節第 3.1 項)

- 14 Description of equivalency arrangements adopted pursuant to
article IX
(section A-I/7, paragraph 3.1)

15 確保符合規則 I /10 所採取措施之摘要

(第 A-I/7 節第 3.2 項)

- 15 Summary of measures taken to ensure compliance with
regulation I/10
(section A-I/7, paragraph 3.2)

16 為依據規則VII/1 雇用持有替代證書航海人員之船舶所簽發
船員安全配額檔之樣本

(第 A-I/7 節第 3.3 項)

- 16 Specimen copy of safe manning documents issued to ships
employing seafarers holding alternative certificates under
regulation VII/1
(section A-I/7, paragraph 3.3)

STCW 章程第 A-I/7 節第 2 部分第 4 項

Section A-I/7, part 2, paragraph 4 of the STCW Code

位置

Location

17 依據規則 I/8 實施獨立評審結果之報告，包括：

- 17 Report of results of independent evaluations carried out
pursuant to regulation I/8 covering:

18 獨立評審評審員委託之任期

18 Terms of reference of evaluators for the independent evaluation

19 評審員之資格與經驗

19 Qualifications and experience of evaluators

20 評審員之日期與範圍

20 Date and scope of evaluation

21 不符合事項之發現

21 Non-conformities found

22 建議之矯正措施

22 Corrective measures recommended

23 所施行之矯正措施

23 Corrective measures carried out

24 獨立評審所涵蓋之訓練機構/中心名單

24 List of training institutions/centres covered by the independent evaluation

STCW 章程第 A-I/7 節第 2 部分第 6 項

Section A-I/7, part 2, paragraph 6 of the STCW Code

位置

Location

25 解釋法律與行政措施

(第 A 第-I/7 節第 6.1 項)

25 Explanation of legal and administrative measures
(section A-I/7, paragraph 6.1)

26 教育、訓練、測驗、評估與發證政策說明

(第 A-I/7 節，第 6.2 項)

26 Statement of the education, training, examination, assessment and certification policies
(section A-I/7, paragraph 6.2)

27 認可課程、訓練科目、測驗、評估的綱要

(第 A-I/7 節第 6.3 項)

27 Summary of the courses, training programmes, examinations, assessments by certificate
(section A-I/7, paragraph 6.3)

28 新知課程與強制性晉升訓練大綱

(第 A-I/7 節第 6.4 項)

- 28 Outline of refresher and upgrading training mandated
(section A-I/7, paragraph 6.4)

29 依據規則第 I/11 條施行之比較

(第 A-I/7 節第 6.5 項)

- 29 Comparison carried out pursuant to regulation I/11
(section A-I/7, paragraph 6.5)

2 要求締約國在規則 I/7 所規定之報告中包含有遵守本章程 B 篇所述之任何相關準則，業已發現為不可行之說明。

2 Parties are requested to include, in the reports required by regulation I/7, an indication of any relevant guidance contained in part B of this Code, the observance of which has been found to be impracticable.

第 B—I/8 節

有關品質標準之準則

Section B-I/8

Guidance regarding quality standards

1 在依規則 I/8 及第 A-I/8 節規定將品質標準應用於其發證系統之管理中，各締約國應考慮及現行之國內及國際模式，並包括下列主要內容：

1 In applying quality standards under the provisions of regulation I/8 and section A-I/8 to the administration of its certification system, each Party should take account of existing national or international models, and incorporate the following key elements:

- .1 關於品質之明確政策及實施該政策之方法；
- .1 an expressed policy regarding quality and the means by which such policy is to be implemented;
- .2 品質系統包括品質管理所需之組織架構、責任、程式、過程及資源；
- .3 確保品質管制之操作技術及活動；
- .2 a quality system incorporating the organizational structure, responsibilities, procedures, processes and resources necessary for quality management;
- .3 the operational techniques and activities to ensure quality control;
- .4 包括內部品質保證評估在內之系統監督安排，以確保達到所有之既定目標；及
- .4 systematic monitoring arrangements, including internal quality-assurance

evaluations, to ensure that all defined objectives are being achieved; and

.5 下列各項所述之定期外部品質評估之安排。

.5 arrangements for periodic external quality evaluations as described in the following paragraphs.

2 在為國家發證體系之管理建立品質標準時，主管機關應力求保證所採取之安排：

2 In establishing such quality standards for the administration of their national certification system, Administrations should seek to ensure that the arrangements adopted:

.1 具有足夠的彈性，以使發證體系考慮及航業界之不同要求，並便於及鼓勵適用新技術；

.1 are sufficiently flexible to enable the certification system to take account of the varying needs of the industry, and that they facilitate and encourage the application of new technology;

.2 涵蓋實施本公約各條規定之所有管理事項，特別是實施規則 I/2 至 I/15 及促使主管機關認可服務證書及特許證，及撤消、註銷及吊銷證書之其他規定；

.2 cover all the administrative matters that give effect to the various provisions of the Convention, in particular regulations I/2 to I/15 and other provisions which enable the Administration to grant certificates of service and dispensations and to withdraw, cancel and suspend certificates;

.3 完成主管機關認可各層級訓練及評估之責任，包括從大學課程及適任證書最新課程到短期職業訓練課程；及

.3 encompass the Administration's responsibilities for approving training and assessment at all levels, from undergraduate-type courses and updating courses for certificates of competency to short courses of vocational training; and

.4 包含按照第 1.4 項之要求進行內部品質保證評審之安排、各層級對管理程式之全面自我檢討，俾檢測既定目標是否達到，並為第 A-I/8 節第 3 項所要求獨立外部評審奠定基礎。

.4 incorporate arrangements for the internal quality-assurance reviews under paragraph 1.4 involving a comprehensive self-study of the administrative procedures, at all levels, in order to measure achievement of defined objectives and to provide the basis for the independent external evaluation required under section A-I/8, paragraph 3.

知識、瞭解、技能及適任性評估之品質標準模式

Quality standards model for assessment of knowledge, understanding, skills and competence

3 評估知識、瞭解、技能及適任性之品質標準模式應在下述任何一種一般架構下包括本節建議：

3 The quality standards model for assessment of knowledge, understanding, skills and competence should incorporate the recommendations of this section within the general framework of either:

- .1 國家教育及訓練評鑑制度或品質標準；或
- .1 a national scheme for education and training accreditation or quality standards; or
- .2 本組織認可之另一種品質標準模式。
- .2 an alternative quality-standards model acceptable to the Organization.

4 上述品質標準模式應包含：

4 The above quality-standards model should incorporate:

- .1 品質政策，包括訓練機構或單位為達到所述之目的與目標所為之承諾，及獲得有關評鑑或品質標準當局之最後認可所為之承諾；
- .1 a quality policy, including a commitment by the training institution or unit to the achievement of its stated aims and objectives and to the consequential recognition by the relevant accrediting or quality-standards authority;
- .2 決定及實施品質政策之品質管理功能，該功能與影響品質規定之各種工作有關，並包含決定課程及計畫如何進行之規定；
- .2 those quality-management functions that determine and implement the quality policy, relating to aspects of the work which impinge on the quality of what is provided, including provisions for determining progression within a course or programme;
- .3 適當時品質系統涵蓋教學及管理之組織架構、責任、程式、過程及人力與設備之資源；
- .3 quality system coverage, where appropriate, of the academic and administrative organizational structure, responsibilities, procedures, processes and the resources of staff and equipment;
- .4 品質管制功能應適用於各層級之教學、訓練、測驗及評估活動以及其組織與實施，以確保適合其目的並達到既定目標；
- .4 the quality-control functions to be applied at all levels to the teaching, training, examination and assessment activities, and to their organization and implementation, in order to ensure their fitness for their purpose and the achievement of their defined objectives;

- .5 內部品質保證程式及審核，用以監督教育機構或訓練單位達到其所提供計劃目標之程度，並對其所採用之品質管控制程式進行有效之監督；及
- .5 the internal quality-assurance processes and reviews which monitor the extent to which the institution, or training unit, is achieving the objectives of the programmes it delivers, and is effectively monitoring the quality-control procedures which it employs; and
- .6 依規則 I/8 第 2 項所要求及下列各項所述之外部定期品質評審所作之安排，為品質保證評審結果之基礎與起點。
- .6 the arrangements made for periodic external quality evaluations required under regulation I/8, paragraph 2 and described in the following paragraphs, for which the outcome of the quality-assurance reviews forms the basis and starting point.

5 建立教育、訓練及評估計畫之品質標準時，負責實施該等計畫之組織應考慮及下列各項：

5 In establishing quality standards for education, training and assessment programmes, the organizations responsible for implementing these programmes should take account of the following:

- .1 如已具備現行之國家評鑑或教育品質標準之規定，該等規定須結合公約之知識及瞭解要求，運用於課程中。品質標準應適用於管理及操作兩層級之活動中，並應考慮及其如何管理、組織、承擔及評審，以確保達到既定目標。
- .1 Where provisions exist for established national accreditation, or education quality standards, such provisions should be utilized for courses incorporating the knowledge and understanding requirements of the Convention. The quality standards should be applied to both management and operational levels of the activity, and should take account of how it is managed, organized, undertaken and evaluated, in order to ensure that the identified goals are achieved.
- .2 如主要目的在獲得某一特定技能或完成某一指定任務，則品質標準應考慮及是否為此目的使用真實設備或模擬設施，並應考慮及評審員之適當資格及經驗，以確保達到既定標準。
- .2 Where acquisition of a particular skill or accomplishment of a designated task is the primary objective, the quality standards should take account of whether real or simulated equipment is utilized for this purpose, and of the appropriateness of the qualifications and experience of the assessors, in order to ensure achievement of the set standards.
- .3 內部品質保證評審須包括對各層級計畫之全盤自我檢討，透過使用品質標準監督達到既定目標。該等品質保證評審應涉及計畫與教學、學習及溝通活動

之策劃、設計、提出及評審。評審結果為第 A-I/8 節第 3 項所要求之獨立評審奠定基礎。

- .3 The internal quality-assurance evaluations should involve a comprehensive self-study of the programme, at all levels, to monitor achievement of defined objectives through the application of quality standards. These quality-assurance reviews should address the planning, design, presentation and evaluation of programmes as well as the teaching, learning and communication activities. The outcome provides the basis for the independent evaluation required under section A-I/8, paragraph 3.

獨立評審

The independent evaluation

6 每一獨立評審須包括對所有品質活動之系統與獨立檢查，但無須對既定目標之有效性進行評審。評審小組應：

6 Each independent evaluation should include a systematic and independent examination of all quality activities, but should not evaluate the validity of the defined objectives. The evaluation team should:

- .1 按書面程式進行評審；
- .1 carry out the evaluation in accordance with documented procedures;
- .2 確保每次評審的結果係屬書面，並促使負責評審該部分者之注意；
- .2 ensure that the results of each evaluation are documented and brought to the attention of those responsible for the area evaluated; and
- .3 查核業已及時採取措施以矯正缺點。
- .3 check that timely action is taken to correct any deficiencies.

7 評審之目的在為各層級品質標準安排之有效性提供獨立之評估，在教育或訓練機構之情況時，應利用認可之學術評鑑或品質標準團體或政府機關。應將足夠之先期資料提供予評審小組，使其對所進行之任務有一概括之瞭解。就一主要訓練機構或計劃而言，所應提供之資料應包括下述項目：

7 The purpose of the evaluation is to provide an independent assessment of the effectiveness of the quality-standard arrangements at all levels. In the case of an education or training establishment, a recognized academic accreditation or quality-standards body or Government agency should be used. The evaluation team should be provided with sufficient advance information to give an overview of the tasks in hand. In the case of a major training institution or programme, the following items are indicative of the information to be provided:

- .1 該機構之任務說明；

- .1 the mission statement of the institution;
- .2 所使用之教學及訓練策略之細節；
- .2 details of academic and training strategies in use;
- .3 組織圖及各委員會與諮詢機構之組成資料；
- .3 an organization chart and information on the composition of committees and advisory bodies;
- .4 教職員及學員之資料；
- .4 staff and student information;
- .5 訓練設施及設備之說明；及
- .5 a description of training facilities and equipment; and
- .6 對下述各項之政策及程式概要：
- .6 an outline of the policies and procedures on:
 - .6.1 招生；
 - .6.1 student admission;
 - .6.2 新課程之制定及現有課程之審核；
 - .6.2 the development of new courses and review of existing courses;
 - .6.3 測驗制度，包括申訴及補測驗；
 - .6.3 the examination system, including appeals and resits;
 - .6.4 教職員之招聘、訓練、發展、評鑑及昇遷；
 - .6.4 staff recruitment, training, development, appraisal and promotion,
 - .6.5 學員及航業界之反應；及
 - .6.5 feedback from students and from industry, and
 - .6.6 教職員在研究及發展方面之參與。
 - .6.6 staff involvement in research and development.

報告

The report

8 評審小組在提出最終報告前，須先向管理部門遞送一份中期報告，以徵求其所發現之意見，在收到其意見後，評審員應提最終報告，該報告應：

8 Before submitting a final report, the evaluation team should forward an interim report to

the management, seeking their comments on their findings. Upon receiving their comments, the evaluators should submit their final report, which should:

- .1 包括訓練機構或訓練計畫之簡要背景資料；
- .1 include brief background information about the institution or training programme;
- .2 完整、公平及確實；
- .2 be full, fair and accurate;
- .3 強調該訓練機構之優點及弱點；
- .3 highlight the strengths and weaknesses of the institution;
- .4 說明所遵循之評審程式；
- .4 describe the evaluation procedure followed;
- .5 述及前述第 4 項所述之各事項；
- .5 cover the various elements identified in paragraph 4;
- .6 指出符合或不符合本公約要求之範圍，及確保品質標準之有效性達到既定之目的與目標；及
- .6 indicate the extent of compliance or non-compliance with the requirements of the Convention and the effectiveness of the quality standards in ensuring achievement of defined aims and objectives; and
- .7 清楚地指出已發現缺失，提出改進建議，並提供經評審員認為有關之任何其他意見。
- .7 spell out clearly the areas found to be deficient, offer suggestions for improvement and provide any other comments the evaluators consider relevant.

第 B—I/9 節

有關健康標準之準則

Section B-I/9

Guidance regarding medical standards

健康檢查及發證

MEDICAL EXAMINATION AND CERTIFICATION

1 締約國在制定航海人員健康標準與規定時，應考慮及表 B-I/9 所列最低體能與本節之準則，並注意航海人員職責之不同。

1 Parties, in establishing seafarer medical fitness standards and provisions, should take into account the minimum physical abilities set out in table B-I/9 and the guidance given within this section, bearing in mind the different duties of seafarers.

2 締約國在制定航海人員健康標準與規定時，應遵照 ILO/WHO 所出版之“施行航海人員上船前及定期健康檢查準則”之指導，包括嗣後之任何修正版本及其他任何由國際勞工組織、國際海事組織或世界衛生組織所出版之適用國際準則。

2 Parties, in establishing seafarer medical fitness standards and provisions, should follow the guidance contained in the ILO/WHO publication *Guidelines for Conducting Pre-sea and Periodic Medical Fitness Examinations for Seafarers*, including any subsequent versions, and any other applicable international guidelines published by the International Labour Organization, the International Maritime Organization or the World Health Organization.

3 對航海人員施行醫護健康檢查之執業醫師，其適當之資格與經驗得包括職業健康或海上健康資格，擔任船舶醫師或船公司醫師或在具有上述資格與經驗人員監督下工作之經驗。

3 Appropriate qualifications and experience for medical practitioners conducting medical fitness examinations of seafarers may include occupational health or maritime health qualifications, experience of working as a ship's doctor or a shipping company doctor or working under the supervision of someone with the aforementioned qualifications or experience.

4 施行健康檢查之場所應具有必要之設施與設備以對航海人員施行健康檢查。

4 The premises where medical fitness examinations are carried out should have the facilities and equipment required to carry out medical fitness examination of seafarers.

5 主管機關應確保經授權之執業醫師，在進行健康檢查程式作出判斷時，享有完全獨立之專業。

5 Administrations should ensure that recognized medical practitioners enjoy full professional independence in exercising their medical judgement when undertaking medical examination procedures.

6 申請健康證書之人員應對經授權之執業醫師提出適當之身分證件以確認其身分。並應交出以往之健康證書。

6 Persons applying for a medical certificate should present to the recognized medical practitioner appropriate identity documentation to establish their identity. They should also surrender their previous medical certificate.

7 各主管機關依據醫學的評價及任何其他有關個別調整之評估並證明其能力適於船上所指派專長，則有權准許變更或免除適用表 B-I/9 所述之任何標準。

7 Each Administration has the discretionary authority to grant a variance or waiver of any of the standards set out in table B-I/9 hereunder, based on an assessment of a medical evaluation and any other relevant information concerning an individual's adjustment to the condition and proven ability to satisfactorily perform assigned shipboard functions.

8 體檢標準應考慮及船上所具備之醫護設施及醫護技術，盡可能規定適合於海上服務之客觀標準。尤其是對航海人員患有潛在威脅生命之疾病，但可受到藥物控制者得允許繼續在海上服務之條件應詳予規定。

8 The medical fitness standards should, so far as possible, define objective criteria with regard to fitness for sea service, taking into account access to medical facilities and medical expertise on board ship. They should, in particular, specify the conditions under which seafarers suffering from potentially life-threatening medical conditions that are controlled by medication may be allowed to continue to serve at sea.

9 體檢標準尚應對特定之身體狀況予以規定，如色盲，可能會妨礙航海人員在船上擔任某些特定之職位。

9 The medical standards should also identify particular medical conditions, such as colour blindness, which might preclude seafarers holding particular positions on board ship.

10 在職視力最低標準各眼未矯正視距至少應為 0.1*。

10 The minimum in-service eyesight standards in each eye for unaided distance vision should be at least 0.1*.

11 需要配戴眼鏡或隱形眼鏡以執行職責之人員，應在船上方便可取用之處備有一副或多副備用眼鏡。任何需要借助矯正措施以達所要求之標準者，應於所簽發之體檢合格證書中記載之。

11 Persons requiring the use of spectacles or contact lenses to perform duties should have a spare pair or pairs, as required, conveniently available on board the ship. Any need to wear visual aids to meet the required standards should be recorded on the medical fitness certificate issued.

12 色覺試驗應依據國際照明委員會(CIE 143-2001 包括嗣後之任何修正)所刊行之運輸業色覺要求之國際建議案或相當之試驗方法。

12 Colour vision testing should be in accordance with the *International Recommendation for Colour Vision Requirements for Transport*, published by the Commission Internationale de l'Eclairage (CIE 143-2001 including any subsequent versions) or equivalent test methods.

* 其值以史耐倫 (Snellen) 十進位記數法表示。

* Value given in Snellen decimal notation.

表 B-I/9

新進與在職航海人員最低體能之評估³

Table B-I/9

Assessment of minimum entry level and in-service physical abilities for seafarers³

船上工作、專長、事件或狀況 ³ Shipboard task, function event or condition ³	相關體能 Related physical ability	申請人經健康檢查人員認為滿意之條件 ⁴ A medical examiner should be satisfied that the candidate ⁴
<u>在船上之日常活動：</u> Routine movement around vessel: - <u>在活動之甲板上</u> - on moving deck - <u>在不同水準高度上</u> - between levels - <u>在艙室之間</u> - between compartments <u>註1 適用於本列</u> Note 1 applies to this row	<u>保持平衡並移動敏捷</u> Maintain balance and move with agility <u>在垂直梯與梯道上下</u> Climb up and down vertical ladders and stairways <u>跨上艙口緣圍（如載重線公約要求緣圍高度應為600mm）</u> Step over coamings (e.g., Load Line Convention requires coamings to be 600 mm high) <u>啓閉水密門</u> Open and close watertight doors	<u>平衡感無障礙</u> Has no disturbance in sense of balance <u>並無妨礙有關動作與身體活動之任何損傷或疾病</u> Does not have any impairment or disease that prevents relevant movements and physical activities <u>不需要協助即能⁵：</u> Is, without assistance ⁵ , able to: - <u>攀爬垂直梯與梯道</u> - climb vertical ladders and stairways - <u>跨越高門檻</u> - step over high sills - <u>操作關門系統</u> - manipulate door closing systems
<u>船上之日常工作：</u> Routine tasks on board: - <u>使用手工工具</u> - Use of hand tools - <u>搬移船用物料</u> - Movement of ship's stores - <u>頭頂上方之工作</u> - Overhead work - <u>閥之操作</u> - Valve operation - <u>站立當值4小時</u> - Standing a four-hour watch - <u>在侷限之空間內工作</u> - Working in confined spaces - <u>對警報、警告及指示之反應</u> - Responding to alarms, warnings and instructions - <u>口頭通信</u> - Verbal communication <u>註1 適用於本列</u> Note 1 applies to this row	<u>操作機械設施所需的力量、機敏與精力</u> Strength, dexterity and stamina to manipulate mechanical devices <u>舉起、牽拉與攜載重物（如18kg）</u> Lift, pull and carry a load (e.g., 18 kg) <u>保持更長時間之站立、行走與警惕</u> Reach upwards Stand, walk and remain alert for an extended period <u>在侷限之空間內工作及穿越受限制之開口（如SOLAS要求貨艙空間最小開口及應急逃生口之最小尺度為600mmx600mm- SOLAS 規則 3.6.5.1）</u> Work in constricted spaces and move through restricted openings (e.g., SOLAS requires minimum openings in cargo spaces and emergency escapes to have the minimum dimensions of 600 mm × 600 mm – SOLAS regulation 3.6.5.1) <u>目視區別物體、形狀與信號</u> Visually distinguish objects, shapes and signals <u>聽到警告與指示</u> Hear warnings and instructions <u>作清晰之口頭描述</u> Give a clear spoken description	<u>並無明顯之損傷或診出健康狀況會降低其執行船舶安全操作所要求之日常職責</u> Does not have a defined impairment or diagnosed medical condition that reduces ability to perform routine duties essential to the safe operation of the vessel <u>具有下列能力：</u> Has ability to: - <u>舉起手臂工作</u> - work with arms raised - <u>站立與行走更長時間</u> - stand and walk for an extended period - <u>進入侷限之空間</u> - enter confined space - <u>視力符合標準（A-I/9）</u> - fulfil eyesight standards (A-I/9) - <u>聽力符合主管機關或考慮及國際準則之標準則</u> - fulfil hearing standards set by competent authority or take account of international guidelines - <u>保持正常對話</u> - hold normal conversation

船上工作、專長、事件或狀況 ³ Shipboard task, function event or condition ³	相關體能 Related physical ability	申請人經健康檢查人員認為滿意之條件 ⁴ A medical examiner should be satisfied that the candidate ⁴
<u>船上之應急職責⁶：</u> Emergency duties ⁶ on board: - <u>逃生</u> - Escape - <u>滅火</u> - Fire-fighting - <u>撤離</u> - Evacuation <u>註2 適用於本列</u> <i>Note 2 applies to this row</i>	<u>穿著救生衣或浸水衣</u> Don a lifejacket or immersion suit <u>逃離充滿煙霧之空間</u> Escape from smoke-filled spaces <u>參與滅火職責，包括使用呼吸器</u> Take part in fire-fighting duties, including use of breathing apparatus <u>參與船舶撤離程式</u> Take part in vessel evacuation procedures	<u>並無明顯之損傷或診出健康狀況會降低其執行船舶安全操作所要求之應急職責</u> Does not have a defined impairment or diagnosed medical condition that reduces ability to perform emergency duties essential to the safe operation of the vessel <u>具有下列能力：</u> Has ability to: - <u>穿著救生衣或浸水衣</u> - don lifejacket or immersion suit - <u>爬行</u> - crawl - <u>感覺溫度變化</u> - feel for differences in temperature - <u>使用滅火設備</u> - handle fire-fighting equipment - <u>佩用呼吸器（若職責需要）</u> - wear breathing apparatus (where required as part of duties)

註：

Notes:

- 1 上表第 1 列與第 2 列說明 (a) 職責船上工作、專長、事件與狀況，(b) 為航海人員本身、其他船員與船舶安全可能需要考慮所需之相當體能，及 (c) 由執業醫師評估健康狀況之高層次標準，但應記住航海人員職責之不同及所雇用人員在船上工作之性質。
- Rows 1 and 2 of the above table describe (a) ordinary shipboard tasks, functions, events and conditions, (b) the corresponding physical abilities which may be considered necessary for the safety of a seafarer, other crew members and the ship, and (c) high-level criteria for use by medical practitioners assessing medical fitness, bearing in mind the different duties of seafarers and the nature of shipboard work for which they will be employed.
- 2 上表第 3 列說明 (a) 職責船上工作、專長、事件與狀況，(b) 為航海人員本身、其他船員與船舶安全應考慮所需之相當體能，及 (c) 由執業醫師評估健康狀況之高層次標準，但應記住航海人員職責之不同及所雇用人員在船上工作之性質。
- Row 3 of the above table describes (a) ordinary shipboard tasks, functions, events and conditions, (b) the corresponding physical abilities which should be considered necessary for the safety of a seafarer, other crew members and the ship, and (c) high-level criteria for use by medical practitioners assessing medical fitness, bearing in mind the different duties of seafarers and the nature of shipboard work for which they will be employed.
- 3 本表並不擬列出所有可能之船上情況或潛在不適合之健康狀況，。締約國應詳予說明所適用之航海人員類別（如航行員、輪機乙級船員）。個人之特殊狀況，尤應考慮服務於有特殊或有限制職責之人員。
- This table is not intended to address all possible shipboard conditions or potentially disqualifying medical conditions. Parties should specify physical abilities applicable to the category of seafarers (such as “Deck officer” and “Engine rating”). The special circumstances of individuals and for those who have specialized or limited duties should receive due consideration.
- 4 在有所質疑時，如有適當之測試可資利用，則健康執業醫師應藉由客觀公正之測試以量測不合格損傷之程度或嚴重性，或認為應對該申請人作進一步之評估。
- If in doubt, the medical practitioner should quantify the degree or severity of any relevant impairment by means of objective tests, whenever appropriate tests are available, or by referring the candidate for further assessment.
- 5 “協助”一詞指藉他人之力以完成工作。
- The term “assistance” means the use of another person to accomplish the task.
- 6 “應急職責”係用以涵蓋所有標準應急回應之演變，諸如棄船與滅火，及每一航海人員所應循之程式以加強其個人殘存能力。
- The term “emergency duties” is used to cover all standard emergency response situations such as abandon ship or fire fighting as well as the procedures to be followed by each seafarer to secure personal survival.

第 B—I/10 節

有關證書認可之準則

Section B-I/10

Guidance regarding the recognition of certificates

1 依 STCW 公約所施行並不需要簽發適當證書之訓練，如締約國所遞送之資料業經海事安全委員會依規則 I/7 第 2 項裁定已完全符合公約之規定者，得為本公約其他締約國所接受，視為已符合有關訓練之要求。

1 Training carried out under the STCW Convention which does not lead to the issue of an appropriate certificate and on which information provided by a Party is found by the Maritime Safety Committee to give full and complete effect to the Convention in accordance with regulation I/7, paragraph 2 may be accepted by other Parties to the Convention as meeting the relevant training requirements thereof.

2 有關之主管機關應參照規則 I/10 第 5 項簽發列有下列資料之證明檔，以使港口國管制當局接受由他締約國所簽發自簽發日起不超過 3 個月之相同替代加簽之證書：

2 Contacted Administrations should issue documentary proof referred to in regulation I/10, paragraph 5 to enable port State control authorities to accept the same in lieu of endorsement of a certificate issued by another Party for a period of three months from the date of issue, providing the information listed below:

.1 航海人員姓名

.1 seafarer's name

.2 出生日期

.2 date of birth

.3 原適任證書之編號

.3 number of the original Certificate of Competency

.4 職務

.4 capacity

.5 限制

.5 limitations

.6 有關之主管機關之明細

.6 contact details of the Administration

.7 簽發日期與失效日期

.7 dates of issue and expiry.

3 此證明檔得以電子方式爲之。

3 Such documentary proof may be made available by electronic means.

第 B—I/11 節

有關於證書重新生效之準則

Section B-I/11

Guidance regarding the revalidation of certificates

1 規則 I/11 所要求之課程應包括有關海事法律、技術之改變及與海上人命安全、保全與海洋環境保護有關之建議案。

1 The courses required by regulation I/11 should include relevant changes in marine legislation, technology and recommendations concerning the safety of life at sea, security and the protection of the marine environment.

2 得採書面或口頭測驗、使用模擬設施或其他適當之措施等方式測試。

2 A test may take the form of written or oral examination, the use of a simulator or other appropriate means.

3 A-I/11 節第 1 項所述之認可海勤資歷得服務於比所持證書層級爲低之適當甲級船員。

3 Approved seagoing service stated in section A-I/11, paragraph 1 may be served in an appropriate lower officer rank than the certificate held.

4 如在證書失效前 6 個月內參照規則 I/11 第 1 項申請證書之重新生效，則該證書得再有效至該證書失效日之第 5 周年，或延長其生效日期。

4 If an application for revalidation of a certificate referred to in paragraph 1 of regulation I/11 is made within six months before expiry of the certificate, the certificate may be revalidated until the fifth anniversary of the date of validity, or extension of the validity, of the certificate.

第 B—I/12 節

有關使用模擬設施之準則

Section B-I/12

Guidance regarding the use of simulators

1 當使用模擬設施進行訓練或適任性評估，在執行任何該訓練或評估時，應考慮及下列準則。

1 When simulators are being used for training or assessment of competency, the following guidelines should be taken into consideration in conducting any such training or assessment.

雷達觀測及測繪之訓練及評估*

*相關之 IMO 典型課程能有助於課程之準備。

TRAINING AND ASSESSMENT IN RADAR OBSERVATION AND PLOTTING*

2 雷達觀測及測繪之訓練及評估，應：

2 Training and assessment in radar observation and plotting should:

.1 結合雷達模擬設備之使用；

.1 incorporate the use of radar simulation equipment; and

.2 符合不低於下述第 3 至 17 項之標準。

.2 conform to standards not inferior to those given in paragraphs 3 to 17 below.

3 適當時，雷達觀測之演練及實作應在真實船用雷達設備(包括使用模擬設施)上進行。測繪之練習最好應在實時下施行，使學員更加瞭解不正確使用雷達數據所產生之危險，並提高其測繪技術，達到相當於海上航行實際情況下安全執行避碰操縱所需之雷達測繪技術標準。

3 Demonstrations of and practice in radar observation should be undertaken, where appropriate, on live marine radar equipment, including the use of simulators. Plotting exercises should preferably be undertaken in real time, in order to increase trainees' awareness of the hazards of the improper use of radar data and improve their plotting techniques to a standard of radar plotting commensurate with that necessary for the safe execution of collision-avoidance manoeuvring under actual seagoing conditions.

通則

General

影響性能及精確度之因素

Factors affecting performance and accuracy

4 雷達原理之基本瞭解及下述全面之實作知識應予以獲得：

4 An elementary understanding should be attained of the principles of radar, together with a full practical knowledge of:

.1 距離及方位之量測、決定雷達顯示品質之雷達特性、雷達天線，極座標圖，主波束外各方向輻射功率之影響、包括不同類型雷達所具備之不同特點之雷達系統之非技術說明，性能監視器及影響最大與最小探測距離與資訊準確性之設備因素；

.1 range and bearing measurement, characteristics of the radar set which determine the quality of the radar display, radar antennae, polar diagrams, the effects of power radiated in directions outside the main beam, a non-technical description of

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

the radar system, including variations in the features encountered in different types of radar set, performance monitors and equipment factors which affect maximum and minimum detection ranges and accuracy of information;

- .2 本組織所採納之現行船用雷達性能規範^{*}；
- .2 the current marine radar performance specification adopted by the Organization^{*}；
- .3 雷達天線位置之影響、陰影扇形區及靈敏度降低弧、假回波、天線高度對於探測距離之影響、雷達裝置安裝位置之影響、及將備件置於磁羅經附近之影響，包括磁性安全距離；及
- .3 the effects of the siting of the radar antenna, shadow sectors and arcs of reduced sensitivity, false echoes, effects of antenna height on detection ranges and of siting radar units and storing spares near magnetic compasses, including magnetic safe distances; and
- .4 在天線及開敞波導附近之輻射傷害及應採取之預防措施。
- .4 radiation hazards and safety precautions to be taken in the vicinity of antenna and open waveguides.

資訊錯誤呈現之偵測包括假回波及海面回波

Detection of misrepresentation of information, including false echoes and sea returns

5 目標偵測限制之知識至為重要，以使觀測人員估計目標偵測不到之危險。應強調下述因素：

5 A knowledge of the limitations to target detection is essential, to enable the observer to estimate the dangers of failure to detect targets. The following factors should be emphasized:

- .1 設備之性能標準；
- .1 performance standard of the equipment;
- .2 亮度，增益及視頻處理器控制之調定；
- .2 brilliance, gain and video processor control settings;
- .3 雷達視距；
- .3 radar horizon;
- .4 目標的大小，形狀、外貌及組成；
- .4 size, shape, aspect and composition of targets;

^{*} 參見本組織所採納並由 IMO 刊行之“船上無線電通信與航行設備之性能標準”相關/適當之性能標準。

^{*} See relevant/appropriate performance standards adopted by the Organization and set out in IMO publication “Performance standards for shipborne radiocommunications and navigational equipment”.

- .5 船舶航行中運動之影響；
- .5 effects of the motion of the ship in a seaway;
- .6 電波傳播情況；
- .6 propagation conditions;
- .7 氣象情況；海浪雜波及雨雜波；
- .7 meteorological conditions; sea clutter and rain clutter;
- .8 抗雜波控制之調整；
- .8 anti-clutter control settings;
- .9 陰影扇形；及
- .9 shadow sectors; and
- .10 雷達與雷達間之干擾。
- .10 radar-to-radar interference.

6 應獲得之知識包括會造成錯誤分析之因素，包括假回波、附近鐵塔及高大結構物之影響、跨河與跨灣電線之影響、遠處目標在第二次及其後各次掃描時所產生之回波。

6 A knowledge should be attained of factors which might lead to faulty interpretation, including false echoes, effects of nearby pylons and large structures, effects of power lines crossing rivers and estuaries, echoes from distant targets occurring on second or later traces.

7 應獲得有助於分析之知識，包括角隅反射器及雷達示標；陸地目標之探測及辨認、地貌之影響、脈沖長度及射束寬度之影響。顯著及不顯著之雷達目標，影響目標回波強度之因素。

7 A knowledge should be attained of aids to interpretation, including corner reflectors and radar beacons; detection and recognition of land targets; the effects of topographical features; effects of pulse length and beam width; radar-conspicuous and -inconspicuous targets; factors which affect the echo strength from targets.

實作

Practice

雷達顯示器之調整及保持

Setting up and maintaining displays

8 應獲得下列知識：

8 A knowledge should be attained of:

- .1 各種類型之雷達顯示式；不穩定之船艏線向上相對運動；船艏線向上、航向

向上及正北點向上之穩定相對運動與真運動；

- .1 the various types of radar display mode; unstabilized ship's-head-up relative motion; ship's-head-up, course-up and north-up stabilized relative motion and true motion;
- .2 誤差對所顯示信息精確度之影響；羅經誤差對穩定及真運動顯示之影響；計程儀誤差對真運動顯示之影響；及不準確的手動速度調定對真運動顯示之影響；
- .2 the effects of errors on the accuracy of information displayed; effects of transmitting compass errors on stabilized and true-motion displays; effects of transmitting log errors on a true-motion display; and the effects of inaccurate manual speed settings on a true-motion display;
- .3 真運動控制鈕上不準確速度調整之偵測方法；接收機噪音限制能力對弱反射回波顯示之影響，及接收機噪音飽和之影響等；操作控制之調整；指示最佳調整點之標準；正確的調整順序之重要性；及控制誤調之影響；檢測下列控制鈕之誤調及校正：
- .3 methods of detecting inaccurate speed settings on true-motion controls; the effects of receiver noise limiting the ability to display weak echo returns, and the effects of saturation by receiver noise, etc.; the adjustment of operational controls; criteria which indicate optimum points of adjustment; the importance of proper adjustment sequence, and the effects of maladjusted controls; the detection of maladjustments and corrections of:
 - .3.1 影響偵測距離之控制鈕；及
 - .3.1 controls affecting detection ranges; and
 - .3.2 影響精確度之控制鈕；
 - .3.2 controls affecting accuracy;
- .4 以誤調之控制您使用雷達之危險性；及
- .4 the dangers of using radar equipment with maladjusted controls; and
- .5 經常定期進行性能檢查之必要性，雷達性能指示器與量程性能之關係。
- .5 the need for frequent regular checking of performance, and the relationship of the performance indicator to the range performance of the radar set.

距離及方位

Range and bearing

- 9 應獲得下列知識：

9 A knowledge should be attained of:

- .1 測量距離之方法；固定距離圈、及可變距離圈；
- .1 the methods of measuring ranges; fixed range markers and variable range markers;
- .2 各種方法之精確度及不同方法之相對精確度；
- .2 the accuracy of each method and the relative accuracy of the different methods;
- .3 量程數據之顯示方法；標明間隔之量程，數值計數器及刻度尺等；
- .3 how range data are displayed; ranges at stated intervals, digital counter and graduated scale;
- .4 測量方位之方法；雷達顯示器透明盤上之轉動式遊標，電子方位遊標及其他方法；
- .4 the methods of measuring bearings; rotatable cursor on transparent disc covering the display, electronic bearing cursor and other methods;
- .5 方位精確及由於視差，船艏標誌位移，中心誤調所造成之誤差；
- .5 bearing accuracy and inaccuracies caused by parallax, heading marker displacement, centre maladjustment;
- .6 方位數據之顯示方法；刻度尺；數值計數器等；及
- .6 how bearing data are displayed; graduated scale and digital counter; and
- .7 定時檢查距離及方位精確度之必要性，檢查誤差及校正或允許誤差之方法。
- .7 the need for regular checking of the accuracy of ranges and bearings, methods of checking for inaccuracies and correcting or allowing for inaccuracies.

測繪技術及相對運動概念

Plotting techniques and relative-motion concepts

10 應提供人工測繪技術之實作，包括使用反射測繪儀，其目的在建立徹底瞭解本船及他船間之相互運動，包括避碰操縱之影響。此訓練之最初階段，應設計一些簡單之測繪練習，以對測繪幾何學及相對運動概念建立完整之評價。在訓練過程中不斷地加深練習之複雜程度，直至學員完全通曉本訓練之所有知識。使用模擬設施或其他有效措施讓學員進行逼真之練習。可以增強其適任性。

10 Practice should be provided in manual plotting techniques, including the use of reflection plotters, with the objective of establishing a thorough understanding of the interrelated motion between own ship and other ships, including the effects of manoeuvring to avoid collision. At the preliminary stages of this training, simple plotting exercises should be designed to establish a sound appreciation of plotting geometry and relative-motion concepts. The degree of

complexity of exercises should increase throughout the training course until the trainee has mastered all aspects of the subject. Competence can best be enhanced by exposing the trainee to real-time exercises performed on a simulator or using other effective means.

重要回波之鑑別

Identification of critical echoes

11 應獲得完全瞭解：

11 A thorough understanding should be attained of:

- .1 利用雷達以岸上或海上目標予以定位；
- .1 position fixing by radar from land targets and sea marks;
- .2 以距離及以方位定位之精確度；
- .2 the accuracy of position fixing by ranges and by bearings;
- .3 利用其他航儀對雷達精確度進行相互核對之重要性；及
- .3 the importance of cross-checking the accuracy of radar against other navigational aids; and
- .4 使用雷達作為避碰設備時，經常定時記錄距離及方位之價值。
- .4 the value of recording ranges and bearings at frequent, regular intervals when using radar as an aid to collision avoidance.

他船之航向及航速

Course and speed of other ships

12 應獲得完全瞭解：

12 A thorough understanding should be attained of:

- .1 從所記錄之他船距離及方位求得其航向及航速之不同方法，包括：
- .1 the different methods by which course and speed of other ships can be obtained from recorded ranges and bearings, including:
 - .1.1 不穩定的相對測繪；
 - .1.1 the unstabilized relative plot;
 - .1.2 穩定的相對測繪；
 - .1.2 the stabilized relative plot; and
 - .1.3 真測繪；及
 - .1.3 the true plot; and

- .2 目測及雷達觀測之關係，包括他船航向及航速之細節及估計精確度，及他船運動改變之探測。
- .2 the relationship between visual and radar observations, including detail and the accuracy of estimates of course and speed of other ships, and the detection of changes in movements of other ships.

橫越、相遇或越他船最接近點之時間及距離

Time and distance of closest approach of crossing, meeting or overtaking ships

13 應獲得徹底瞭解：

13 A thorough understanding should be attained of:

- .1 使用所記錄之數據以求得：
- .1 the use of recorded data to obtain:
 - .1.1 量測最接近點之距離及方位；及
 - .1.1 measurement of closest approach distance and bearing;
 - .1.2 到最接近點之時間；及
 - .1.2 time to closest approach; and
- .2 經常定時觀測之重要性。
- .2 the importance of frequent, regular observations.

偵測他船之航向及航速改變

Detecting course and speed changes of other ships

14 應獲得徹底瞭解：

14 A thorough understanding should be attained of:

- .1 他船航向及/或航速改變對其在雷達顯示器上軌跡之影響；
- .1 the effects of changes of course and/or speed by other ships on their tracks across the display;
- .2 航向或航速改變與偵測該改變之時間遲延；及
- .2 the delay between change of course or speed and detection of that change; and
- .3 航向或航速之微小變化與實際改變相比在偵測率及精確度上之危險性。
- .3 the hazards of small changes as compared with substantial changes of course or speed in relation to rate and accuracy of detection.

本船航向改變或航速改變或兩者均改變之影響

Effects of changes in own ship's course or speed or both

15 徹底瞭解本船運動在相對運動顯示上之影響及他船運動之影響，及相對顯示中羅經穩定之優點。

15 A thorough understanding of the effects on a relative-motion display of own ship's movements, and the effects of other ships' movements and the advantages of compass stabilization of a relative display.

16 有關真運動顯示，應獲得下列徹底瞭解：

16 In respect of true-motion displays, a thorough understanding should be attained of:

.1 下述不準確之影響：

.1 the effects of inaccuracies of:

.1.1 速度及航向之調定；

.1.1 speed and course settings; and

.1.2 驅動穩定的相對運動顯示之羅經穩定數據；

.1.2 compass stabilization data driving a stabilized relative-motion display;

.2 本船航向或航速改變或兩者均改變對他船在雷達顯示器上軌跡之影響；及

.2 the effects of changes in course or speed or both by own ship on tracks of other ships on the display; and

.3 航速與觀測頻率之關係。

.3 the relationship of speed to frequency of observations.

1972年國際海上避碰規則之適用

Application of the International Regulations for Preventing Collisions at Sea, 1972

17 應獲得徹底瞭解 1972 年國際海上避碰規則與使用雷達之關係，包括：

17 A thorough understanding should be attained of the relationship of the International Regulations for Preventing Collisions at Sea, 1972 to the use of radar, including:

.1 避碰行動，依賴不充分資訊以作判斷之危險及航向或航速微小變化之危險；

.1 action to avoid collision, dangers of assumptions made on inadequate information and the hazards of small alterations of course or speed;

.2 使用雷達避碰時，安全航速之優點；

.2 the advantages of safe speed when using radar to avoid collision;

.3 航速與最接近點之距離與時間之關係，以與不同型式船舶操縱特性之關係；

- .3 the relationship of speed to closest approach distance and time and to the manoeuvring characteristics of various types of ships;
- .4 明確界定之雷達觀測報告及雷達報告程式之重要性；
- .4 the importance of radar observation reports and radar reporting procedures being well defined;
- .5 天氣晴朗時使用雷達以獲得其性能及使用限制之評價，比較雷達觀測及目測獲得信息之相對準確性之評估；
- .5 the use of radar in clear weather, to obtain an appreciation of its capabilities and limitations, compare radar and visual observations and obtain an assessment of the relative accuracy of information;
- .6 在天氣晴朗之夜間及有跡象顯示視線將降低時，及早使用雷達之必要性；
- .6 the need for early use of radar in clear weather at night and when there are indications that visibility may deteriorate;
- .7 比較雷達顯示之岸形及海圖上之岸形；及
- .7 comparison of features displayed by radar with charted features; and
- .8 比較量程比例不同之影響。
- .8 comparison of the effects of differences between range scales.

自動測繪雷達（ARPA）操作使用之訓練及評估

TRAINING AND ASSESSMENT IN THE OPERATIONAL USE OF AUTOMATIC RADAR PLOTTING AIDS (ARPA)

18 自動測繪雷達（ARPA）操作使用之訓練及評估應：

18 Training and assessment in the operational use of automatic radar plotting aids (ARPA) should:

- .1 要求先完成雷達觀測及測繪訓練，或將該訓練與以下第 19 至 35 項之訓練合併*；
- .1 require prior completion of the training in radar observation and plotting or combine that training with the training given in paragraphs 19 to 35 below;*
- .2 與 ARPA 模擬設備併用；及
- .2 incorporate the use of ARPA simulation equipment; and

* 相關之 IMO 典型課程及 MSC.64 (67) 號決議案可能有助於課程之準備。

* The relevant IMO Model Course(s) and resolution MSC.64(67) may be of assistance in the preparation of courses.

- .3 符合不低於以下第 19 至 35 項之標準。
- .3 conform to standards not inferior to those given in paragraphs 19 to 35 below.

19 當 ARPA 訓練作為 1978 年 STCW 公約一般訓練之一部分時，船長、大副及負責航行當值之甲級船員應瞭解根據 ARPA 所提供之資訊，連同其他航行資料之輸入而作出決策所涉及之各種因素，對於現代電子助航系統包括 ECDIS之操作方面及系統誤差方面應有相同之認識。此訓練之性質應屬是漸進的，並與個人責任及根據 1978 年 STCW 公約由締約國所簽發之證書相稱。

19 Where ARPA training is provided as part of the general training under the 1978 STCW Convention, masters, chief mates and officers in charge of a navigational watch should understand the factors involved in decision-making based on the information supplied by ARPA in association with other navigational data inputs, having a similar appreciation of the operational aspects and of system errors of modern electronic navigational systems, including ECDIS. This training should be progressive in nature, commensurate with the responsibilities of the individual and the certificates issued by Parties under the 1978 STCW Convention.

理論及演練

Theory and demonstration

過分依賴ARPA可能產生之危險

Possible risks of over-reliance on ARPA

- 20 認識到 ARPA 僅是一種助航設備，及：
- 20 Appreciation that ARPA is only a navigational aid and:
 - .1 ARPA 使用之限制，包括其感應器，過分依賴 ARPA 是危險的，尤其是保持瞭望時；及
 - .1 that its limitations, including those of its sensors, make over-reliance on ARPA dangerous, in particular for keeping a look-out; and
 - .2 始終遵守保持航行當值原則及保持航行當值準則之必要性。
 - .2 the need to observe at all times the Principles to be observed in keeping a navigational watch and the Guidance on keeping a navigational watch.

ARPA系統之主要型式及其顯示特性

Principal types of ARPA systems and their display characteristics

21 熟悉所使用 ARPA 系統之主要型式；其各種顯示特性，並且瞭解何時使用對地或對海穩定模式及正北向上、航向向上或船艏向上。

21 Knowledge of the principal types of ARPA systems in use; their various display characteristics and an understanding of when to use ground- or sea-stabilized modes and

north-up, course-up or head-up presentations.

IMO之ARPA性能標準

IMO performance standards for ARPA

22 認識 IMO 之 ARPA 性能標準，特別是精確度標準。*

22 An appreciation of the IMO performance standards for ARPA, in particular the standards relating to accuracy.*

影響系統性能及精確度之因素

Factors affecting system performance and accuracy

23 ARPA 感應器輸入性參數之知識－雷達、羅經及航速輸入，及感應器故障對 ARPA 數據之影響。

23 Knowledge of ARPA sensor input performance parameters radar, compass and speed inputs and the effects of sensor malfunction on the accuracy of ARPA data.

24 熟悉：

24 Knowledge of:

.1 雷達距離與方位辨別力及精確度限制之影響，及羅經與速度輸入精確度對 ARPA 數據精確度之影響；及

.1 the effects of the limitations of radar range and bearing discrimination and accuracy and the limitations of compass and speed input accuracies on the accuracy of ARPA data; and

.2 影響向量精確度之因素

.2 factors which influence vector accuracy.

追蹤能力及限制

Tracking capabilities and limitations

25 熟悉：

25 Knowledge of:

.1 以自動捕獲方式選擇目標之標準；

.1 the criteria for the selection of targets by automatic acquisition;

.2 以手動捕獲方式正確選擇目標所涉及之因素；

* 參見本組織所採納並由 IMO 刊行之“船上無線電通信與航行設備之性能標準”相關/適當之性能標準。

* See relevant/appropriate performance standards adopted by the Organization and set out in IMO publication “Performance standards for shipborne radiocommunications and navigational equipment”.

- .2 the factors leading to the correct choice of targets for manual acquisition;
- .3 對追蹤「丟失」目標及正在消失目標之影響；
- .3 the effects on tracking of “lost” targets and target fading; and
- .4 造成「目標交換」之環境及其對顯示數據之影響。
- .4 the circumstances causing “target swap” and its effects on displayed data.

處理遲延

Processing delays

26 熟悉經處理之 ARPA 資訊所顯示本身固有之遲延，特別是對捕獲與再捕獲或當被跟蹤目標採取操縱時。

26 Knowledge of the delays inherent in the display of processed ARPA information, particularly on acquisition and re-acquisition or when a tracked target manoeuvres.

操作警報，其優點及限制

Operational warnings, their benefits and limitations

27 認識 ARPA 操作警報之使用、優點及限制，及適用時各種警報之正確調定，以防止虛假警報之干擾。

27 Appreciation of the uses, benefits and limitations of ARPA operational warnings and their correct setting, where applicable, to avoid spurious interference.

系統之操作測試

System operational tests

28 熟悉：

28 Knowledge of:

- .1 ARPA 系統故障之測試方法，包括功能自測；及
- .1 methods of testing for malfunctions of ARPA systems, including functional self-testing; and
- .2 故障發生後，應採取之措施。
- .2 precautions to be taken after a malfunction occurs.

手動及自動捕獲目標及其各自之限制

Manual and automatic acquisition of targets and their respective limitations

29 熟悉多目標情況下，兩種捕獲方式之限制性及對捕獲正在消失目標及目標交換之影響。

29 Knowledge of the limits imposed on both types of acquisition in multi-target scenarios, and the effects on acquisition of target fading and target swap.

真向量與相對向量及目標資訊與危險區域之典型圖示

True and relative vectors and typical graphic representation of target information and danger areas

30 完全熟悉真向量與相對向量，目標之真航向與航速之推導，包括：

30 Thorough knowledge of true and relative vectors; derivation of targets' true courses and speeds, including:

- .1 威脅評估，根據向量前置外插推對預計最接近點及到達最接近點時間之推導，危險區域圖示之使用；
- .1 threat assessment, derivation of predicted closest point of approach and predicted time to closest point of approach from forward extrapolation of vectors, the use of graphic representation of danger areas;
- .2 本船及/或目標之航向及/或航速改變，對預計最接近點及到達最接近點之時間及危險區域之影響；
- .2 the effects of alterations of course and/or speed of own ship and/or targets on predicted closest point of approach and predicted time to closest point of approach and danger areas;
- .3 不正確向量及危險區域之影響；及
- .3 the effects of incorrect vectors and danger areas; and
- .4 真向量及相對向量間進行轉換之優點。
- .4 the benefit of switching between true and relative vectors.

被追蹤目標過去位置之資訊

Information on past positions of targets being tracked

31 熟悉被追蹤目標過去位置之推導，認識過去數據得以說明目標之目前操縱運動，並得以檢查 ARPA 追蹤之有效性。

31 Knowledge of the derivation of past positions of targets being tracked, recognition of historic data as a means of indicating recent manoeuvring of targets and as a method of checking the validity of the ARPA's tracking.

實作

Practice

調定及保持顯示

Setting up and maintaining displays

32 能夠演練：

32 Ability to demonstrate:

- .1 獲得最佳 ARPA 資訊顯示之正確啟動程式；
- .1 the correct starting procedure to obtain the optimum display of ARPA information;
- .2 選擇顯示方式；穩定之相對運動顯示及真運動顯示；
- .2 the selection of display presentation; stabilized relative-motion displays and true-motion displays;
- .3 為獲得最佳之數據顯示，各雷達顯示可調控鈕之正確調整；
- .3 the correct adjustment of all variable radar display controls for optimum display of data;
- .4 適當時，選擇航速輸入 ARPA；
- .4 the selection, as appropriate, of required speed input to ARPA;
- .5 ARPA 測繪控制之選擇，手動/自動捕獲，數據向量/圖形之顯示；
- .5 the selection of ARPA plotting controls, manual/automatic acquisition, vector/graphic display of data;
- .6 向量/圖形之時間比例選擇；
- .6 the selection of the timescale of vectors/graphics;
- .7 當 ARPA 使用自動捕獲時，排除區域之使用；
- .7 the use of exclusion areas when automatic acquisition is employed by ARPA; and
- .8 雷達、羅經、航速輸入感應器及 ARPA 之性能檢測。
- .8 performance checks of radar, compass, speed input sensors and ARPA.

系統之操作測試

System operational tests

33 能經查核基本之雷達測繪，執行系統檢查及確定 ARPA 數據精確度包括試驗操縱設施。

33 Ability to perform system checks and determine data accuracy of ARPA, including the trial manoeuvre facility, by checking against basic radar plot.

從ARPA顯示獲得信息

Obtaining information from the ARPA display

34 證明具有從相對及真運動模式顯示，獲得資訊之能力，包括：

34 Demonstrate the ability to obtain information in both relative- and true-motion modes of display, including:

- .1 對重要回波之識別；
.1 the identification of critical echoes;
- .2 目標相對運動之速度及方向；
.2 the speed and direction of target's relative movement;
- .3 到達目標之最接近點之時間及預測距離；
.3 the time to, and predicted range at, target's closest point of approach;
- .4 目標之航向及航速；
.4 the courses and speeds of targets;
- .5 對目標航向及航速改變之探測及此資訊之限制；
.5 detecting course and speed changes of targets and the limitations of such information;
- .6 本船航向或航速改變或兩者均改變之影響；
.6 the effect of changes in own ship's course or speed or both; and
- .7 試驗操縱設施之操作。
.7 the operation of the trial manoeuvre facility.

1972年國際海上避碰規則之應用

Application of the International Regulations for Preventing Collisions at Sea, 1972

35 以顯示之資訊分析潛在碰撞形勢，按 **1972 年**國際海上避碰規則決定並執行避免擁擠局面之行動。

35 Analysis of potential collision situations from displayed information, determination and execution of action to avoid close-quarters situations in accordance with the International Regulations for Preventing Collisions at Sea, 1972 in force.

使用電子海圖顯示與資料系統（ECDIS）操作之訓練與評估

TRAINING AND ASSESSMENT IN THE OPERATIONAL USE OF ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS)

引言

Introduction

36 當使用電子海圖顯示與資料系統（ECDIS）操作之訓練與評估係利用模擬設備時，則在任何此訓練或評估時應考慮下列過渡期間之準則。

36 When simulators are being used for training or assessment in the operational use of Electronic Chart Display and Information Systems (ECDIS), the following interim guidance should be taken into consideration in any such training or assessment.

37 使用電子海圖顯示與資料系統（ECDIS）操作之訓練與評估，應：

37 Training and assessment in the operational use of the ECDIS should:

.1 結合 ECDIS 模擬設備之使用；

.1 incorporate the use of ECDIS simulation equipment; and

.2 符合不低於下述第 38 至 65 項之標準。

.2 conform to standards not inferior to those given in paragraphs 38 to 65 below.

38 ECDIS 模擬設備除應符合經修正 1978 年航海人員訓練、發證及當值標準國際公約第 A-I/12 節所述之所有可適用之性能標準外，尚應能模擬航行設備與符合本組織所採納可適用之駕駛室之操作控制性能標準，結合設施以產生音響及：

38 ECDIS simulation equipment should, in addition to meeting all applicable performance standards set out in section A-I/12 of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended, be capable of simulating navigational equipment and bridge operational controls which meet all applicable performance standards adopted by the Organization, incorporate facilities to generate soundings and:

.1 產生實時之操作環境，包括應予施行適於航行與當值任務之航行控制與通信器具與設備，及應予評估之操縱技巧；及

.1 create a real-time operating environment, including navigation control and communications instruments and equipment appropriate to the navigation and watchkeeping tasks to be carried out and the manoeuvring skills to be assessed; and

.2 逼真之模擬“本船”在開敞海域狀況之特性，及氣象、潮流與海流之影響。

.2 realistically simulate “own ship” characteristics in open-water conditions, as well as the effects of weather, tidal stream and currents.

39 適當時，ECDIS 使用之演練及實作應在使用模擬設施上進行。訓練練習最好應在實時下施行，使學員更加瞭解不正確使用 ECDIS 所產生之危險。加速之時標僅得用於演練。

39 Demonstrations of, and practice in, ECDIS use should be undertaken, where appropriate, through the use of simulators. Training exercises should preferably be undertaken in real time, in order to increase trainees’ awareness of the hazards of the improper use of ECDIS.

Accelerated timescale may be used only for demonstrations.

通則

General

ECDIS訓練課程之目標

Goals of an ECDIS training programme

40 ECDIS 學員應能：

40 The ECDIS trainee should be able to:

- .1 操作 ECDIS 設備、使用 ECDIS 之功能航行、選擇與評估所有有關之資訊並於故障之情況下採取正確之行動；
.1 operate the ECDIS equipment, use the navigational functions of ECDIS, select and assess all relevant information and take proper action in the case of a malfunction;
- .2 說明所顯示數據之潛在誤差及描出使用上之誤差；及
.2 state the potential errors of displayed data and the usual errors of interpretation; and
- .3 解析為何不應依賴 ECDIS 作為可靠之導航設施。
.3 explain why ECDIS should not be relied upon as the sole reliable aid to navigation.

理論及演練

Theory and demonstration

41 由於 ECDIS 之安全使用，需要有關 ECDIS 數據與其呈示之規則及數據顯示之潛在誤差暨 ECDIS 有關之限制與潛在之危險等之知識與瞭解，因此應提供許多涵蓋理論講解之課程。此等課程應儘可能在眾所週知之刊物發表並以實例使用。並於模擬設備練習時予以加強。

41 As the safe use of ECDIS requires knowledge and understanding of the basic principles governing ECDIS data and their presentation rules as well as potential errors in displayed data and ECDIS-related limitations and potential dangers, a number of lectures covering the theoretical explanation should be provided. As far as possible, such lessons should be presented within a familiar context and make use of practical examples. They should be reinforced during simulator exercises.

42 為 ECDIS 設備與 ECDIS 有關資訊之安全操作（ECDIS 航行功能之使用、所有有關資訊之選擇與評估、ECDIS 主機介面之熟悉），在 ECDIS 模擬設備上實際練習應為該課程之主要內容。

42 For safe operation of ECDIS equipment and ECDIS-related information (use of the navigational functions of ECDIS, selection and assessment of all relevant information, becoming familiar with ECDIS man-machine interfacing), practical exercises and training on the ECDIS simulators should constitute the main content of the course.

43 為訓練目標之制定，應界定活動之架構。並應為此架構之各要旨制定學習目標之詳細說明。

43 For the definition of training objectives, a structure of activities should be defined. A detailed specification of learning objectives should be developed for each topic of this structure.

模擬設備之練習

Simulator exercises

44 練習應在個別之 ECDIS 模擬設備，或在包括有 ECDIS 之全任務航行模擬設備上施行，以使學員學到必要之實際技藝。對於實時之航行練習，建議航行模擬設備應包含該複雜之航行情況。該練習並應提供可能之不同尺度、航行模式、與顯示模式之訓練，以使學員能適應該設備之使用至特定之有關情況。

44 Exercises should be carried out on individual ECDIS simulators, or full-mission navigation simulators including ECDIS, to enable trainees to acquire the necessary practical skills. For real-time navigation exercises, navigation simulators are recommended to cover the complex navigation situation. The exercises should provide training in the use of the various scales, navigational modes, and display modes which are available, so that the trainees will be able to adapt the use of the equipment to the particular situation concerned.

45 練習與情節之選擇係由所用之模擬設備決定之。如 ECDIS 有一個或多個工作站並有全任務模擬設備可供使用，則在應用 ECDIS 模擬設備及航行計畫練習時，該工作站主要得供基本練習之用，而全任務模擬設備主要得在實時供有關於航行監控之功能，在與航行當值全部工作負載連結時應儘可能逼真。練習之複雜度在訓練計畫之所有方面應予增加迄學員業已熟練所有有關之學習科目。

45 The choice of exercises and scenarios is governed by the simulator facilities available. If one or more ECDIS workstations and a full-mission simulator are available, the workstations may primarily be used for basic exercises in the use of ECDIS facilities and for passage-planning exercises, whereas full-mission simulators may primarily be used for exercises related to passage-monitoring functions in real time, as realistic as possible in connection with the total workload of a navigational watch. The degree of complexity of exercises should increase throughout the training programme until the trainee has mastered all aspects of the learning subject.

46 練習應提出最大之寫實想法。為達此目的，該情節應位於假想之海域。對在不同海域所出現不同學習目標之情況、功能與行動能予以整合至一練習並在實時體驗。

46 Exercises should produce the greatest impression of realism. To achieve this, the scenarios should be located in a fictitious sea area. Situations, functions and actions for different learning objectives which occur in different sea areas can be integrated into one exercise and experienced in real time.

47 模擬設備練習之主要目標在確保學員瞭解其在所有與安全有關之方面使用 ECDIS 操作之責任並徹底熟悉該系統與設備之使用。

47 The main objective of simulator exercises is to ensure that trainees understand their responsibilities in the operational use of ECDIS in all safety-relevant aspects and are thoroughly familiar with the system and equipment used.

ECDIS系統之主要型式及其顯示特性

Principal types of ECDIS systems and their display characteristics

48 學員應獲得所採用 ECDIS 系統之主要型式及其各種顯示特性、數據結構之知識並瞭解：

48 The trainee should gain knowledge of the principal types of ECDIS in use; their various display characteristics, data structure and an understanding of:

.1 向量式與影像式海圖之不同；

.1 differences between vector and raster charts;

.2 ECDIS 與 ECS 間之不同；

.2 differences between ECDIS and ECS;

.3 ECDIS 與 RCDS*間之不同；

.3 differences between ECDIS and RCDS*;

.4 ECDIS 特性與其不同解答；及

.4 characteristics of ECDIS and their different solutions; and

.5 特殊目的之系統特性（不平常之情況/緊急）。

.5 characteristics of systems for special purposes (unusual situations/emergencies).

對ECDIS過份依賴之風險

Risks of over-reliance on ECDIS

49 在 ECDIS 使用操作之訓練時應說明：

49 The training in ECDIS operational use should address:

* 參見 SN/Cir207/Rev.1 -RCDS 與 ECDIS 間之不同。

* SN/Circ.207/Rev.1 – Differences between RCDS and ECDIS.

.1 以 ECDIS 為航行工具之限制；

.1 the limitations of ECDIS as a navigational tool;

.2 系統不當使用之潛在風險；

.2 potential risk of improper functioning of the system;

.3 系統包括其感應器之限制；

.3 system limitations, including those of its sensors;

.4 海道測量數據之不精確；向量與影像式電子海圖（ECDIS 對 ECS 及 ENC 對 RNC）之限制；及

.4 hydrographic data inaccuracy; limitations of vector and raster electronic charts (ECDIS vs RCDS and ENC vs RNC); and

.5 人為誤差之潛在風險。

.5 potential risk of human errors.

以 ECDIS 單獨之方法時，應強調對保持正規瞭望與施行定查核，尤其是船位之必要性。

Emphasis should be placed on the need to keep a proper look-out and to perform periodical checking, especially of the ship's position, by ECDIS-independent methods.

資訊錯誤呈現之偵測

Detection of misrepresentation of information

50 該設備之限制及偵測錯誤資訊為安全使用 ECDIS 很重要之知識。在訓練時下列之因素應予以強調：

50 Knowledge of the limitations of the equipment and detection of misrepresentation of information is essential for the safe use of ECDIS. The following factors should be emphasized during training:

.1 該設備之性能標準；

.1 performance standards of the equipment;

.2 雷達數據呈現於電子海圖；

.2 radar data representation on an electronic chart, elimination of discrepancy between the radar image and the electronic chart;

.3 電子海圖與紙海圖間可能出現之矛盾；

.3 possible projection discrepancies between an electronic and paper charts;

.4 在顯示電子海圖及其原尺度在尺度上可能之差異；

.4 possible scale discrepancies (overscaling and underscaling) in displaying

anelectronic chart and its original scale;

.5 使用不同系統定位之影響

.5 effects of using different reference systems for positioning;

.6 使用不同水準與垂直基準之影響

.6 effects of using different horizontal and vertical datums;

.7 船舶在海上運行之影響；

.7 effects of the motion of the ship in a seaway;

.8 ECDIS 在螢幕顯示模式之限制；

.8 ECDIS limitations in raster chart display mode;

.9 在顯示下列之潛在誤差：

.9 potential errors in the display of:

.9.1 本船位置；

.9.1 the own ship's position;

.9.2 雷達數據與 ARPA 及 AIS 資訊；

.9.2 radar data and ARPA and AIS information;

.9.3 不同之座標調整系統；及

.9.3 different geodetic coordinate systems; and

.10 確認手動與自動數據修正之結果：

.10 verification of the results of manual or automatic data correction:

.10.1 海圖數據與雷達圖像之比較；及

.10.1 comparison of chart data and radar picture; and

.10.2 使用其他之獨立定位系統查對本船位置。

.10.2 checking the own ship's position by using the other independent position-fixing systems.

51 應予說明數據不正確之詮釋及所採正確之行動以避免詮釋錯誤之理由。下列有關之事項應予強調：

51 False interpretation of the data and proper action taken to avoid errors of interpretation should be explained. The implications of the following should be emphasized:

- .1 忽視超尺度之顯示；
.1 ignoring overscaling of the display;
- .2 不加批評之接受本船位置；
.2 uncritical acceptance of the own ship's position;
- .3 顯示模式混淆；
.3 confusion of display mode;
- .4 海圖之尺度混淆；
.4 confusion of chart scale;
- .5 參照之系統混淆；
.5 confusion of reference systems;
- .6 不同模式之呈現；
.6 different modes of presentation;
- .7 不同模式之向量穩定；
.7 different modes of vector stabilization;
- .8 真北與電羅經北（雷達）間之不同；
.8 differences between true north and gyro north (radar);
- .9 使用相同數據參考系統；
.9 using the same data reference system;
- .10 使用適當尺度之圖；
.10 using the appropriate chart scale;
- .11 使用最佳之感應器組以提供情況與環境；
.11 using the best-suited sensor to the given situation and circumstances;
- .12 輸入正確之安全數據值；
.12 entering the correct values of safety data:
 - .12.1 本船之安全輪廓；
.12.1 the own ship's safety contour,
 - .12.2 安全深度（安全水深）；及
.12.2 safety depth (safe water), and

.12.3 可能之情況；及

.12.3 events; and

.13 正確使用所有可用之數據。

.13 proper use of all available data.

52 認識 RCDS 僅在 RCDS 模式操作時供助航，該 RCDS 設備應與適當之最新紙海圖紙夾一起使用：

52 Appreciation that RCDS is only a navigational aid and that, when operating in the RCDS mode, the ECDIS equipment should be used together with an appropriate portfolio of up-to-date paper charts:

.1 認識在 SN/Cir207/Rev.1 “RCDS 與 ECDIS 間之不同”內所述在 RCDS 模式操作之不同；及

.1 appreciation of the differences in operation of RCDS mode as described in SN.1/Circ.207/Rev.1 “Differences between RCDS and ECDIS”; and

.2 在 RCDS 之任何模式，應與適當之最新紙海圖紙夾一起使用於訓練。

.2 ECDIS, in any mode, should be used in training with an appropriate portfolio of up-to-date charts.

影響系統性能與精度之因素

Factors affecting system performance and accuracy

53 ECDIS 之原理應獲得基本之瞭解，連同全部實用之下列知識：

53 An elementary understanding should be attained of the principles of ECDIS, together with a full practical knowledge of:

.1 啟動與設定 ECDIS；連接衛星與無線電航行系統、雷達、電羅經、計程儀、回聲測深儀等數據感應器，此等感應器之準確性與限制，包括量測誤差與船位準確性之影響，操縱對航向指示器性能之準確性，羅經誤差對航向指示器之準確性，淺水對計程儀性能之準確性，修正計程儀對航速計算之準確性，擾動（海況）對回聲測深儀之準確性；及

.1 starting and setting up ECDIS; connecting data sensors: satellite and radio navigation system receivers, radar, gyro-compass, log, echo-sounder; accuracy and limitations of these sensors, including effects of measurement errors and ship's position accuracy, manoeuvring on the accuracy of course indicator's performance, compass error on the accuracy of course indication, shallow water on the accuracy of log performance, log correction on the accuracy of speed calculation, disturbance (sea state) on the accuracy of an echo-sounder performance; and

.2 本組織所採納之電子海圖顯示與資訊系統之現行性能標準*

- .2 the current performance standards for electronic chart display and information systems adopted by the Organization*.

實作

Practice

設定及保持顯示

Setting up and maintaining display

54 應獲得下列之知識與技藝：

- 54 Knowledge and skills should be attained in:

.1 正確之啟動程式，以獲取最理想之 ECDIS 資訊顯示；

- .1 the correct starting procedure to obtain the optimum display of ECDIS information;

.2 顯示資訊之選擇（標準顯示、顯示主要成分、個別或顯示所需之所有其他資訊）；

- .2 the selection of display presentation (standard display, display base, all other information displayed individually on demand);

.3 正確調整所有可變動之雷達/ARPA 顯示控制器以獲取最理想之數據顯示；

- .3 the correct adjustment of all variable radar/ARPA display controls for optimum display of data;

.4 適宜組態之選擇；

- .4 the selection of convenient configuration;

.5 適當時選擇所需之航速輸入 ECDIS；

- .5 the selection, as appropriate, of required speed input to ECDIS;

.6 向量時間標度之選擇；及

- .6 the selection of the timescale of vectors; and

.7 核對船位、雷達/ARPA、羅經、航速輸入感應器與 ECDIS 之性能。

- .7 performance checks of position, radar/ARPA, compass, speed input sensors and ECDIS.

* 參見本組織所採納並由 IMO 刊行之“船上無線電通信與航行設備之性能標準”相關/適當之性能標準。

* See relevant/appropriate performance standards adopted by the Organization and set out in IMO publication “Performance standards for shipborne radiocommunications and navigational equipment”.

電子海圖之操作使用

Operational use of electronic charts

55 應獲得下列之知識與技藝：

55 Knowledge and skills should be attained in:

.1 ECDIS 數據顯示之主要特性及航行任務資訊之正確選擇；

.1 the main characteristics of the display of ECDIS data and selecting proper information for navigational tasks;

.2 監測船舶安全所需之自動功能，如顯示船位、艏/迴轉儀航向、航速、安全值與時間；

.2 the automatic functions required for monitoring ship's safety, such as display of position, heading/gyro course, speed, safety values and time;

.3 人工作業功能（以螢幕上之游標、電子方位線、距離圈）；

.3 the manual functions (by the cursor, electronic bearing line, range rings);

.4 選擇與修正電子海圖之內容；

.4 selecting and modification of electronic chart content;

.5 定比（包括欠定比與超定比）；

.5 scaling (including underscaling and overscaling);

.6 影像之擴大縮小；

.6 zooming;

.7 設定本船之安全數據；

.7 setting of the own ship's safety data;

.8 使用晝夜顯示模式；

.8 using a daytime or night-time display mode;

.9 閱讀所有海圖之符號與縮寫；

.9 reading all chart symbols and abbreviations;

.10 使用不同種類之螢幕上游標及電子棒以獲得航行數據；

.10 using different kinds of cursors and electronic bars for obtaining navigational data;

.11 觀察在不同方向之區域並回至該船位；

.11 viewing an area in different directions and returning to the ship's position;

- .12 使用地理座標發現所需之區域
- .12 finding the necessary area, using geographical coordinates;
- .13 顯示適於航行情況不可或缺之數據層；
- .13 displaying indispensable data layers appropriate to a navigational situation;
- .14 選擇適當與明白之數據（船位、航向、航速等）；
- .14 selecting appropriate and unambiguous data (position, course, speed, etc.);
- .15 輸入航行警告；
- .15 entering the mariner's notes;
- .16 使用北向上定方位呈現及其他種類之定方位；及
- .16 using north-up orientation presentation and other kinds of orientation; and
- .17 使用真運動與相對運動模式。
- .17 using true- and relative-motion modes.

航路計劃

Route planning

56 應獲得下列之知識與技藝：

56 Knowledge and skills should be attained in:

- .1 將船舶之特性載入 ECDIS；
- .1 loading the ship's characteristics into ECDIS;
- .2 選擇航路計劃之海區；
- .2 selection of a sea area for route planning:
 - .2.1 再檢查所需通過海域之水深；及
 - .2.1 reviewing required waters for the sea passage, and
 - .2.2 變更海圖之比例。
 - .2.2 changing over of chart scale;
- .3 確認所用係正確與最新之海圖；
- .3 verifying that proper and updated charts are available;
- .4 考慮及恒向線與大圓航行，使用圖解編輯，以 ECDIS 方式顯示航路計劃；
- .4 route planning on a display by means of ECDIS, using the graphic editor, taking into consideration rhumb line and great-circle sailing;

- .4.1 使用 ECDIS 數據庫以取得航行、海上氣象與其他數據；
- .4.1 using the ECDIS database for obtaining navigational, hydro-meteorological and other data;
- .4.2 當其在海圖比例上表示時，考慮及迴旋半徑與轉舵點/線；
- .4.2 taking into consideration turning radius and wheel-over points/lines when they are expressed on chart scale;
- .4.3 標出危險之水深與區域及顯示警戒水深與地形線；
- .4.3 marking dangerous depths and areas and exhibiting guarding depth contours;
- .4.4 以十字等深線標出航路點及臨界橫越航跡變更航程，並以增加、代替與消除航路點；
- .4.4 marking waypoints with the crossing depth contours and critical cross-track deviations, as well as by adding, replacing and erasing of waypoints;
- .4.5 考慮安全航速；
- .4.5 taking into consideration safe speed;
- .4.6 查核預先計劃之航路以策安全航行；及
- .4.6 checking pre-planned route for navigational safety; and
- .4.7 發出警報與警告。
- .4.7 generating alarms and warnings;
- .5 以在表格計算計劃航路，包括：
- .5 route planning with calculation in the table format, including:
- .5.1 航路點之選擇；
- .5.1 waypoints selection;
- .5.2 恢復航路點表；
- .5.2 recalling the waypoints list;
- .5.3 計劃記錄；
- .5.3 planning notes;
- .5.4 計劃航路之調整；
- .5.4 adjustment of a planned route;

- .5.5 查核預先計劃之航路以策安全航行；
.5.5 checking a pre-planned route for navigational safety;
- .5.6 變更航路計劃；
.5.6 alternative route planning;
- .5.7 儲存計劃之航路，載入或卸載或刪除航路；
.5.7 saving planned routes, loading and unloading or deleting routes;
- .5.8 製作圖解監視器螢幕之複本並列印航路；
.5.8 making a graphic copy of the monitor screen and printing a route;
- .5.9 編輯並修正該計劃之航路；
.5.9 editing and modification of the planned route;
- .5.10 依據船舶尺度及操縱參數設定安全值；
.5.10 setting of safety values according to the size and manoeuvring parameters of the vessel;
- .5.11 返航路計劃；及
.5.11 back-route planning; and
- .5.12 建接數航路。
.5.12 connecting several routes.

航路監測

Route monitoring

57 應獲得下列之知識與技藝：

57 Knowledge and skills should be attained in:

- .1 使用獨立之數據或使用 ECDIS 內之另一系統以控制船位；
.1 using independent data to control ship's position or using alternative systems within ECDIS;
- .2 使用考慮到將來之功能：
.2 using the look-ahead function:
 - .2.1 變更海圖及其尺度；
.2.1 changing charts and their scales;
 - .2.2 再檢查航海圖；

- .2.2 reviewing navigational charts;
- .2.3 向量時間之選擇；
- .2.3 vector time selecting;
- .2.4 每隔若干時間預報船位；
- .2.4 predicting the ship's position for some time interval;
- .2.5 改變先前所計劃之航路（航路修正）；
- .2.5 changing the pre-planned route (route modification);
- .2.6 輸入獨立之數據以計算允許之風生漂與流；
- .2.6 entering independent data for the calculation of wind drift and current allowance;
- .2.7 對警報之適當反應；
- .2.7 reacting properly to the alarm;
- .2.8 輸入地理資料差異之修正數據；
- .2.8 entering corrections for discrepancies of the geodetic datum;
- .2.9 在船舶航路上顯示時間標誌；
- .2.9 displaying time markers on a ship's route;
- .2.10 人工輸入船位；及
- .2.10 entering ship's position manually; and
- .2.11 在海圖上測量座標、航向、方位與距離。
- .2.11 measuring coordinates, course, bearings and distances on a chart.

警報之處理

Alarm handling

58 應獲得在下列情況下正確解析與反應所有各種系統，如航行感應器、指示器、數據與海圖警報與指示器警告之知識與能力，包括啟動聽覺與視覺警報信號系統之開關：

58 Knowledge and ability to interpret and react properly to all kinds of systems, such as navigational sensors, indicators, data and charts alarms and indicator warnings, including, switching the sound and visual alarm signalling system, should be attained in case of:

- .1 在 ECDIS 數據庫內缺少緊鄰之海圖；
- .1 absence of the next chart in the ECDIS database;

- .2 橫越安全之地形線；
.2 crossing a safety contour;
- .3 超過橫越航跡限制；
.3 exceeding cross-track limits;
- .4 偏離計劃之航路；
.4 deviation from planned route;
- .5 接近航路點；
.5 approaching a waypoint;
- .6 接近臨界點；
.6 approaching a critical point;
- .7 計算與實際到達航路點之間時間上之差異；
.7 discrepancy between calculated and actual time of arrival to a waypoint;
- .8 欠定比與超定比之資料；
.8 information on under-scaling or over-scaling;
- .9 接近隔離之航行危險或危險區域；
.9 approaching an isolated navigational danger or danger area;
- .10 橫越特定之區域；
.10 crossing a specified area;
- .11 選擇不同之地理資料；
.11 selecting a different geodetic datum;
- .12 接近其他船舶；
.12 approaching other ships;
- .13 注意界線；
.13 watch termination;
- .14 啟動定時器開關；
.14 switching timer;
- .15 系統之故障測試；
.15 system test failure;

.16 用於 ECDIS 定位系統之失效；

.16 malfunctioning of the positioning system used in ECDIS;

.17 推算失效；及

.17 failure of dead-reckoning; and

.18 不能使用航行系統定船位。

.18 inability to fix vessel's position using the navigational system.

人工修正船位與運動參數

Manual correction of a ship's position and motion parameters

59 應獲得下列人工修正之知識與技藝：

59 Knowledge and skills should be attained in manually correcting:

.1 當衛星與無線電系統接收機關閉後以推算模式之船位；

.1 the ship's position in dead-reckoning mode, when the satellite and radio navigation system receiver is switched off;

.2 當自動獲得之座標不準確時之船位；及

.2 the ship's position, when automatically obtained coordinates are inaccurate; and

.3 航向與航速值。

.3 course and speed values.

記錄於船舶之航海日誌

Records in the ship's log

60 應獲得下列之知識與技藝：

60 Knowledge and skills should be attained in:

.1 自動航程記錄；

.1 automatic voyage recording;

.2 考慮及下列重建過去之航跡：

.2 reconstruction of past track, taking into account:

.2.1 記錄介質；

.2.1 recording media;

.2.2 記錄之間隔時期；

.2.2 recording intervals;

- .2.3 確認所用之數據庫。
- .2.3 verification of database in use;
- .3 閱讀船舶電子航海日誌之紀錄；
- .3 viewing records in the electronic ship's log;
- .4 立即記錄於船舶電子航海日誌；
- .4 instant recording in the electronic ship's log;
- .5 改變船舶之時間；
- .5 changing ship's time;
- .6 輸入額外之數據；
- .6 entering the additional data;
- .7 列印船舶電子航海日誌之內容；
- .7 printing the content of the electronic ship's log;
- .8 設定自動記錄之間隔時間；
- .8 setting up the automatic record time intervals;
- .9 航程數據與報告之成分；及
- .9 composition of voyage data and reporting; and
- .10 航程數據記錄器（VDR）介面。
- .10 interface with a voyage data recorder (VDR).

海圖之更新

Chart updating

61 應獲得下列之知識與技藝：

61 Knowledge and skills should be attained in:

- .1 施行人工電子海圖之更新。應特別注意參考橢圓體之適合性及在海圖及在修正本所用之量測單位是否一致；
- .1 performing manual updating of electronic charts. Special attention should be paid to reference-ellipsoid conformity and to conformity of the measurement units used on a chart and in the correction text;
- .2 利用電子海圖格式電子介質所獲得之數據，施行半自動電子海圖之更新；及
- .2 performing semi-automatic updating of electronic charts, using the data obtained on electronic media in the electronic chart format; and

- .3 利用經由電子數據通信線路所獲得之最新檔，施行自動電子海圖之更新。
- .3 performing automatic updating of electronic charts, using update files obtained via electronic data communication lines.

在無最新數據可用以產生危急情況之情形下，應要求學員施行特別之方法更新該海圖。

In the scenarios where non-updated data are employed to create a critical situation, trainees should be required to perform *ad hoc* updating of the chart.

當連結有雷達/ARPA 時ECDIS之使用操作

Operational use of ECDIS where radar/ARPA is connected

62 應獲得下列之知識與技藝：

62 Knowledge and skills should be attained in:

- .1 將 ARPA 連結於 ECDIS；
- .1 connecting ARPA to ECDIS;
- .2 指出目標之航速向量；
- .2 indicating target's speed vectors;
- .3 指出目標之航跡；
- .3 indicating target's tracks;
- .4 將目標之航跡歸檔；
- .4 archiving target's tracks;
- .5 觀察目標表；
- .5 viewing the table of the targets;
- .6 以圖示之地理特徵查核雷達覆蓋之調整；
- .6 checking alignment of radar overlay with charted geographic features;
- .7 模擬一個或多個運轉；
- .7 simulating one or more manoeuvres;
- .8 利用 ARPA 所獲得之參考點修正本船之船位；及
- .8 corrections to own ship's position, using a reference point captured by ARPA; and
- .9 利用 ARPA 螢幕上之遊標與電子棒修正。
- .9 corrections using the ARPA's cursor and electronic bar.

亦請參見第 B-I/12 節，有關模擬設備使用之準則（關於雷達與 ARPA），尤其是第 17 至

19 項及第 36 至 38 項。

See also section B-I/12, Guidance regarding the use of simulators (pertaining to radar and ARPA), especially paragraphs 17 to 19 and 36 to 38.

當連結有 AIS 時 ECDIS 之使用操作

Operational use of ECDIS where AIS is connected

63 應獲得下列之知識與技藝：

63 Knowledge and skills should be attained in:

.1 AIS 介面；

.1 interface with AIS;

.2 詮釋 AIS 數據；

.2 interpretation of AIS data;

.3 指出目標之航速向量；

.3 indicating target's speed vectors;

.4 指出目標之航跡；及

.4 indicating target's tracks; and

.5 將目標之航跡歸檔。

.5 archiving target's tracks.

警告之操作，其好處與限制

Operational warnings, their benefits and limitations

64 學員應能認識 ECDIS 操作警告之使用、其好處與限制及如可行時其正確之設定，以避免假干擾。

64 Trainees should gain an appreciation of the uses, benefits and limitations of ECDIS operational warnings and their correct setting, where applicable, to avoid spurious interference.

系統之操作測試

System operational tests

65 應獲得下列之知識與技藝：

65 Knowledge and skills should be attained in:

.1 ECDIS 故障之測試方法，包括自我測試之功能；

.1 methods of testing for malfunctions of ECDIS, including functional self-testing;

- .2 故障發生後應採取之警戒措施；及
- .2 precautions to be taken after a malfunction occurs; and
- .3 適當之備用裝置（接管並利用該備用裝置航行）。
- .3 adequate back-up arrangements (take over and navigate using the back-up system).

學習成績單

Debriefing exercise

66 所有之學員在完成所有之練習後，講師應分析其成果並予列印。在該成績單內應顯示使用模擬設備之學習佔全部時間之 10%與 15%之間。

66 The instructor should analyse the results of all exercises completed by all trainees and print them out. The time spent on the debriefing should occupy between 10% and 15% of the total time used for simulator exercises.

非強制型式模擬設施之建議性能標準

RECOMMENDED PERFORMANCE STANDARDS FOR NON-MANDATORY TYPES OF SIMULATION

67 用於訓練及/或適任性評估或技能演練之非強制性模擬設施，其性能標準如次。該等模擬之形式包括但不限於下列型式：

67 Performance standards for non-mandatory simulation equipment used for training and/or assessment of competence or demonstration of skills are set out hereunder. Such forms of simulation include, but are not limited to, the following types:

- .1 航行與當值；
- .1 navigation and watchkeeping;
- .2 船舶操作及操縱；
- .2 ship handling and manoeuvring;
- .3 貨物裝卸及積載；
- .3 cargo handling and stowage;
- .4 無線電通信；及
- .4 reporting and radiocommunications; and
- .5 主機及輔機操作。
- .5 main and auxiliary machinery operation.

航行及當值模擬

Navigation and watchkeeping simulation

68 航行及當值模擬設施除應滿足第 A-I/2 節所有可適用之性能標準外，尚應能模擬符合本組織所採納之可適用航行設備及駕駛台操作控制器之性能標準*，並裝有音響發生設施，及：

68 Navigation and watchkeeping simulation equipment should, in addition to meeting all applicable performance standards set out in section A-I/12, be capable of simulating navigational equipment and bridge operational controls which meet all applicable performance standards adopted by the Organization,* incorporate facilities to generate soundings and:

- .1 製造一個逼真操作環境，包括與所執行之航行當值任務及所評估之操縱技能相當之航行控制與通信儀器及設備；
- .1 create a real-time operating environment, including navigation control and communications instruments and equipment appropriate to the navigation and watchkeeping tasks to be carried out and the manoeuvring skills to be assessed;
- .2 提供一個真實白晝或黑夜之視景，包括各種能見度或僅在夜間從駕駛台觀測，及供學員觀測扇形區域之最小水準視野，該視野須與航行及當值任務及目的相當；
- .2 provide a realistic visual scenario by day or by night, including variable visibility, or by night only as seen from the bridge, with a minimum horizontal field of view available to the trainee in viewing sectors appropriate to the navigation and watchkeeping tasks and objectives;
- .3 真實模擬「本船」在開闊水域情況下之動態特性，包括天氣、潮流、海流之影響及與他船之相互作用。
- .3 realistically simulate “own ship” dynamics in open-water conditions, including the effects of weather, tidal stream, currents and interaction with other ships; and
- .4 真實模擬船與岸間 VTS 通信之程式。
- .4 realistically simulate VTS communication procedures between ship and shore.

船舶操作及操縱模擬

Ship handling and manoeuvring simulation

69 除符合第 37 項所述之性能標準外，船舶操作模擬設備應：

69 In addition to meeting the performance standards set out in paragraph 37, ship handling

* 參見本組織所採納並由 IMO 刊行之“船上無線電通信與航行設備之性能標準”相關/適當之性能標準。

* See relevant/appropriate performance standards adopted by the Organization and set out in IMO publication “Performance standards for shipborne radiocommunications and navigational equipment”.

simulation equipment should:

- .1 提供各種能見度之白晝及黑夜從駕駛台觀測之真實視界，及供學員觀測扇形區域之最小水準視野，該視野應與航行及當值任務及目的相當。*
- .1 provide a realistic visual scenario as seen from the bridge, by day and by night, with variable visibility throughout a minimum horizontal field of view available to the trainee in viewing sectors appropriate to the ship handling and manoeuvring training tasks and objectives;* and
- .2 真實模擬在受限制水域「本船」之動態特性，包括淺水效應及岸壁效應。
- .2 realistically simulate “own ship” dynamics in restricted waterways, including shallow-water and bank effects.

70 當使用人工操縱模型船進行船舶操作及操縱模擬時，除第 **68.3** 項及第 **69.2** 項所列之性能標準外，此設備應：

70 Where manned scale models are used to provide ship handling and manoeuvring simulation, in addition to the performance standards set out in paragraphs 68.3 and 69.2, such equipment should:

- .1 包括尺寸比因素，及精確表示真船之尺寸、面積、體積、排水量、速度、時間及旋回率；及
- .1 incorporate scaling factors which present accurately the dimensions, areas, volume and displacement, speed, time and rate of turn of a real ship; and
- .2 包括舵及主機之控制以配合正確之時間比例。
- .2 incorporate controls for the rudder and engines, to the correct timescale.

貨物裝載與積載模擬

Cargo handling and stowage simulation

71 貨物裝卸及積載模擬設備應符合本組織所採納所有可適用之貨物裝卸及控制設備性能標準*，並具有下列各項設施；

71 Cargo handling simulation equipment should be capable of simulating cargo handling and control equipment which meets all applicable performance standards adopted by the Organization,* and incorporate facilities to:

- .1 製造一個有效的操作環境，包括裝有各種儀器適於所模擬之特定型式貨物系統之貨物控制站；

* **相關之** IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

* 本組織尚未採納任何標準。

* No standards have as yet been adopted by the Organization.

- .1 create an effective operational environment, including a cargo-control station with such instrumentation as may be appropriate to the particular type of cargo system modelled;
- .2 模仿裝卸功能及穩度與應力數據，與所執行貨物裝卸任務及所評估之技能相當；及
- .2 model loading and unloading functions and stability and stress data appropriate to the cargo-handling tasks to be carried out and the skills to be assessed; and
- .3 模擬裝貨、卸貨、壓載及卸壓載操作，及與穩度、俯仰、橫仰、縱向強度、扭應力及損壞穩度有關之計算。^{**}
- .3 simulate loading, unloading, ballasting and deballasting operations and appropriate associated calculations for stability, trim, list, longitudinal strength, torsional stress and damage stability.^{**}

GMDSS通信模擬

GMDSS communication simulation

72 GMDSS 通信模擬設備應能模擬符合本組織所採納之所有可適用之 GMDSS 通信設備之性能標準^{***}，並具備下列各項設施：

72 GMDSS communication simulation equipment should be capable of simulating GMDSS communication equipment which meets all applicable performance standards adopted by the Organization^{***}, and incorporate facilities to:

- .1 模擬對限用值機員證書（ROC）所要求之 VHF、VHF-DSC、NAVTEX、EPIRB 及守聽接收設備之操作；
- .1 simulate the operation of VHF, VHF-DSC, NAVTEX, EPIRB and watch receiver equipment as required for the Restricted Operator's Certificate (ROC);
- .2 模擬對通用值機員證書（GOC）所要求之 INMARSAT-A、-B 及 -C 船舶衛星台，MF/HF NBDP、MF/HF-DSC、VHF、VHF-DSC、NAVTEX、EPIRB 及守聽接收設備之操作；
- .2 simulate the operation of INMARSAT-A, -B and -C ship earth stations, MF/HF NBDP, MF/HF-DSC, VHF, VHF-DSC, NAVTEX, EPIRB and watch receiver equipment as required for the General Operator's Certificate (GOC);
- .3 提供有背景噪音之通話；

^{**} 相關之 IMO 典型課程可能有助於課程之準備。

^{**} The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

^{***} 參見本組織所採納並由 IMO 刊行之“船上無線電通信與航行設備之性能標準”相關/適當之性能標準。

^{***} See relevant/appropriate performance standards adopted by the Organization and set out in IMO publication “Performance standards for shipborne radiocommunications and navigational equipment”.

- .3 provide voice communication with background noise;
- .4 提供檔列印通信設施；及
- .4 provide a printed text communication facility; and
- .5 製造由一個完整系統組成之逼真操作環境，其中包括至少一個講師/評審員站及至少兩個 GMDSS 船臺或岸台。
- .5 create a real-time operating environment, consisting of an integrated system, incorporating at least one instructor/assessor station and at least two GMDSS ship or shore stations.

主機及輔機之操作模擬

Main and auxiliary machinery operation simulation

73 機艙模擬設備應能夠模擬主機及輔機系統，並具備下列各項設施：

73 Engine-room simulation equipment should be capable of simulating a main and auxiliary machinery system and incorporate facilities to:

- .1 製造一個海上操作及港口操作之逼真環境，具有通信裝置、及模擬適當主、輔推進機器設備與控制臺；
- .1 create a real-time environment for seagoing and harbour operations, with communication devices and simulation of appropriate main and auxiliary propulsion machinery equipment and control panels;
- .2 模擬有關之子系統，該子系統應包括，但不限於鍋爐、舵機、電機一般系統及配電系統，包括應急電源供應及燃料、冷卻水、冷凍、艙底水及壓載系統；
- .2 simulate relevant sub-systems that should include, but not be restricted to, boiler, steering gear, electrical power general and distribution systems, including emergency power supplies, and fuel, cooling water, refrigeration, bilge and ballast systems;
- .3 監控及評審機器性能及遙控感應系統；
- .3 monitor and evaluate engine performance and remote sensing systems;
- .4 模擬機器故障；
- .4 simulate machinery malfunctions;
- .5 允許改變外部狀況以影響所模擬之操作；如：天氣、船舶吃水、海水及氣溫；
- .5 allow for the variable external conditions to be changed so as to influence the simulated operations: weather, ship's draught, seawater and air temperatures;
- .6 允許改變由講師控制之外部狀況；如：甲板蒸汽、起居艙蒸氣、甲板空氣、結

冰情況、甲板起重機、大電機、船舶推進、船舶負載；

- .6 allow for instructor-controlled external conditions to be changed: deck steam, accommodation steam, deck air, ice conditions, deck cranes, heavy power, bow thrust, ship load;
- .7 允許改變由講師控制之模擬設施動態；如：應急操作、過程回應、船舶回應；及
- .7 allow for instructor-controlled simulator dynamics to be changed: emergency run, process responses, ship responses; and
- .8 提供隔離某些過程之設施；如：航速、電機系統、柴油系統、潤滑油系統、重油系統、海水系統、蒸汽系統、廢氣鍋爐與透平發電機以執行特定之訓練任務。^{*}
- .8 provide a facility to isolate certain processes, such as speed, electrical system, diesel oil system, lubricating oil system, heavy oil system, seawater system, steam system, exhaust boiler and turbo generator, for performing specific training tasks.^{*}

第 B—I/13 節

有關試驗之實施之準則

Section B-I/13

Guidance regarding the conduct of trials

(無條文)

(No provisions)

第 B—I/14 節

有關公司之責任及對船長與海員所建議之責任之準則

Section B-I/14

Guidance regarding responsibilities of companies and recommended responsibilities of masters and crew members

公司

Companies

1 公司應向船舶提供旨在協助新雇用之航海人員，使其熟悉其責任範圍內之所有程式及設備之具體介紹性計劃。公司亦應確使：

1 Companies should provide ship-specific introductory programmes aimed at assisting

^{*} 相關之 IMO 典型課程可能有助於課程之準備。

^{*} The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

newly employed seafarers to familiarize themselves with all procedures and equipment relating to their areas of responsibility. Companies should also ensure that:

.1 所有之航海人員在裝置有自由降落救生艇之船上服務者，應接受熟悉此救生艇登載與下水程式之訓練；

.1 all seafarers on a ship fitted with free-fall lifeboats should receive familiarization training in boarding and launching procedures for such lifeboats;

.2 航海人員經指派為自由降落救生艇之操作船員者，在參與船舶工作前，應曾接受此救生艇登載、下水與回收之訓練，包括至一次參加自由降落救生艇之下水活動；及

.2 prior to joining a ship, seafarers assigned as operating crew of free-fall lifeboats should have undergone appropriate training in boarding, launching and recovering of such lifeboats, including participation on at least one occasion in a free-fall launch; and

.3 可能需要操作 GMDSS 設備之人員，在參加該船工作前及嗣後在適當之間隔期間接受 GMDSS 之熟悉訓練。

.3 personnel who may be required to operate the GMDSS equipment receive GMDSS familiarization training, on joining the ship, and at appropriate intervals thereafter.

2 第 A-I/14 節第 3 項所要求之熟悉訓練至少應確保獲得能力適於其應符合之職務及其所擔負之下列職責：

2 The familiarization training required by paragraph 3 of section A-I/14 should at least ensure attainment of the abilities that are appropriate to the capacity to be filled and the duties and responsibilities to be taken up, as follows:

設計與操作上之限制

Design and operational limitations

.1 有能力適當瞭解與觀察對該船有任何操作之限制，並瞭解及應用此性能限制，包括在惡劣天候之航速限制，該限制係準備用以保持人命、船舶與貨物之安全。

.1 Ability to properly understand and observe any operational limitations imposed on the ship, and to understand and apply performance restrictions, including speed limitations in adverse weather, which are intended to maintain the safety of life, ship and cargo.

船殼上開口開啓、關閉與穩固之程式

Procedures for opening, closing and securing hull openings

.2 有能力適當應用為該船所制定有關啓閉及穩固艙、艙及舷側之門與跳板，並能正確操作相關之系統。

.2 Ability to apply properly the procedures established for the ship regarding the opening, closing and securing of bow, stern, and side doors and ramps and to correctly operate the related systems.

影響駛上／駛下客船之法規、章程與協約

Legislation, codes and agreements affecting ro-ro passenger ships

.3 有能力瞭解與應用國際與國內對駛上／駛下客船之需求，有關該船相關並應施行之職責。

.3 Ability to understand and apply international and national requirements for ro-ro passenger ships relevant to the ship concerned and the duties to be performed.

穩度與應力之要求與限制

Stability and stress requirements and limitations

.4 有能力進行適當之計算該船敏感部分之應力限制，如保持水密完整性之艙門與其他關閉設施，及可能影響駛上／駛下客船安全之特殊穩度考慮。

.4 Ability to take proper account of stress limitations for sensitive parts of the ship, such as bow doors and other closing devices that maintain watertight integrity, and of special stability considerations which may affect the safety of ro-ro passenger ships.

維護駛上／駛下客船特殊設備之程式

Procedures for the maintenance of special equipment on ro-ro passenger ships

.5 有能力適當應用維護駛上／駛下客船特殊設備之船上程式，如艙、艙及舷側之門與跳板、排水孔與附屬之系統。

.5 Ability to apply properly the shipboard procedures for maintenance of equipment peculiar to ro-ro passenger ships such as bow, stern and side doors and ramps, scuppers and associated systems.

貨物裝載及固定手冊及計算

Loading and cargo securing manuals and calculators

.6 有能力適當利用有關可適用之各型公路車輛與鐵路車輛之裝載與穩固手冊，並計算與應用車輛甲板應力之限制。

.6 Ability to make proper use of the loading and securing manuals in respect of all types of vehicles and rail cars where applicable, and to calculate and apply stress

limitations for vehicle decks.

危險貨物區域

Dangerous cargo areas

.7 有能力確保適當遵守應用於指定危險貨物區域之特別警戒與限制。

- .7 Ability to ensure proper observance of special precautions and limitations applying to designated dangerous cargo areas.

應急程式

Emergency procedures

.8 有能力確保適當應用任何特殊之程式，以：

- .8 Ability to ensure proper application of any special procedures to:

.8.1 防止或減低水之漫入車輛甲板；

- .8.1 prevent or reduce the ingress of water on vehicle decks;

.8.2 自車輛甲板將水排除；及

- .8.2 remove water from vehicle decks; and

.8.3 將水在車輛甲板上之影響減至最低

- .8.3 minimize effects of water on vehicle decks.

船長

Master

3 船長應採取一切必要步驟以執行公司依第 A-I/14 節要求所作之任何指示，此步驟應包括：

3 The master should take all steps necessary to implement any company instructions issued in accordance with *section* A-I/14. Such steps should include:

- .1 在指派職責以前，認清所有新雇用到船之航海人員；

- .1 identifying all seafarers who are newly employed on board the ship before they are assigned to any duties;

- .2 為所有新進航海人員提供下述機會：

- .2 providing the opportunity for all newly arrived seafarers to:

- .2.1 參觀其所將執行主要職責之處所；

- .2.1 visit the spaces in which their primary duties will be performed;

- .2.2 使其瞭解其將使用及操作之設備之位置、控制及顯示特徵；
- .2.2 get acquainted with the location, controls and display features of equipment they will be operating or using;
- .2.3 可能時，啟動設備，並使用設備之控制裝置執行其功能；及
- .2.3 activate the equipment when possible, and perform functions, using the controls on the equipment, and
- .2.4 向已熟悉設備、程式及其他安排，並能以該航海人員瞭解之語言進行資訊溝通之人學習觀察，並向其提出問題。
- .2.4 observe and ask questions of someone who is already familiar with the equipment, procedures and other arrangements, and who can communicate information in a language which the seafarer understands; and
- .3 對新雇用航海人員是否已熟悉執行其職責之船上設備、操作程式及其他安排，仍有疑慮時，提供一段適當監督時期。
- .3 providing for a suitable period of supervision when there is any doubt that a newly employed seafarer is familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of his or her duties.

船員

Crew members

4 新指派到船上工作之航海人員應充分利用所提供之一切機會以熟悉為適當執行其職責所需之船上設備、操作程式及其他安排。第一次剛登輪之航海人員有責任熟悉船上之工作環境，尤其是有關新的或不熟悉的設備、程式及安排。

4 Seafarers who are newly assigned to a ship should take full advantage of every opportunity provided to become familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of their duties. Immediately upon arriving on board for the first time, each seafarer has the responsibility to become acquainted with the ship's working environment, particularly with respect to new or unfamiliar equipment, procedures or arrangements.

5 航海人員未及時達到執行其職責所需之水準者，有責任將此情況報告其監督人員，或告知按第 A-I/14 節第 2.2 項所指定之船員，並指出仍未熟悉之設備、程式或安排。

5 Seafarers who do not promptly attain the level of familiarity required for performing their duties have the obligation to bring this fact to the attention of their supervisor or to the attention of the crew member designated in accordance with section A-I/14, paragraph 2.2, and to identify any equipment, procedure or arrangement which remains unfamiliar.

第 B—I/15 節

有關過渡規定之準則

Section B-I/15

Guidance regarding transitional provisions

(無條文)

(No provisions)

第二章 有關船長及艙面部門之準則

CHAPTER II

Guidance regarding the master and the deck department

第 B-II/1 節

有關在總噸位 500 以上船舶負責航行當值之甲級船員發證之準則

Section B-II/1

Guidance regarding the certification of officers in charge of a navigational watch on ships of 500 gross tonnage or more

訓練

Training

1 凡申請發證為負責航行當值之甲級船員者，應完成旨在協助即將擔任甲級船員依表 A-II/1 達到適任標準而設計之有系統有安排之訓練計畫。

1 Every candidate for certification as officer in charge of a navigational watch should have completed a planned and structured programme of training designed to assist a prospective officer to achieve the standard of competence in accordance with table A-II/1.

2 訓練計畫之安排應在訓練計畫中訂定之，該訓練計畫要清楚地向所涉及之各單位表達船上及岸上訓練每一階段之目標。重要的是，即將擔任甲級船員、講師、船上職員及公司人員均要弄清楚在訓練結束時想要達到之適任標準，及如何通過船上及岸上之教育、訓練及實作經驗相結合以達成之。

2 The structure of the programme of training should be set out in a training plan which clearly expresses, for all parties involved, the objectives of each stage of training on board and ashore. It is important that the prospective officer, tutors, ships' staff and company personnel are clear about the competences which are to be achieved at the end of the programme and how they are to be achieved through a combination of education, training and practical experience on board and ashore.

3 強制要求海勤資歷，在學習成為船上甲級船員之工作及在達到所要求之整個適任標準方面，極為重要。經過恰當的有系統之安排，海勤資歷將能使即將擔任甲級船員者獲取及鍛練技能，並提供機會證明及評估所達到之適任性。

3 The mandatory periods of seagoing service are of prime importance in learning the job of being a ship's officer and in achieving the overall standard of competence required. Properly planned and structured, the periods of seagoing service will enable prospective officers to acquire and practice skills and will offer opportunities for competences achieved to be

demonstrated and assessed.

4 當海勤資歷服務構成認可的訓練計畫之一部分時，應遵守下列原則：

4 Where the seagoing service forms part of an approved training programme, the following principles should be observed:

- .1 船上訓練計畫應成為整體訓練計畫之一部分；
- .1 The programme of onboard training should be an integral part of the overall training plan.
- .2 船上訓練計畫應由管理施行海勤資歷船舶之船公司予以管理及配合；
- .2 The programme of onboard training should be managed and coordinated by the company which manages the ship on which the seagoing service is to be performed.
- .3 應向即將擔任甲級船員者提供訓練紀錄簿*，以便對海上實作訓練及經驗保持完整記錄。訓練紀錄簿之編排，應能提供應予擔負之任務及義務之完整資料，及其完成之步驟。在正式完成訓練後，該紀錄簿將是提供完成有船上訓練之唯一證據，並在簽發證書之評審適任性過程中予以考慮；
- .3 The prospective officer should be provided with a training record book* to enable a comprehensive record of practical training and experience at sea to be maintained. The training record book should be laid out in such a way that it can provide detailed information about the tasks and duties which should be undertaken and the progress towards their completion. Duly completed, the record book will provide unique evidence that a structured programme of onboard training has been completed which can be taken into account in the process of evaluating competence for the issue of a certificate.
- 4 在任何時候，即將擔任甲級船員者應知道有兩位確定之人員直接對船上訓練計畫負責管理。其一適格之船上甲級船員稱之為「船上訓練員」，在船長之授權下應組織並監督各航次之訓練計畫。其二為公司所提名之人員，稱之為「公司訓練員」，應對訓練計畫及與各院校及訓練機構協調負完全責任；
- .4 At all times, the prospective officer should be aware of two identifiable individuals who are immediately responsible for the management of the programme of onboard training. The first of these is a qualified seagoing officer, referred to as the “shipboard training officer”, who, under the authority of the master, should organize and supervise the programme of training for the duration

* IMO 典型課程 7.03 “負責航行當值航行員”及國際航運聯盟所出版之類似檔可能有助於訓練記錄簿之準備

* The relevant IMO Model Course(s) and a similar document produced by the International Shipping Federation may be of assistance in the preparation of training record books.

of each voyage. The second should be a person nominated by the company, referred to as the “company training officer”, who should have an overall responsibility for the training programme and for coordination with colleges and training institutions.

- .5 公司應確保在船上正常工作要求之內，安排適當之時間以完成船上訓練計畫。
- .5 The company should ensure that appropriate periods are set aside for completion of the programme of onboard training within the normal operational requirements of the ship.

角色及責任

Roles and responsibilities

5 下列各節概括涉及組織並執行船上訓練之人員，其角色及責任：

5 The following section summarizes the roles and responsibilities of those individuals involved in organizing and conducting onboard training:

- .1 公司訓練員應負責：
 - .1 The company training officer should be responsible for:
 - .1.1 訓練計畫之全面管理：
 - .1.1 overall administration of the programme of training;
 - .1.2 監督即將擔任甲級船員者之整個過程；及
 - .1.2 monitoring the progress of the prospective officer throughout; and
 - .1.3 視需要予以指導，並確使訓練計畫在各有關方面發揮其作用。
 - .1.3 issuing guidance as required and ensuring that all concerned with the training programme play their parts.
- .2 船上訓練員應負責：
 - .2 The shipboard training officer should be responsible for:
 - .2.1 組織海上實作訓練計畫：
 - .2.1 organizing the programme of practical training at sea;
 - .2.2 在監督職務上確保適當保持訓練紀錄簿並完成所有其他要求；及
 - .2.2 ensuring, in a supervisory capacity, that the training record book is properly maintained and that all other requirements are fulfilled; and
 - .2.3 實際可行時，確保即將擔任甲級船員者在船上所渡過之時間盡可能用於訓練及實作，並符合訓練計畫之目標、訓練過程及船舶之操作限制。

- .2.3 making sure, so far as is practicable, that the time the prospective officer spends on board is as useful as possible in terms of training and experience, and is consistent with the objectives of the training programme, the progress of training and the operational constraints of the ship.
- .3 船長之職責應：
- .3 The master's responsibilities should be to:
 - .3.1 在船上訓練員與岸上公司訓練員之間扮演聯絡之角色；
 - .3.1 provide the link between the shipboard training officer and the company training officer ashore;
 - .3.2 在航行中船上訓練員交卸任務後，保持訓練之連續性；及
 - .3.2 fulfil the role of continuity if the shipboard training officer is relieved during the voyage; and
 - .3.3 確保各有關方面有效實施船上訓練計畫。
 - .3.3 ensure that all concerned are effectively carrying out the onboard training programme.
- .4 即將擔任甲級船員者之職責應：
- .4 The prospective officer's responsibilities should be to:
 - .4.1 努力完成所規定之訓練計畫；
 - .4.1 follow diligently the programme of training as laid down;
 - .4.2 在工作時間之內或之外，充分利用所提供之機會；及
 - .4.2 make the most of the opportunities presented, be they in or outside working hours; and
 - .4.3 訓練紀錄簿上隨時保持最新之記錄，並確保隨時備便以提供檢查。
 - .4.3 keep the training record book up to date and ensure that it is available at all times for scrutiny.

引導

Induction

6 在訓練計畫開始時及在不同船上之每一航次開始時，應向即將擔任甲級船員者提供其所期望及訓練計畫如何組織之完整資料及指導，引導提供機會向即將擔任甲級船員者簡要介紹其所將擔負任務之重點，特別是安全工作慣例及保護海上環境方面者。

6 At the beginning of the programme and at the start of each voyage on a different ship,

prospective officers should be given full information and guidance as to what is expected of them and how the training programme is to be organized. Induction presents the opportunity to brief prospective officers about important aspects of the tasks they will be undertaking, with particular regard to safe working practices and protection of the marine environment.

船上訓練計畫

Shipboard programme of training

7 在其他項目之中，訓練紀錄簿應包含其所擔負構成認可船上訓練計畫之一部分各式各樣訓練或職責，此等任務及職責至少應與下列各方面有關：

7 The training record book should contain, amongst other things, a number of training tasks or duties which should be undertaken as part of the approved programme of onboard training. Such tasks and duties should relate to at least the following areas:

- .1 操舵系統；
.1 steering systems;
- .2 一般船藝；
.2 general seamanship;
- .3 繫泊、錨泊及港口操作；
.3 mooring, anchoring and port operations;
- .4 救生及滅火設施；
.4 life-saving and fire-fighting appliances;
- .5 系統及設備；
.5 systems and equipment;
- .6 貨物作業；
.6 cargo work;
- .7 駕駛台工作及當值；及
.7 bridge work and watchkeeping; and
- .8 熟悉機艙。
.8 engine-room familiarization

8 在監督之下，對即將擔任甲級船員者適當機會給予駕駛台當值經歷極為重要，特別是在船上訓練計畫之最後階段為然。

8 It is extremely important that the prospective officer is given adequate opportunity for supervised bridge watchkeeping experience, particularly in the later stages of the onboard

training programme.

9 對即將擔任甲級船員者在訓練紀錄簿中所列之每一項任務及職責中之表現，在彙集有關甲級船員意見認為即將擔任甲級船員者業已達成令人滿意之熟練標準後，應由適格之甲級船員簽字。在適格之甲級船員確認即將擔任甲級船員者業已達到令人滿意之標準前，評鑑即將擔任甲級船員者可能需要在幾個場合中證明其能力之事，相當重要。

9 The performance of the prospective officers in each of the tasks and duties itemized in the training record book should be initialled by a qualified officer when, in the opinion of the officer concerned, a prospective officer has achieved a satisfactory standard of proficiency. It is important to appreciate that a prospective officer may need to demonstrate ability on several occasions before a qualified officer is confident that a satisfactory standard has been achieved.

監督及審查

Monitoring and reviewing

10 指導及審查重在確保即將擔任甲級船員者完全瞭解其在進行之過程，並能使其對未來之計畫參與決定。為取得效果，審查應將訓練紀錄簿與其他適當來源所獲得之資料相結合。訓練紀錄簿應由船長及船上訓練員在每一航次之開始、航次中及結束時仔細檢查並正式簽證之。訓練紀錄簿亦應由公司訓練員在兩個航次之間予以查驗並簽證之。

10 Guidance and reviewing are essential to ensure that prospective officers are fully aware of the progress they are making and to enable them to join in decisions about their future programme. To be effective, reviews should be linked to information gained through the training record book and other sources as appropriate. The training record book should be scrutinized and endorsed formally by the master and the shipboard training officer at the beginning, during and at the end of each voyage. The training record book should also be examined and endorsed by the company training officer between voyages.

評估航行當值之能力及技能

Assessment of abilities and skills in navigational watchkeeping

11 對業已接受特殊訓練及航行當值職責之能力與技能評估之申請發證者，應要求其提供證據，該證據應通過模擬設施或作為認可的船上訓練計畫一部分之船上訓練，證明其至少在下列各方面已獲得作為航行當值甲級船員之技能及能力；亦即：

11 A candidate for certification who is required to have received special training and assessment of abilities and skills in navigational watchkeeping duties should be required to provide evidence, through demonstration either on a simulator or on board ship as part of an approved programme of shipboard training, that the skills and ability to perform as officer in charge of a navigational watch in at least the following areas have been acquired, namely to:

- .1 準備及引導航行，包括：
- .1 prepare for and conduct a passage, including:

- .1.1 解釋並使用從海圖上所獲得之資料；
- .1.1 interpreting and applying information obtained from charts;
- .1.2 在沿海水域中定位；
- .1.2 fixing position in coastal waters;
- .1.3 使用從潮汐表中及其他航海刊物中所獲得之基本資料；
- .1.3 applying basic information obtained from tide tables and other nautical publications;
- .1.4 核對並操作駕駛台設備；
- .1.4 checking and operating bridge equipment;
- .1.5 核對磁羅經及電羅經；
- .1.5 checking magnetic and gyro-compasses;
- .1.6 評估可用的氣象資料；
- .1.6 assessing available meteorological information;
- .1.7 運用天體定位；
- .1.7 using celestial bodies to fix position;
- .1.8 以天文及地文方法測定羅經差；
- .1.8 determining the compass error by celestial and terrestrial means; and
- .1.9 進行長達 24 小時之航行計算；
- .1.9 performing calculations for sailings of up to 24 hours;
- .2 操作並使用從電子導航系統中所獲得之資料；
- .2 operate and apply information obtained from electronic navigation systems;
- .3 操作雷達、自動測繪雷達及 ECDIS，並將雷達資料運用於航行及避碰；
- .3 operate radar, ARPA and ECDIS and apply radar information for navigation and collision avoidance;
- .4 操作推進及操舵系統以控制艏向及航速；
- .4 operate propulsion and steering systems to control heading and speed;
- .5 執行航行當值例行工作及程式；
- .5 implement navigational watch routines and procedures;
- .6 進行救助落水人員所需之操作；

- .6 implement the manoeuvres required for rescue of persons overboard;
 - .7 一旦發生緊急情況（如失火、碰撞、擱淺）時應採取之行動及在緊急情況發生後立即採取之行動；
 - .7 initiate action to be taken in the event of an imminent emergency situation (e.g., fire, collision, stranding) and action in the immediate aftermath of an emergency;
 - .8 設備及裝置（如舵機、動力裝置、導航系統）之主要組件一旦發生故障時，應採取之行動；
 - .8 initiate action to be taken in event of malfunction or failure of major items of equipment or plant (e.g., steering gear, power, navigation systems);
 - .9 在正常及緊急情況下，進行無線電通信，及視覺與聲響通信；及
 - .9 conduct radiocommunications and visual and sound signalling in normal and emergency situations; and
 - .10 監督及操作安全與警報系統，包括船內通信。
 - .10 monitor and operate safety and alarm systems, including internal communications.
- 12 航行當值能力及技能之評估應：
- 12 Assessment of abilities and skills in navigational watchkeeping should:
- .1 按表 A-II/1 所規定之評審航行專長之適任標準為之；
 - .1 be made against the criteria for evaluating competence for the function of navigation set out in table A-II/1;
 - .2 確保申請發證者依「保持安全航行當值應遵守之原則」（第 A-VIII/2 節第 4-1 部分），及「保持航行當值之準則」（第 B-VIII/2 節第 4-1 部分）執行航行當值職責。
 - .2 ensure that the candidate performs navigational watchkeeping duties in accordance with the Principles to be observed in keeping a safe navigational watch (section A-VIII/2, part 4-1) and the Guidance on keeping a navigational watch (section B-VIII/2, part 4-1).

適任性評估

Evaluation of competence

13 申請負責航行當值甲級船員證書者應達到之適任標準如表 A-II/1。該標準說明所要求之知識及技能，及該等知識及技能在船上所要求執行標準之運用。

13 The standard of competence to be achieved for certification as officer in charge of a navigational watch is set out in table A-II/1. The standard specifies the knowledge and skill

required and the application of that knowledge and skill to the standard of performance required on board ship.

14 知識之範圍係內含於適任性之觀念中，因此，對適任性之評估不應僅包含所執行之工作、技能與任務之直接技術要求，尚應反映廣泛事項之所需以符合全部預期之船舶航行員適任性表現。包括相關之知識、理論、原理及認識能力，其在不同程度上支援各層級之適任性。亦應包含熟練度，即做什麼，怎樣做，什麼時候做及為什麼這樣做。適當之應用，此將有助於確保申請發證者能：

14 Scope of knowledge is implicit in the concept of competence. Assessment of competence should, therefore, encompass more than the immediate technical requirements of the job, the skills and tasks to be performed, and should reflect the broader aspects needed to meet the full expectations of competent performance as a ship's officer. This includes relevant knowledge, theory, principles and cognitive skills which, to varying degrees, underpin all levels of competence. It also encompasses proficiency in what to do, how and when to do it, and why it should be done. Properly applied, this will help to ensure that a candidate can:

- .1 在不同之船上及不同範圍之環境中勝任工作；
- .1 work competently in different ships and across a range of circumstances;
- .2 預測、防備及處理意外事故；
- .2 anticipate, prepare for and deal with contingencies; and
- .3 適應於新的及變化中之要求。
- .3 adapt to new and changing requirements.

15 適任性之評審標準（表 A-II/1 第 4 欄）主要係以結果條件鑑定適任性能力之重要方面。其表達方式使其能對照該內容予以評估申請發證者之工作表現，並應在訓練紀錄簿中予以適當地記載。

15 The criteria for evaluating competence (column 4 of table A-II/1) identify, primarily in outcome terms, the essential aspects of competent performance. They are expressed so that assessment of a candidate's performance can be made against them and should be adequately documented in the training record book.

16 適任性評估之過程如次：

16 Evaluation of competence is the process of:

- .1 蒐集關於申請發證者完成表 A-II/1 第 1 欄所列之任務、職責及責任之知識、瞭解與熟練之足夠有效及可信的證據；
- .1 collecting sufficient valid and reliable evidence about the candidate's knowledge, understanding and proficiency to accomplish the tasks, duties and responsibilities listed in column 1 of table A-II/1; and

- .2 判斷對照適任標準中所述標準之證據。
- .2 judging that evidence against the criteria specified in the standard.

17 適任性評估之安排其設計應考慮不同評估方式之，該評估能對申請發證者之適任性提供不同型式之證據，如：

17 The arrangements for evaluating competence should be designed to take account of different methods of assessment which can provide different types of evidence about candidates' competence, e.g.:

- .1 對工作活動（包括海勤資歷）之直接觀察；
- .1 direct observation of work activities (including seagoing service);
- .2 技能/熟練/適任性之測試；
- .2 skills/proficiency/competency tests;
- .3 計劃與分派任務；
- .3 projects and assignments;
- .4 以前經驗之證據；及
- .4 evidence from previous experience; and
- .5 書面的、口頭的及利用電腦之詢問技術*。
- .5 written, oral and computer-based questioning techniques*.

18 上述前四種方法之一種或多種應一成不變地用於提供能力方面之證據。此外適當之詢問技術則可幫助提供知識及瞭解之證據。

18 One or more of the first four methods listed should almost invariably be used to provide evidence of ability, in addition to appropriate questioning techniques to provide evidence of supporting knowledge and understanding.

天文航海訓練

Training in celestial navigation

19 建議之天文航海訓練以下列各方面予以概述：

19 The following areas summarize the recommended training in celestial navigation:

- .1 正確校準六分儀之可調整誤差；
- .1 correctly adjust sextant for adjustable errors;

*相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

- .2 確定修正之六分儀天體高度讀數；
.2 determine corrected reading of the sextant altitude of celestial bodies;
- .3 使用優選之方法進行準確之測天計算；
.3 accurate sight reduction computation, using a preferred method;
- .4 計算太陽中天高度之時間；
.4 calculate the time of meridian altitude of the sun;
- .5 利用北極星或太陽中天高度計算緯度；
.5 calculate latitude by Polaris or by meridian altitude of the sun;
- .6 準確標繪位置線與定位；
.6 accurate plotting of position line(s) and position fixing;
- .7 使用優選之方法確定太陽視出/沒之時間；
.7 determine time of visible rising/setting sun by a preferred method;
- .8 在晨昏朦朧期間辨識與選擇最適合之天體；
.8 identify and select the most suitable celestial bodies in the twilight period;
- .9 使用優選之方法通過天體方位角或出沒方位角測定羅經差；
.9 determine compass error by azimuth or by amplitude, using a preferred method;
- .10 支撐上述第 19.1 至 19.9 項要求之適任能力所要求之航海天文學。
.10 nautical astronomy as required to support the required competence in paragraphs 19.1 to 19.9 above.

20 天文航海訓練得包括電子航海天文曆與天文航海計算軟體之使用。

20 Training in celestial navigation may include the use of electronic nautical almanac and celestial navigation calculation software.

第 B-II/2 節

有關總噸位 500 以上船舶之船長及大副發證之準則

Section B-II/2

Guidance regarding the certification of masters and chief mates on ships of 500 gross tonnage or more

(參見第 B-II/1 節之準則)

(See section B-II/1 for guidance.)

第 B-II/3 節

有關總噸位未滿 500 船舶負責航行當值之甲級船員及船長發證之準則

Section B-II/3

Guidance regarding the certification of officers in charge of a navigational watch and of masters on ships of less than 500 gross tonnage

(參見第 B-II/1 節之準則)

(See section B-II/1 for guidance.)

第 B-II/4 節

有關構成航行當值一部分之乙級船員訓練與發證之準則

Section B-II/4

Guidance regarding the training and certification of ratings forming part of a navigational watch

1 除本章程表 A-II/4 所述之要求外，鼓勵各締約國為安全起見在對構成航行當值一部分之乙級船員之訓練中附加下列課目：

1 In addition to the requirements stated in table A-II/4 of this Code, Parties are encouraged, for safety reasons, to include the following subjects in the training of ratings forming part of a navigational watch:

- .1 經修正 1972 年國際海上避碰規則之基本知識；
- .1 a basic knowledge of the International Regulations for Preventing Collisions at Sea, 1972, as amended;
- .2 裝置引水人員梯；
- .2 rigging a pilot ladder;
- .3 瞭解引水人以英語發出之舵令；
- .3 an understanding of wheel orders given by pilots in English;
- .4 訓練以熟練救生艇筏及救難艇；
- .4 training for proficiency in survival craft and rescue boats;
- .5 在靠離泊及拖曳作業中助理之職責；
- .5 support duties when berthing and unberthing and during towing operations;
- .6 錨泊之基本知識；
- .6 a basic knowledge of anchoring;
- .7 危險貨物之基本知識；
- .7 a basic knowledge of dangerous cargoes;

- .8 積載程式及安排物料上船之基本知識；
- .8 a basic knowledge of stowage procedures and arrangements for bringing stores on board; and
- .9 保養甲板及甲板上所用工具之基本知識。
- .9 a basic knowledge of deck maintenance and of tools used on deck.

第 B-II/5 節

有關幹練水手乙級船員訓練發證之準則

Section B-II/5

Guidance regarding the certification of ratings as able seafarer deck

1 船上之訓練應在認可之訓練紀錄簿內載明。

- 1 Onboard training should be documented in an approved training record book.

第三章 有關輪機部門之準則

CHAPTER III Guidance regarding the engine department

第 B-III/1 節

有關在有人值守機艙負責輪值當值之輪機員或在指派定期無人值守機艙為值勤輪機員發證之準則

Section B-III/1

Guidance regarding the certification of officers in charge of an engineering watch in a manned engine-room or as designated duty engineers in a periodically unmanned engine-room

1 表 A-III/1 所提及之工具，適當時應包括手工具、普通量測設備、普通車床、鑽床、焊接設備與磨床。

1 In table A-III/1, the tools referred to should include hand tools, common measuring equipment, centre lathes, drilling machines, welding equipment and milling machines as appropriate.

2 在岸上對工作技能之訓練得在訓練機構或認可的工場中進行。

2 Training in workshop skills ashore can be carried out in a training institution or approved workshop.

3 對船上訓練應由適當之評審員在訓練紀錄簿中予以適當記載之。

3 Onboard training should be adequately documented in the training record book by qualified assessors.

第 B-III/2 節

有關主機推進動力 3,000 瓩以上船舶之輪機長及大管輪發證之準則

Section B-III/2

Guidance regarding the certification of chief engineer officers and second engineer officers of ships powered by main propulsion machinery of 3,000 kW propulsion power or more

(無條文)

(No provisions)

有關對電壓超過 1,000 伏特電機設備具有管理操作與安全責任之輪機人員訓練之準則

Guidance regarding training of engineering personnel having management responsibilities for the operation and safety of electrical power plant above 1,000 volts

1 對電壓超過 1,000 伏特電機設備具有管理操作與安全責任之輪機人員之訓練，至少應包括：

1 Training of engineering personnel having management responsibilities for the operation and safety of electrical power plant more than 1,000 V should at least include:

.1 船用高壓系統之功能、操作與安全要求；

.1 the functional, operational and safety requirements for a marine high-voltage system;

.2 指派適格之人員施行各種型式高壓開關器之保養與維修；

.2 assignment of suitably qualified personnel to carry out maintenance and repair of high-voltage switchgear of various types;

.3 當高壓系統有缺陷時採取必要之矯正行動；

.3 taking remedial action necessary during faults in a high-voltage system;

.4 提出接轉之策略以隔離高壓系統之構件；

.4 producing a switching strategy for isolating components of a high-voltage system;

.5 選擇適當之器具以隔離並測試高壓設備；

.5 selecting suitable apparatus for isolation and testing of high-voltage equipment;

.6 對船用高壓系統施行接轉與隔離程序，完成安全檔；及

.6 carrying out a switching and isolation procedure on a marine high-voltage system, complete with safety documentation; and

.7 施行絕緣電阻與極化測試並標記於高壓設備。

.7 performing tests of insulation resistance and polarization index on high-voltage equipment.

第 B-III/3 節

有關對主機推進動力介於 750 瓩與 3,000 瓩間船舶之輪機長及大管輪發證之準則

Section B-III/3

Guidance regarding the certification of chief engineer officers and second engineer officers of ships powered by main propulsion machinery between 750 kW and 3,000 kW propulsion power

(無條文)

(No provisions)

第 B-III/4 節

有關構成有人值守機艙輪機當值一部分或在指派定期無人值守機艙執行職責之乙級船員

之準則

Section B-III/4

Guidance regarding the training and certification of ratings forming part of a watch in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

除本章程表第 A-III/4 節所述明之要求外，鼓勵締約國為安全起見在對構成輪機當值一部分乙級船員之訓練中追加下列項目：

In addition to the requirements stated in section A-III/4 of this Code, Parties are encouraged, for safety reasons, to include the following items in the training of ratings forming part of an engineering watch:

- .1 泵之例行操作，如：艙底水、壓載水及液貨泵送系統之基本知識；
- .1 a basic knowledge of routine pumping operations, such as bilge, ballast and cargo pumping systems;
- .2 電機裝置及其伴隨危險之知識；
- .2 a basic knowledge of electrical installations and the associated dangers;
- .3 機器保養及維修及機艙中所使用工具之基本知識；
- .3 a basic knowledge of maintenance and repair of machinery and tools used in the engine-room; and
- .4 儲置及安排物料上船之基本知識。
- .4 a basic knowledge of stowage and arrangements for bringing stores on board.

第 B-III/5 節

有關幹練機匠乙級船員發證之準則

Section B-III/5

Guidance regarding the certification of ratings as able seafarer engine

1 船上之訓練應在認可之訓練紀錄簿內載明。

1 Onboard training should be documented in an approved training record book.

第 B-III/6 節

有關電機員訓練與發證之準則

Section B-III/6

Guidance regarding training and certification for electro-technical officers

除本章程第A-III/6節之要求外，鼓勵各締約國考慮將A.702(17)決議堂有關全球海上遇險與安全系統之無線電維護準則納入其訓練方案。

In addition to the requirements stated in table A-III/6 of this Code, Parties are encouraged to

take into account resolution A.702(17) concerning radio maintenance guidelines for the global maritime distress and safety system within their training programmes.

第 B-III/7 節

有關電匠訓練與發證之準則

Section B-III/7

Guidance regarding training and certification for electro-technical ratings

(無條文)

(No provisions)

第四章
有關無線電通信及無線電操作員之準則

CHAPTER IV
Guidance regarding radiocommunication and radio operators

第 B-IV/1 節

有關適用範圍之準則

Section B-IV/1

Guidance regarding the application of chapter IV

(無條文)

(No provisions)

第 B-IV/2 節

有關全球海上遇險及安全系統無線電操作員發證及訓練之準則

Section B-IV/2

Guidance regarding training and certification of GMDSS radio operators

有關申請一等無線電電子員證書之訓練

TRAINING RELATED TO THE FIRST-CLASS RADIOELECTRONIC CERTIFICATE

總則

General

1 在開始訓練之前，申請發證者應須符合健康要求，特別是聽力、視力及說話能力。
1 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

2 訓練應依航海人員訓練、發證及當值標準國際公約之規定、附錄於國際電訊公約之無線電規則之規定及現行之海上人命安全國際公約之規定，尤應特別注意全球海上遇險及安全系統之規定。在制定訓練要求時，至少應考慮及下述第 3 項至第 14 項之知識及訓練。
2 The training should be relevant to the provisions of the STCW Convention, the provisions of the Radio Regulations annexed to the International Telecommunication Convention (Radio Regulations) and the provisions of the International Convention for the Safety of Life at Sea (SOLAS Convention) currently in force, with particular attention given to provisions for the global maritime distress and safety system (GMDSS). In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 3 to 14 hereunder.

理論

Theory

3 安全有效使用全球海上遇險及安全系統中所要求之全部子系統及設備所必需的、足以支持下述第 13 項實作訓練要求之一般原理及基本因素之知識。

3 Knowledge of the general principles and basic factors necessary for safe and efficient use of all sub-systems and equipment required in the GMDSS, sufficient to support the practical training provisions given in paragraph 13.

4 全球海上遇險及安全系統之使用、操作及服務區域之知識，包括衛星系統特徵、航行及氣象警告系統與選擇適當的通信電路之知識。

4 Knowledge of the use, operation and service areas of GMDSS sub-systems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

5 足以符合下述第 6 項至第 10 項要求之電學原理及無線電與電子學之理論知識。

5 Knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the provisions given in paragraphs 6 to 10 below.

6 全球海上遇險及安全系統無線電通信設備之理論知識，包括狹頻帶直接印字電報及無線電話發射機與接收機、數位選擇呼叫設備、船舶衛星電台、應急指位無線電示標、船舶天線系統、救生艇筏無線電設備及其所有輔助設備，包括電源供應；及一般常用無線電導航之其他設備原理之一般知識，特別是有關保養使用中之設備。

6 Theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraphy and radiotelephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-indicating radio beacons (EPIRBs), marine antenna systems, radio equipment for survival craft together with all auxiliary items, including power supplies, as well as general knowledge of the principles of other equipment generally used for radionavigation, with particular reference to maintaining the equipment in service.

7 影響系統可靠性、可用性、保養程式及正確使用測試設備因素之知識。

7 Knowledge of factors that affect system reliability, availability, maintenance procedures and proper use of test equipment.

8 微處理機及使用微處理機之系統故障診斷之知識。

8 Knowledge of microprocessors and fault diagnosis in systems using microprocessors.

9 全球海上遇險及安全系統無線電設備控制系統，包括測試及分析之知識。

9 Knowledge of control systems in the GMDSS radio equipment, including testing and analysis.

10 使用全球海上遇險及安全系統無線電設備之電腦軟體知識，及將設備軟體控制缺失所造成之故障予以矯正之方法之知識。

10 Knowledge of the use of computer software for the GMDSS radio equipment and methods for correcting faults caused by loss of software control of the equipment.

規則及文件

Regulations and documentation

11 下述知識：

11 Knowledge of:

- .1 海上人命安全國際公約及無線電規則，並特別著重於為：
 - .1 the SOLAS Convention and the Radio Regulations, with particular emphasis on:
 - .1.1 遇險、緊急及安全之無線電通信；
 - .1.1 distress, urgency and safety radiocommunications;
 - .1.2 避免有害干擾，特別是遇險及安全通信；及
 - .1.2 avoiding harmful interference, particularly with distress and safety traffic; and
 - .1.3 防止未經授權之發射。
 - .1.3 prevention of unauthorized transmissions;
- .2 有關遇險、安全及公共通信業務之操作及通信程式之其他文件，包括海上行動業務及海上行動衛星業務之收費、航行警告及天氣預報；及
 - .2 other documents relating to operational and communication procedures for distress, safety and public correspondence services, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and
- .3 使用國際信號代碼及 IMO 標準海事通信用語。
 - .3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

當值及程式

Watchkeeping and procedures

12 下述知識及訓練：

12 Knowledge of and training in:

- .1 在通信程式及在全球海上遇險及安全系統子系統中防止有害干擾之訓練；

- .1 communication procedures and discipline to prevent harmful interference in GMDSS sub-systems;
- .2 在使用傳播預報資訊時，建立最佳通信頻率之程式；
- .2 procedures for using propagation-prediction information to establish optimum frequencies for communications;
- .3 有關所有全球海上遇險及安全系統子系統無線電通信當值，無線電通信業務之交換，特別是有關遇險、緊急及安全程式以及無線電紀錄；
- .3 radiocommunication watchkeeping relevant to all GMDSS sub-systems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;
- .4 使用國際字母拼音；
- .4 use of the international phonetic alphabet;
- .5 在監聽遇險頻率之同時，至少在另一頻道監聽或工作；
- .5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;
- .6 船舶報告制度及程式；
- .6 ship reporting systems and procedures;
- .7 國際航空與航海搜索與救助手冊（IAMSAR）之無線電通信程式；
- .7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;
- .8 無線電醫護系統及程式；及
- .8 radio medical systems and procedures; and
- .9 誤發遇險警報之原因及其防止措施*。
- .9 causes of false distress alerts and means to avoid them*.

實作

Practical

- 13 應在下述方面進行由適當實驗室工作支援之實際訓練：
- 13 Practical training, supported by appropriate laboratory work, should be given in:

* 參見 COM/Circ.127—避免誤發遇險警報之準則。

* See COM/Circ.127 – Guidelines for avoiding false distress alerts.

- .1 在正常傳播情況下及在典型干擾情況下，所有全球海上遇險及安全系統子系統及設備之正確與有效操作；
- .1 correct and efficient operation of all GMDSS sub-systems and equipment under normal propagation conditions and under typical interference conditions;
- .2 所有全球海上遇險及安全系統通信設備及輔助裝置之安全操作，包括安全預防措施；
- .2 safe operation of all the GMDSS communication equipment and ancillary devices, including safety precautions;
- .3 以適當及精確之鍵盤技術進行良好的通信交換；及
- .3 adequate and accurate keyboard skills for the satisfactory exchange of communications;
- .4 下述操作技術：
- .4 operational techniques for:
 - .4.1 對接收機及發射機予以調整以獲得適當的工作模式，包括數位元元選擇呼叫及直接印字電報；
 - .4.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;
 - .4.2 天線調整及適當時重新校準；
 - .4.2 antenna adjustment and realignment, as appropriate;
 - .4.3 使用無線電救生設備；及
 - .4.3 use of radio life-saving appliances; and
 - .4.4 使用應急指位無線電示標；
 - .4.4 use of emergency position-indicating radio beacons (EPIRBs);
- .5 天線安裝，適當時修理及保養；
- .5 antenna rigging, repair and maintenance, as appropriate;
- .6 閱讀及瞭解實物圖、邏輯圖及電路圖；
- .6 reading and understanding pictorial, logic and circuit diagrams;
- .7 使用及保養進行海上電子維修所需之工具及測試儀器；
- .7 use and care of those tools and test instruments necessary to carry out at-sea electronic maintenance;
- .8 人工焊接及除焊技術，包括對半導體設施及新型電路之焊接及除焊，及辨別

電路是否適於人工焊接或除焊之能力；

- .8 manual soldering and desoldering techniques, including those involving semi-conductor devices and modern circuits, and the ability to distinguish whether the circuit is suitable to be manually soldered or desoldered;
- .9 可行時，追查及修理故障元件，其他情況下，追查及修理故障控制板組件；
- .9 tracing and repair of faults to component level, where practicable, and to board/module level in other cases;
- .10 判定並矯正導致發生故障之情況；
- .10 recognition and correction of conditions contributing to the fault occurring;
- .11 所有全球海上遇險及安全系統通信設備及無線電導航設備之保養程式，包括預防及矯正；及
- .11 maintenance procedures, both preventive and corrective, for all GMDSS communication equipment and radionavigation equipment; and
- .12 利用接地、遮罩及旁路等排除電機及電磁干擾之方法。
- .12 methods of alleviating electrical and electromagnetic interference such as bonding, shielding and bypassing.

其他

Miscellaneous

14 下述知識及/或訓練：

14 Knowledge of and/or training in:

- .1 英語，在寫及說兩方面交換有關海上人命安全之通信均能令人滿意；
- .1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;
- .2 世界地理，特別是主要航線、搜救協調中心之服務及有關之通信管道；
- .2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;
- .3 海上求生，救生艇、救難艇、救生筏、救生浮具及其設備之操作，特別是無線電救生設備之操作；
- .3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;
- .4 防火及滅火，特別是對無線電裝置；
- .4 fire prevention and fire fighting, with particular reference to the radio installation;

- .5 與無線電設備危害，包括電機、放射性、化學及機械危害有關之船舶及人員安全預防措施；
- .5 preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards;
- .6 急救，包括心肺復甦術；及
- .6 first aid, including heart-respiration revival techniques; and
- .7 世界協調時，全球時區及國際換日線。
- .7 coordinated universal time (UTC), global time zones and the international date line.

有關申請二等無線電電子員證書之訓練

TRAINING RELATED TO THE SECOND-CLASS RADIOELECTRONIC CERTIFICATE

總則

General

- 15 在開始訓練之前，申請發證者應符合健康要求，特別是聽力、視力及說話能力。
- 15 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.
- 16 訓練應依航海人員訓練、發證及當值標準國際公約及現行海上人命安全國際公約之規定，尤應特別注意全球海上遇險及安全系統之規定。在制定訓練要求時，至少應考慮及下述第 17 項至第 28 項之知識及訓練*。
- 16 The training should be relevant to the provisions of the STCW Convention and the SOLAS Convention currently in force, with particular attention given to provisions for the global maritime distress and safety system (GMDSS). In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 17 to 28 hereunder*.

理論

Theory

- 17 安全有效使用全球海上遇險及安全系統中所要求之全部子系統及設備所必需的、足以支持下述第 27 項實作訓練要求之一般原理及基本因素之知識。
- 17 Knowledge of the general principles and basic factors necessary for safe and efficient use

* **相關之** IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

of all sub-systems and equipment required in the GMDSS, sufficient to support the practical training provisions given in paragraph 27 below.

18 全球海上遇險及安全系統之使用、操作及服務區域之知識，包括衛星系統特徵、航行及氣象警告系統及選擇適當的通信電路之知識。

18 Knowledge of the use, operation and service areas of GMDSS sub-systems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

19 足以符合下述第 20 項至第 24 項要求之電學原理及無線電與電子學之理論知識。

19 Knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the provisions given in paragraphs 20 to 24 below.

20 全球海上遇險及安全系統無線電通信設備之理論知識，包括狹頻帶直接印字電報及無線電話發射機與接收機、數位選擇呼叫設備、船舶衛星電台、應急指位無線電示標、船舶天線系統、救生艇筏無線電設備及其所有輔助設備，包括電源供應；及一般常用無線電導航之其他設備原理之一般知識，特別是有關保養使用中之設備。

20 General theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraph and radiotelephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-indicating radio beacons (EPIRBs), marine antenna systems, radio equipment for survival craft together with all auxiliary items, including power supplies, as well as general knowledge of other equipment generally used for radionavigation, with particular reference to maintaining the equipment in service.

21 影響系統可靠性、可用性、保養程式及正確使用測試設備因素之知識。

21 General knowledge of factors that affect system reliability, availability, maintenance procedures and proper use of test equipment.

22 微處理機及使用微處理機之系統故障診斷之知識。

22 General knowledge of microprocessors and fault diagnosis in systems using microprocessors.

23 全球海上遇險及安全系統無線電設備控制系統，包括測試及分析之知識。

23 General knowledge of control systems in the GMDSS radio equipment, including testing and analysis.

24 使用全球海上遇險及安全系統無線電設備之電腦軟體知識，及將設備軟體控制缺失所造成之故障予以矯正之方法之知識。

24 Knowledge of the use of computer software for the GMDSS radio equipment and methods for correcting faults caused by loss of software control of the equipment.

規則及文件

Regulations and documentation

25 下述知識：

25 Knowledge of:

- .1 海上人命安全公約及無線電規則，並特別著重於：
- .1 the SOLAS Convention and the Radio Regulations, with particular emphasis on:
 - .1.1 遇險、緊急及安全之無線電通信；
 - .1.1 distress, urgency and safety radiocommunications;
 - .1.2 避免有害干擾，特別是遇險及安全通信；及
 - .1.2 avoiding harmful interference, particularly with distress and safety traffic; and
 - .1.3 防止未經授權之發射。
 - .1.3 the prevention of unauthorized transmissions;
- .2 有關遇險、安全及公共通信業務之操作及通信程式之其他文件，包括海上行動業務及海上行動衛星業務之收費、航行警告及天氣預報；及
- .2 other documents relating to operational and communication procedures for distress, safety and public correspondence services, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and
- .3 使用國際信號代碼及 IMO 標準海事通信用語。
- .3 the use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

當值及程式

Watchkeeping and procedures

26 應進行下列訓練：

26 Training should be given in:

- .1 通信程式及全球海上遇險及安全系統子系統中防止有害干擾之訓練；
- .1 communication procedures and discipline to prevent harmful interference in GMDSS sub-systems;
- .2 在使用傳播預報資訊時，建立最佳通信頻率之程式；
- .2 procedures for using propagation-prediction information to establish optimum

frequencies for communications;

- .3 有關所有全球海上遇險及安全系統子系統無線電通信當值，無線電通信業務之交換，特別是有關遇險、緊急及安全程式以及無線電紀錄；
- .3 radiocommunication watchkeeping relevant to all GMDSS sub-systems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;
- .4 使用國際字母拼音；
- .4 use of the international phonetic alphabet;
- .5 在監聽遇險頻率之同時，至少在另一頻道監聽或工作；
- .5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;
- .6 船舶報告制度及程式；
- .6 ship reporting systems and procedures;
- .7 國際航空與航海搜索與救助手冊（IAMSAR）之無線電通信程式；
- .7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;
- .8 無線電醫護系統及程式；及
- .8 radio medical systems and procedures; and
- .9 誤發遇險警報之原因及其防止措施*。
- .9 causes of false distress alerts and means to avoid them.*

實作

Practical

- 27 應在下列方面進行由適當實驗室工作支援之實際訓練：
- 27 Practical training, supported by appropriate laboratory work, should be given in:
 - .1 在正常傳播情況下及在典型干擾情況下，所有全球海上遇險及安全系統子系統及設備之正確與有效操作；
 - .1 correct and efficient operation of all GMDSS sub-systems and equipment under normal propagation conditions and under typical interference conditions;
 - .2 所有全球海上遇險及安全系統通信設備及輔助裝置之安全操作，包括安全預

* 參見 COM/Circ.127—避免誤發遇險警報之準則。

* See COM/Circ.127 – Guidelines for avoiding false distress alerts.

- 防措施；
- .2 safe operation of all the GMDSS communication equipment and ancillary devices, including safety precautions;
- .3 以適當及精確之鍵盤技術進行良好的通信交換；及
- .3 adequate and accurate keyboard skills for the satisfactory exchange of communications;
- .4 下列操作技術：
- .4 operational techniques for:
 - .4.1 對接收機及發射機予以調整以獲得適當的工作模式，包括數位元元選擇呼叫及直接印字電報；
 - 4.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;
 - .4.2 天線調整及適當時重新校準；
 - .4.2 antenna adjustment and realignment, as appropriate;
 - .4.3 使用無線電救生設備；及
 - .4.3 use of radio life-saving appliances; and
 - .4.4 使用應急指位無線電示標。
 - .4.4 use of emergency position-indicating radio beacons (EPIRBs);
- .5 天線安裝，適當時修理及保養；
- .5 antenna rigging, repair and maintenance, as appropriate;
- .6 閱讀及瞭解實物圖、邏輯圖及電路圖；
- .6 reading and understanding pictorial, logic and module interconnection diagrams;
- .7 在整組或模組更換之水準，使用及保養進行海上電子維修所需之工具及測試儀器；
- .7 use and care of those tools and test instruments necessary to carry out at-sea electronic maintenance at the level of replacement of a unit or module;
- .8 基本之人工焊接及除焊技術及其限制；
- .8 basic manual soldering and desoldering techniques and their limitations;
- .9 追查及修理控制板與組件故障；
- .9 tracing and repair of faults to board/module level;

- .10 判定並矯正導致發生故障之情況；
- .10 recognition and correction of conditions contributing to the fault occurring;
- .11 所有全球海上遇險及安全系統通信設備及無線電導航設備之基本保養程式，包括預防及矯正；及
- .11 basic maintenance procedures, both preventive and corrective, for all the GMDSS communication equipment and radionavigation equipment; and
- .12 利用接地、遮罩及旁路等排除電機及電磁干擾之方法。
- .12 methods of alleviating electrical and electromagnetic interference, such as bonding, shielding and bypassing.

其他

Miscellaneous

28 下述知識及/或訓練：

28 Knowledge of, and/or training in:

- .1 英語，在寫及說兩方面交換有關海上人命安全之通信均能令人滿意；
- .1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;
- .2 世界地理，特別是主要航線、搜救協調中心之服務及與其有關之通信管道；
- .2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;
- .3 海上求生，救生艇、救難艇、救生筏、救生浮具及其設備之操作，特別是無線電救生設備之操作；
- .3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;
- .4 防火及滅火，特別是對無線電設備；
- .4 fire prevention and fire fighting, with particular reference to the radio installation;
- .5 與無線電設備危害包括電機、放射性、化學及機械危害有關之船舶及人員安全預防措施；
- .5 preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards;
- .6 急救，包括心肺復甦術；及
- .6 first aid, including heart-respiration revival techniques; and

- .7 世界協調時，全球時區及國際換日線。
- .7 coordinated universal time (UTC), global time zones and the international date line.

有關申請通用值機員證書之訓練

TRAINING RELATED TO THE GENERAL OPERATOR'S CERTIFICATE

總則

General

29 在開始訓練之前，申請發證者應符合健康要求，特別是聽力、視力及說話能力。

29 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

30 訓練應依航海人員訓練、發證及當值標準國際公約、無線電規則及現行海上人命安全國際公約之規定，特別注意全球海上遇險及安全系統之規定。在制定訓練要求時，至少應考慮及下述第 31 項至第 36 項之知識及訓練*。

30 The training should be relevant to the provisions of the STCW Convention, the Radio Regulations and the SOLAS Convention currently in force, with particular attention given to provisions for the global maritime distress and safety system (GMDSS). In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 31 to 36 hereunder*.

理論

Theory

31 安全有效使用全球海上遇險及安全系統中所要求之全部子系統及設備所必需的、足以支持下述第 35 項實作訓練要求之一般原理及基本因素之知識。

31 Knowledge of the general principles and basic factors necessary for safe and efficient use of all sub-systems and equipment required in the GMDSS sufficient to support the practical training provisions given in paragraph 35 below.

32 全球海上遇險及安全系統之使用、操作及服務區域之知識，包括衛星系統特徵、航行及氣象警告系統及選擇適當的通信電路之知識。

32 Knowledge of the use, operation and service areas of GMDSS sub-systems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

規則及文件

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

Regulations and documentation

33 下述知識：

33 Knowledge of:

- .1 海上人命安全公約及無線電規則，並特別著重於：
- .1 the SOLAS Convention and the Radio Regulations, with particular emphasis on:
 - .1.1 遇險、緊急及安全之無線電通信；
 - .1.1 distress, urgency and safety radiocommunications;
 - .1.2 避免有害干擾，特別是遇險及安全通信；及
 - .1.2 avoiding harmful interference, particularly with distress and safety traffic; And
 - .1.3 防止未經授權之發射。
 - .1.3 prevention of unauthorized transmissions;
- .2 有關遇險、安全及公共通信業務之操作及通信程式之其他文件，包括海上行動業務及海上行動衛星業務之收費、航行警告及天氣預報；及
- .2 other documents relating to operational and communication procedures for distress, safety and public correspondence services, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and
- .3 使用國際信號代碼及 IMO 標準海事通信用語。
- .3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

當值及程式

Watchkeeping and procedures

34 應進行下列訓練：

34 Training should be given in:

- .1 通信程式及全球海上遇險及安全系統子系統中防止有害干擾之訓練；
- .1 communication procedures and discipline to prevent harmful interference in GMDSS sub-systems;
- .2 在使用傳播預報資訊時，建立最佳通信頻率之程式；
- .2 procedures for using propagation-prediction information to establish optimum frequencies for communications;

- .3 有關所有全球海上遇險及安全系統子系統無線電通信當值、無線電通信業務之交換，特別是有關遇險、緊急及安全程式以及無線電紀錄；
- .3 radiocommunication watchkeeping relevant to all GMDSS sub-systems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;
- .4 使用國際字母拼音；
- .4 use of the international phonetic alphabet;
- .5 在監聽遇險頻率之同時，至少在另一頻道監聽或工作；
- .5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;
- .6 船舶報告制度及程式；
- .6 ship reporting systems and procedures;
- .7 國際航空與航海搜索與救助手冊（IAMSAR）之無線電通信程式；
- .7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;
- .8 無線電醫護系統及程式；及
- .8 radio medical systems and procedures; and
- .9 誤發遇險警報之原因及其防止措施*。
- .9 causes of false distress alerts and means to avoid them.*

實作

Practical

- 35 應進行下列實作訓練：
- 35 Practical training should be given in:
 - .1 在正常傳播情況下及在典型干擾情況下，所有全球海上遇險及安全系統子系統及設備之正確與有效操作；
 - .1 correct and efficient operation of all GMDSS sub-systems and equipment under normal propagation conditions and under typical interference conditions;
 - .2 所有全球海上遇險及安全系統通信設備及輔助裝置之安全操作，包括安全預防措施；

* 參見 COM/Circ.127 — 避免誤發遇險警報之準則。

* See COM/Circ.127 – Guidelines for avoiding false distress alerts.

- .2 safe operation of all the GMDSS communications equipment and ancillary devices, including safety precautions;
- .3 以精確及適當之鍵盤技術進行良好的通信交換；及
- .3 accurate and adequate keyboard skills for the satisfactory exchange of communications; and
- .4 下列操作技術：
- .4 operational techniques for:
 - .4.1 對接收機及發射機予以調整以獲得適當的工作模式，包括數位元元選擇呼叫及直接印字電報；
 - .4.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;
 - .4.2 天線調整及適當時重新校準；
 - .4.2 antenna adjustment and realignment as appropriate;
 - .4.3 使用無線電救生設備；及
 - .4.3 use of radio life-saving appliances; and
 - .4.4 使用應急指位無線電示標。
 - .4.4 use of emergency position-indicating radio beacons (EPIRBs).

其他

Miscellaneous

36 下述知識及/或訓練：

36 Knowledge of, and/or training in:

- .1 英語，在寫及說兩方面交換有關海上人命安全之通信均能令人滿意；
- .1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;
- .2 世界地理，特別是主要航線、搜救協調中心之服務及有關之通信管道；
- .2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;
- .3 海上求生，救生艇、救難艇、救生筏、救生浮具及其設備之操作，特別是無線電救生設備之操作；
- .3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus

and their equipment, with special reference to radio life-saving appliances;

- .4 防火及滅火，特別是對無線電設備；
- .4 fire prevention and fire-fighting, with particular reference to the radio installation;
- .5 與無線電設備危害，包括電機、放射性、化學及機械危害有關之船舶及人員安全預防措施；
- .5 preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards;
- .6 急救，包括心肺復甦術；及
- .6 first aid, including heart-respiration revival techniques; and
- .7 世界協調時，全球時區及國際換日線。
- .7 coordinated universal time (UTC), global time zones and the international date line.

有關申請限用值機員證書之訓練

TRAINING RELATED TO THE RESTRICTED OPERATOR'S CERTIFICATE

總則

General

37 在開始訓練之前，申請發證者應符合健康要求，特別是聽力、視力及說話能力。

37 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

38 訓練應依航海人員訓練、發證及當值標準國際公約之規定無線電規則及現行海上人命安全國際公約之規定，特別注意全球海上遇險及安全系統之規定。在制定訓練要求時，至少應考慮及下述第 39 項至第 44 項之知識及訓練*。

38 The training should be relevant to the provisions of the STCW Convention, the Radio Regulations and the SOLAS Convention currently in force, with particular attention given to provisions for the global maritime distress and safety system (GMDSS). In developing training guidance, account should be taken of at least the knowledge and training given in paragraphs 39 to 44 hereunder*.

理論

Theory

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

39 安全有效使用全球海上遇險及安全系統 A1 海域所要求之全部子系統及設備包括 VHF 範圍限制及天線高度之影響所必需的、足以支持下述第 43 項實作訓練要求之一般原理及基本因素之知識。

39 Knowledge of the general principles and basic factors, including VHF range limitation and antenna height effect necessary for safe and efficient use of all sub-systems and equipment required in GMDSS in sea area A1, sufficient to support the training given in paragraph 43 below.

40 全球海上遇險及安全系統 A1 海域子系統之使用、操作及服務區域之知識，如：航行及氣象警告系統及選擇適當的通信電路。

40 Knowledge of the use, operation and service areas of GMDSS sea area A1 sub-systems, e.g., navigational and meteorological warning systems and the appropriate communication circuits.

規則及文件

Regulations and documentation

41 下列知識：

41 Knowledge of:

- .1 與 A1 海域有關之海上人命安全公約及無線電規則，並特別著重於：
 - .1 those parts of the SOLAS Convention and the Radio Regulations relevant to sea area A1, with particular emphasis on:
 - .1.1 遇險、緊急及安全之無線電通信；
 - .1.1 distress, urgency and safety radiocommunications;
 - .1.2 避免有害干擾，特別是遇險及安全通信；及
 - .1.2 avoiding harmful interference, particularly with distress and safety traffic; and
 - .1.3 防止未經授權之發射。
 - .1.3 prevention of unauthorized transmissions;
- .2 有關遇險、安全及公共通信業務之操作及通信程式之其他文件，包括在 A1 海域海上行動業務之收費、航行警告及天氣預報；及
 - .2 other documents relating to operational and communication procedures for distress, safety and public correspondence services, including charges, navigational warnings and weather broadcasts in the Maritime Mobile Service in sea area A1; and

- .3 使用國際信號代碼及 IMO 標準海事通信用語。
- .3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

當值及程式

Watchkeeping and procedures

42 應進行下列訓練：

42 Training should be given in:

- .1 通信程式及全球海上遇險及安全系統 A1 海域之子系統中防止有害干擾之訓練；
- .1 communication procedures and discipline to prevent harmful interference in GMDSS sub-systems used in sea area A1;
- .2 下列 VHF 通信之程式：
- .2 VHF communication procedures for:
 - .2.1 無線電通信當值、無線電通信業務之交換，特別是有關遇險、緊急及安全程式，以及無線電紀錄；
 - .2.1 radiocommunication watchkeeping, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;
 - .2.2 在監聽遇險頻率之同時，監聽或工作於至少另一頻道；
 - .2.2 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency; and
 - .2.3 數位選擇呼叫系統。
 - .2.3 the digital selective calling system;
- .3 使用國際字母拼音；
- .3 use of the international phonetic alphabet;
- .4 船舶報告制度及程式；
- .4 ship reporting systems and procedures;
- .5 國際航空與航海搜索與救助手冊（IAMSAR）之 VHF 無線電通信程式；
- .5 VHF radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;
- .6 無線電醫護系統及程式；及

- .6 radio medical systems and procedures; and
- .7 誤發遇險警報之原因及其防止措施*。
- .7 causes of false distress alerts and means to avoid them*.

實作

Practical

43 應進行下列實作訓練：

43 Practical training should be given in:

- .1 在正常傳播情況下及在典型干擾情況下，航行於 A1 海域所有全球海上遇險及安全系統之子系統及設備之正確且有效操作；
- .1 correct and efficient operation of the GMDSS sub-systems and equipment prescribed for ships operating in sea area A1 under normal propagation conditions and under typical interference conditions;
- .2 所有全球海上遇險及安全系統通信設備及輔助裝置之安全操作，包括安全預防措施；及
- .2 safe operation of relevant GMDSS communication equipment and ancillary devices, including safety precautions; and
- .3 下列操作技術以使用：
- .3 operational techniques for use of:
 - .3.1 特高頻（VHF），包括頻道、嘯聲抑制電路及適當時模式調整；
 - .3.1 VHF, including channel, squelch, and mode adjustment, as appropriate;
 - .3.2 無線電救生設備；
 - .3.2 radio life-saving appliances;
 - .3.3 應急指位無線電示標；及
 - .3.3 emergency position-indicating radio beacons (EPIRBs); and
 - .3.4 航行警告電傳接收機。
 - .3.4 NAVTEX receivers.

其他

Miscellaneous

* 參見 COM/Circ.127—避免誤發遇險警報之準則。

* See COM/Circ.127 – Guidelines for avoiding false distress alerts.

44 下列知識及/或訓練：

44 Knowledge of, and/or training in:

- .1 英語，在寫及說兩方面交換有關海上人命安全之通信均能令人滿意；
- .1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;
- .2 搜救協調中心之服務及有關之通信管道；
- .2 services of rescue coordination centres (RCCs) and related communication routes;
- .3 海上求生，救生艇、救難艇、救生筏、救生浮具及其設備之操作，特別是無線電救生設備之操作；
- .3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;
- .4 防火及滅火，特別是對無線電設備；
- .4 fire prevention and fire fighting, with particular reference to the radio installation;
- .5 與無線電設備危害，包括電機、放射性、化學及機械危害有關之船舶及人員安全預防措施；
- .5 preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards; and
- .6 急救，包括心肺復甦術；及
- .6 first aid, including heart-respiration revival techniques.

有關全球海上遇險及安全系統船上設備維修人員之訓練

TRAINING RELATED TO MAINTENANCE OF GMDSS INSTALLATIONS ON BOARD SHIPS

總則

General

45 參照海上人命安全國際公約規則IV/15之維修要求，及國際海事組織大會第A.702(17)號決議案「關於A3及A4海域全球海上遇險及安全系統無線電維修準則」，後者之附錄中有下列規定：

45 Reference is made to the maintenance requirements of SOLAS Convention regulation IV/15, and to IMO resolution A.702(17) on Radio maintenance guidelines for the GMDSS related to sea areas A3 and A4, which includes in its annex the following provision:

「4.2 人員被指派執行海上電子維修保養職責者，應持有無線電所規定之適當證書，或具有主管機關考慮及本組織對此等人員訓練之建議案所認可之同等海上電子維修保養資格」

“4.2 The person designated to perform functions for at-sea electronic maintenance should either hold an appropriate certificate as specified by the Radio Regulations, as required, or have equivalent at-sea electronic maintenance qualifications, as may be approved by the Administration, taking into account the recommendations of the Organization on the training of such personnel.”

46 下列有關於同等電子維修保養資格之準則係供主管機關適當使用者。

46 The following guidance on equivalent electronic maintenance qualifications is provided for use by Administrations as appropriate.

47 以下所建議之訓練對未持有適當無線電操作人員證書之任何人員而言無資格擔任全球海上遇險及安全系統無線電設備之操作人員。

47 Training as recommended below does not qualify any person to be an operator of GMDSS radio equipment who does not hold an appropriate Radio Operator's Certificate.

一等無線電電子員證書維修訓練

Maintenance training equivalent to the First-Class Radioelectronic Certificate

48 在決定訓練同等於一等無線電電子員證書之內容時，

48 In determining training equivalent to the elements of the listed First-Class Radioelectronic Certificate:

- .1 理論內容至少涵蓋第 3 項至第 10 項所列之科目；
- .1 the theory content should cover at least the subjects given in paragraphs 3 to 10;
- .2 實作內容至少涵蓋第 13 項所列之科目；
- .2 the practical content should cover at least the subjects given in paragraph 13; and
- .3 其他知識至少涵蓋第 14 項所列之科目。
- .3 the miscellaneous knowledge included should cover at least the subjects given in paragraph 14.

二等無線電電子員證書維修訓練

Maintenance training equivalent to the Second-Class Radioelectronic Certificate

49 在決定訓練同等於二等無線電電子員證書之內容時，

49 In determining training equivalent to the maintenance elements of the Second-Class Radioelectronic Certificate:

- .1 理論內容至少涵蓋第 17 項至第 24 項所列之科目；
- .1 the theory content should cover at least the subjects given in paragraphs 17 to 24;
- .2 實作內容至少涵蓋第 27 項所列之科目；
- .2 the practical content should cover at least the subjects given in paragraph 27; and
- .3 其他知識至少涵蓋第 28 項所列之科目。
- .3 the miscellaneous knowledge included should cover at least the subjects given in paragraph 28.

第五章 對特定型式船舶之人員特殊訓練之要求準則

CHAPTER V

Guidance regarding special training requirements for personnel on certain types of ships

第 B-V/1 節

有關液貨船人員訓練及資格之準則

Section B-V/1

Guidance regarding the training and qualifications of tanker personnel

有立即責任之人員

Person with immediate responsibility

1 規則第 V/1-1 條第 3 項至 5 項及規則 V/1-2 條第 3 項中“有直接責任之人員”一詞係指在裝貨、卸貨、轉駁、貨物操作、清艙或其他與貨物相關操作時需作決策職務之人員。

1 The term “person with immediate responsibility” as used in paragraphs 3 and 5 of regulation V/1-1 and paragraph 3 of regulation V/1-2 means a person being in a decision-making capacity with respect to loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations.

所有液貨船人員之熟悉訓練

FAMILIARIZATION TRAINING FOR ALL TANKER PERSONNEL

2 所有液貨船人員應在船上及適當時在經指派擔任船上職責前於岸上進行熟悉訓練，該訓練應由對油類、化學品或液化氣體等適當貨物之作業及特性，及有關之安全程式具有經驗之適格人員實施之。該訓練至少應包括下列第 3 項至 14 項所規定之事項。

2 All tanker personnel should undergo familiarization training on board and, where appropriate, ashore before being assigned to shipboard duties, which should be given by qualified personnel experienced in the handling and characteristics of oil, chemical or liquefied gas cargoes, as appropriate, and the safety procedures involved. The training should at least cover the matters set out in paragraphs 3 to 8 below.

規則

Regulations

3 液貨船在港內及在海上有關船上人員安全之船舶規章之知識。

3 Knowledge of the ship's rules and regulations governing the safety of personnel on board a tanker in port and at sea.

健康危害及應採取之預防措施

Health hazards and precautions to be taken

4 皮膚接觸之危險；吸入或意外吞入液貨；所載運液貨之有害性質，人員之意外及其有關之急救；可為及不可為事項一覽表。

4 Dangers of skin contact; inhalation and accidental swallowing of cargo; the harmful properties of the cargoes carried, personnel accidents and associated first aid; lists of do's and don'ts.

防火及滅火

Fire prevention and fire fighting

5 吸菸管制及炊事限制；引火源；防止火災及爆炸；滅火方法；輕便式滅火器及固定滅火裝置之控制。

5 Control of smoking and cooking restrictions; sources of ignition; fire and explosion prevention; methods of fire fighting; portable fire extinguishers and fixed installations.

防止污染

Pollution prevention

6 應遵循之防止空氣及水污染之程式，及發生洩漏時應採取之措施。

6 Procedures to be followed to prevent air and water pollution and measures which will be taken in the event of spillage.

安全設備及其使用

Safety equipment and its use

7 防護衣及設備、心肺復甦器、逃生及救助設備之正確使用。

7 The proper use of protective clothing and equipment, resuscitators, escape and rescue equipment.

應急程式

Emergency procedures

8 熟悉應急計畫之程式。

8 Familiarization with the emergency plan procedures.

資格證明

PROOF OF QUALIFICATION

9 凡油輪、化學液體船及液化氣體船之船長應確保對液貨負有主要責任之甲級船員或人員持有按規則 V/1-1 第 3 項、規則 V/1-1 第 5 項或規則 V/1-2 第 3 項適當要求所予以簽

發、加簽或重新生效之證書，並已具備在適當型式液貨船上之最近足夠的實作經驗，以使該甲級船員或人員能安全執行所指定之職責。

9 The master of every oil, chemical and liquefied gas tanker should ensure that the officer or the person primarily responsible for the cargo possesses the appropriate certificate, issued or endorsed or validated as required by regulation V/1-1, paragraph 3; regulation V/1-1, paragraph 5 or regulation V/1-2, paragraph 3, as appropriate, and has had adequate recent practical experience on board an appropriate type of tanker to permit that officer or person to safely perform the duties assigned.

有關認可船上訓練之準則

GUIDANCE REGARDING APPROVED ONBOARD TRAINING

總則

General

10 取得船上服務資格之目的在提供對特殊液貨安全載運之訓練與知識。

10 The purpose of qualifying shipboard service is to provide training and knowledge for the safe carriage of specific tanker cargoes.

11 爲使人員適於在規則 V/1-1 第 4.2.2 項、規則 V/1-1 第 6.2.2 項與規則 V/1-2 第 4.2.2 項所述型式之液貨船擔負其職責所需之經驗，船上訓練應：

11 To satisfy the experience appropriate to their duties on the type of tanker on which they serve referred to in regulation V/1-1, paragraph 4.2.2, regulation V/1-1, paragraph 6.2.2 and regulation V/1-2, paragraph 4.2.2, onboard training should:

.1 注重與航海人員工作有關之實際“實作經驗”，是以艙面部門與輪機部門之訓練有所不同；

.1 emphasize practical “hands on experience” and be relative to the employment of the seafarer, i.e. the training of deck and engineering departments may be different;

.2 在對該船所載貨物之特性與安全程式適格並有操作經驗之人員監督下；

.2 be under the supervision of personnel qualified and experienced in the handling, characteristics and safety procedures of the cargoes being carried by the vessel;

.3 在企圖載運與熟練/加簽證書相關貨物之液貨船上訓練，並應在特種設備正在操作之時，但得在兩次貨物運載間之壓載航程期間；

.3 be on board the tanker carrying products relative to the tanker Certificate of Proficiency/Endorsement being sought and should be such that the specialist equipment is brought into operation but may be on a ballast passage between cargoes for part of that period;

.4 至少參加 3 次裝載與卸載操作；及*

.4 take part in at least three loading and discharge operations; and*

.5 至少涵蓋第 19 項“船上訓練標準”所列之事項。

.5 at least cover the matters set out in “Onboard training criteria” in paragraph 19.

12 船上訓練計畫並不致影響船舶之安全運轉或船舶適航性。

12 The onboard training programme must in no way affect the safe running or the seaworthiness of the vessel.

船上訓練計畫

Onboard training programme

13 學員應在職務之餘施訓（即該學員除為施行訓練計畫與應急職責外並無其他之職責）。

13 The trainee should be carried in a supernumerary capacity (i.e. the trainee will have no other duties than that of undertaking the training programme and emergency duties).

14 船上訓練計畫應由管理該船從事航海業務之公司及由該公司指派為訓練船之公司予以管理及協調**。

14 The programme of onboard training should be managed and coordinated by the company which manages the ship on which the seagoing service is to be performed and be a vessel nominated by the company as a training vessel.**

15 學員應始終認識兩位可認明對管理船上訓練計畫負有立即責任之人員。第一位是在船長授權下組織與管理該訓練計畫，稱為“船上訓練員”之適格航海甲級船員。另一位則為由公司所指派對訓練計畫及與其他訓練機構協調工作負全部責任稱為“公司訓練員”之人員。

15 At all times, the trainee should be aware of two identifiable individuals who are immediately responsible for the management of the programme of onboard training. The first of these is a qualified seagoing officer, referred to as the “shipboard training officer”, who, under the authority of the master, should organize and supervise the programme of training. The second should be a person nominated by the company, referred to as the “company training officer”, who should have an overall responsibility for the training programme and for coordination with training organizations.

* 裝卸操作應認係裝載或卸載該船液貨艙總容量之 60%。裝載/卸載少於此量者得併計其總和相當於此量。

* A loading or discharging operation is considered to be the loading or discharge of more than 60% of the total cargo tank capacity of the vessel. Loading/discharges of less than this quantity may be summed together to be equivalent to this quantity.

** 指派為訓練船指適於本準則可適用目的由公司指名之商船。

** A nominated training vessel is a trading vessel named by the company that is suitable for the purpose of this guidance, as applicable.

16 應將一份認可之訓練紀錄簿提供予學員，以保持其海上實際訓練與經驗之廣泛紀錄。該認可之訓練紀錄簿之設計應使能提供有關其所從事之任務與職責及其所獲之進步詳細之資料。再由船長填寫並簽署，該認可之訓練紀錄簿將為業已完成船上所規劃訓練計畫之唯一證據，可據以簽發有關之“液貨船貨物操作進階訓練證書”。

16 The trainee should be provided with an approved training record book to enable a comprehensive record of practical training and experience at sea to be maintained. The approved training record book should be laid out in such a way that it can provide detailed information about the tasks and duties which should be undertaken and the progress towards their completion. Duly completed and countersigned by the master, the approved record book will provide unique evidence that a structured programme of onboard training has been completed leading towards the issue of a relevant Certificate in Advanced Training for Tanker Cargo Operations.

17 在認可之船上訓練計畫期間，學員應接受裝載、卸載、轉駁、貨物操作、洗艙或其他與該液貨船貨物有關之操作，以確保所獲得之經驗至少等同於 3 個月之正常工作。

17 During the approved onboard training programme the trainee should be instructed in the loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations of the tanker to ensure that the experience gained is at least equal to that which would be obtained in three months' normal service.

18 如在 1 個月船上訓練期間不能達到 3 次裝載及 3 次卸載之標準，則船上訓練期間應予展延直至該標準圓滿達成為止。

18 If the three-loading and three-unloading criteria cannot be achieved within the one-month onboard training period, then the period of onboard training should be extended until these criteria have been satisfactorily achieved.

船上訓練標準

Onboard training criteria

19 船上訓練至少應提供適於液貨船有關之下列知識與經驗：

19 The onboard training should at least provide knowledge and experience, relevant to the applicable tanker type, of the following:

.1 安全

.1 Safety

.1.1 所有型式之液貨船

.1.1 All tanker types

.1 船舶之安全管理系統

.1 Ship's safety-management system

.2 特殊貨物之滅火設備與程式

.2 Cargo-specific fire-fighting equipment and procedures

.3 特殊貨物之急救程式，包括涉及危險貨品事故（MFAG）用之船舶醫療急救指南（MFAG）

.3 Cargo-specific first-aid procedures, including the Medical First Aid Guide for Use in Accidents involving Dangerous Goods (MFAG)

.4 特殊船舶/貨物危害，包括吸菸規則、缺氧大氣，貨物碳氫化合物之麻醉性和毒性

.4 Ship-/cargo-specific hazards, including smoking regulations, oxygen-depleted atmospheres, cargo hydrocarbon narcosis and toxicity

.5 風險評估系統

.5 Risk assessment system

.6 工作許可，包括熱作及進入圍閉空間之程式

.6 Permit to work, including hot work and enclosed spaces entry procedures

.7 個人防設備之使用

.7 Use of personal protective equipment

1.2 液化氣體船之額外要求

.1.2 Additional for liquefied gas tankers

.1 有關在冷凍溫度貨物操作與儲藏之危險與防護

.1 Dangers and precautions related to handling and storage of cargoes at cryogenic temperatures

.2 構造、貨物、貨艙櫃與管路

.2 Construction, cargo, cargo tanks and pipelines

.2.1 所有型式之液貨船

.2.1 All tanker types

.1 船殼/艙櫃之構造與限制

.1 Hull/tank construction and limitations

.2 液貨接頭

.2 Cargo connections

.3 所載液貨類型相關之性能與危害，包括材料安全數據表之使用

.3 Properties and hazards associated with the types of cargo being carried, including use of Material Safety Data Sheets

.4 貨物操作之風險（如驅氣/清除有害氣體/洗艙）可能影響及起居艙之通風系統，及減輕此等風險之行動

.4 The risks that cargo operations (such as purging/gas-freeing/tank cleaning) may have on the accommodation ventilation systems and actions to mitigate these risks

.5 貨物與壓載系統之配置

.5 Configuration of cargo and ballast system

.6 泵及附屬之設備

.6 Pumps and associated equipment

.7 貨物操作有關之特殊設備

.7 Specialist equipment associated with the cargo operations

.8 液貨船構造要目及其如何影響貨物之操作

.8 Particulars of the tanker's construction and how this affects the cargo operations

.2.2 液化氣體船之額外要求

.2.2 Additional for liquefied gas tankers

.1 使用隔離、分開與氣鎖以保持氣體之安全區域

.1 Use of segregation, separation and airlocks to maintain gas-safe areas

.2 貨艙櫃、內部障壁，隔離空間及管路釋壓閥與揮發氣之通氣系統

.2 Cargo tank, inter-barrier, insulation spaces, and pipeline relief valves and vapour venting systems

.3 貨物揮發氣壓縮機及相關之設備

.3 Cargo vapour compressors and associated equipment

.3 俯仰差與穩度

.3 Trim and stability

.3.1 所有型式之液貨船

.3.1 All tanker types

.1 液貨船之穩度與計算設備

.1 Tanker's stability information and calculating equipment

.2 保持應力水準於可接受限度內之重要性

.2 Importance of maintaining stress levels within acceptable limits

.3 自由液面效應與“沖激”效應之危險

.3 Dangers of free surface effect and “sloshing” effect

.4 貨物操作

.4 Cargo operations

.4.1 所有型式之液貨船

.4.1 All tanker types

.1 裝載、轉駁、卸載、壓載操作之預先計劃

.1 Pre-planning of loading/in-transit care, discharge/ballast operations

.2 紀錄之保持

.2 Record keeping

.3 啟動/停止包括緊急關斷之程式

.3 Start up/stopping procedures, including emergency shutdown

.4 在貨物操作期間錨泊裝置需要注意之事項

.4 Attention required for mooring arrangements during cargo operations

.5 驅氣與惰化要求及相關之危害

.5 Purging and inerting requirements and associated hazards

.6 裝載貨物包括結束操作

.6 Loading cargo, including topping-off operations

.7 卸貨包括洩除與收艙操作

.7 Discharging cargo, including draining and stripping operations

.8 在貨物裝載/卸載操作期間監測貨物，包括在適當時之取樣

.8 Monitoring of cargo during loading/discharging operations, including sampling where applicable

.9 貨艙櫃測計與警報系統

.9 Tank gauging and alarm systems

.10 靜電之危害險及其防範

.10 Dangers from electrostatic discharge and its prevention

.11 壓載與卸壓載操作

.11 Ballasting and de-ballasting operations

.12 維護之要求包括塗層之檢查

.12 Maintenance requirements, including coating inspections

.4.2 化學液體船之額外要求

.4.2 Additional for chemical tankers

.1 聚合，貨物之相容性，艙櫃塗料之相容性與其他反應

.1 Polymerization, cargo compatibility, tank coating compatibility and other reactions

.2 抑制劑與催化劑之功能

.2 Functions of inhibitors and catalysts

.3 揮發氣/氣體之擴散

.3 Vapour/gas dispersion

.4.3 液化氣體船之額外要求

.4.3 Additional for liquefied gas tankers

.1 聚合，貨物之相容性，艙櫃塗料之相容性與其他反應

.1 Polymerization, cargo compatibility, tank coating compatibility and other reactions

.2 抑制劑與催化劑之功能

.2 Functions of inhibitors and catalysts

.3 背壓之原因與壓力遽增之效應

.3 Causes of backpressure and pressure surge effects

.4 利用揮發氣體為燃料

.4 Use of boil-off gas as a fuel

.5 揮發氣/氣體之擴散

.5 Vapour/gas dispersion

.6 驅氣與冷卻操作

.6 Purging and cool-down operations

.7 再液化設備之操作與維護

.7 Operation and maintenance of re-liquefaction equipment

.8 瞭解並使用保護轉駁系統

.8 Understanding and use of the custody transfer system

.4.4 油輪之額外要求

.4.4 Additional for oil tankers

.1 原油洗艙系統

.1 Crude oil washing systems

.5 洗艙/清艙

.5 Tank washing/cleaning

.5.1 所有型式之液貨船

.5.1 All tanker types

.1 裝置於液貨船上之清艙系統與設備

.1 Tank cleaning systems and equipment fitted on the tanker

.2 洗艙/清艙操作之預先計劃

.2 Pre-planning of tank washing/cleaning operations

.3 洗艙之程式包括驅氣與惰化

.3 Tank washing procedures, including purging and inerting

.4 控制污液/廢物之產生

.4 Control of slops/waste product

.5 靜電之危害

.5 Electro-static hazards

.6 清洗之要求

.6 Cleanliness requirements

.7 維護之要求

.7 Maintenance requirements

.5.2 化學液體船之額外要求

.5.2 Additional for chemical tankers

.1 移除抑制劑與殘留物

.1 Removal of inhibitors and residues

.2 使用吸收，清潔劑與洗滌劑

.2 Use of absorption, cleaning agents and detergents

.5.3 液化氣體船之額外要求

.5.3 Additional for liquefied gas tankers

.1 加熱氣化/沸騰揮發液體殘留物與再氣化程式

.1 Hot-gassing/boil-off of liquid residues and regassification process

.6 惰氣系統

.6 Inert gas systems

.6.1 所有型式之液貨船

.6.1 All tanker types

.1 裝置於液貨船上之惰氣系統與設備

.1 Inerting system(s) and equipment fitted to the tanker

.2 與惰化空間相關之危害，尤其是進入艙櫃之安全

.2 Hazards associated with inerting spaces, with particular reference to safe entry into tanks

.3 驅氣，保持惰性大氣及清除有害氣體作業

.3 Purging, maintaining inert atmosphere and gas-freeing operations

.4 維護之要求

.4 Maintenance requirements

.7 污染防治與控制

.7 Pollution prevention and control

.7.1 所有型式之液貨船

.7.1 All tanker types

.1 國際，船旗國與船公司之規則，文件與計畫

.1 International, flag State and company regulations, documentation and plans

.2 液貨船污染防治系統與設備之操作，包括卸載之監控

.2 Operation of the tanker's pollution-prevention systems and equipment,

including discharge monitoring

.3 液貨船污染圍堵設備之操作

.3 Operation of the tanker's pollution-containment equipment

.8 氣體偵測設備與儀表

.8 Gas-detection equipment and instruments

.8.1 所有型式之液貨船

.8.1 All tanker types

.1 個人、可攜式與固定式氣體分析儀之使用與校準，特別是氧與碳氫化合物之監測設備

.1 Use and calibration of personal, portable and fixed gas analysers, with particular reference to oxygen and hydrocarbon monitoring equipment

.2 貨艙櫃之液位測量，液位警報與溫度測量系統之操作、維護與限制

.2 Operation, maintenance and limitation of cargo tank level measuring, level alarm and temperature-measuring systems

.8.2 液化氣體船之額外要求

.8.2 Additional for liquefied gas tankers

.1 船體溫度測量之操作與維護

.1 Operation and maintenance of hull temperature measurement

.9 刊物

.9 Publications

.9.1 所有型式之液貨船

.9.1 All tanker types

.1 國際，船旗國與船公司所出版有關液貨船操作包括海上人命安全國際公約、防止海水污染國際公約及適用之準則手冊等刊物

.1 International, flag State and company publications relevant to the operation of the tanker, including SOLAS, MARPOL and applicable guidance manuals

.2 船上特定設備之操作和維護手冊

.2 Operating and maintenance manuals specific to the equipment on board

.3 經制定之工業標準安全作業實務章程（例如，ICS，OCIMF，SIGTTO）

- .3 Established industrial standards and code of safe working practice (e.g., ICS, OCIMF, SIGTTO)

第 B-V/1-1 節

有關油輪與化學液體船船長、甲級船員與乙級船員訓練及資格之準則

Section B-V/1-1

Guidance regarding training and qualifications of masters, officers and ratings on oil and chemical tankers

油輪訓練

OIL TANKER TRAINING

20 規則 V/1-1 第 2.2 項及第 4.3 項對有關油輪所要求之訓練，應列於訓練計畫清晰陳述所有關部分訓練之目標。實用時訓練得在船上或岸上進行。並應由船上實作講授及適當時合適之岸基設施之實作講授予以補充。所有訓練及講授均應由有適當資格及適當經驗之人員為之*。

20 The training required by paragraphs 2.2 and 4.3 of regulation V/1-1 in respect of oil tankers should be set out in a training plan which clearly expresses, for all parties involved, the objectives of the training. Training may be given on board or ashore, where appropriate. It should be supplemented by practical instruction on board and, where appropriate, in a suitable shore-based installation. All training and instruction should be given by properly qualified and suitably experienced personnel*.

21 應盡可能多採用船上操作及設備手冊、影片及適當之視覺教材，並應利用時機對船上之安全組織所扮演之部分及安全甲級船員與安全委員會之角色予以討論。

21 As much use as possible should be made of shipboard operation and equipment manuals, films and suitable visual aids, and the opportunity should be taken to introduce discussion of the part to be played by the safety organization on board ship and the role of safety officers and safety committees.

化學液體船訓練

CHEMICAL TANKER TRAINING

22 規則 V/1-1 第 2.2 項及第 6.3 項對有關化學液體船所要求之訓練，應列於訓練計畫清晰陳述所有關部分訓練之目標。實用時訓練得在船上或岸上進行，並應由船上之實作講授及適當時合適之岸基設施之實作講授予以補充。所有訓練及講授均應由有適當資格及適當經驗之人員為之*。

22 The training required by paragraphs 2.2 and 6.3 of regulation V/1-1 in respect of

*相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

chemical tankers should be set out in a training plan which clearly expresses, for all parties involved, the objectives of the training. Training may be given on board or ashore, where appropriate. It should be supplemented by practical instruction on board and, where appropriate, in a suitable shore-based installation. All training and instruction should be given by properly qualified and suitably experienced personnel*.

23 應盡可能多採用船上操作及設備手冊、影片及適當之視覺教材，並應利用時機對船上之安全組織所扮演之部分及安全甲級船員與安全委員會之角色予以討論。

23 As much use as possible should be made of shipboard operation and equipment manuals, films and suitable visual aids, and the opportunity should be taken to introduce discussion of the part to be played by the safety organization on board ship and the role of safety officers and safety committees.

第 B-V/1-2 節

有關液化氣體船船長、甲級船員與乙級船員訓練及資格之準則

Section B-V/1-2

Guidance regarding training and qualifications of masters, officers and ratings on liquefied gas tankers

24 規則 V/1-1 第 2.2 項及第 6.3 項對有關化學液體船所要求之訓練，應列於訓練計畫清晰陳述所有關部分訓練之目標。實用時訓練得在船上或岸上進行，並應由船上之實作講授及適當時合適之岸基設施之實作講授予以補充。所有訓練及講授均應由有適當資格及適當經驗之人員為之*。

24 The training required by paragraphs 2.2 and 4.3 of regulation V/1-2 in respect of liquefied gas tankers should be set out in a training plan which clearly expresses, for all parties involved, the objectives of the training. Training may be given on board or ashore, where appropriate. It should be supplemented by practical instruction on board and, where appropriate, in a suitable shore-based installation. All training and instruction should be given by properly qualified and suitably experienced personnel*

25 應盡可能多採用船上操作及設備手冊、影片及適當之視覺教材，並應利用時機對船上之安全組織所扮演之部分及安全航行員與安全委員會之角色予以討論。

25 As much use as possible should be made of shipboard operation and equipment manuals, films and suitable visual aids, and the opportunity should be taken to introduce discussion of the part to be played by the safety organization on board ship and the role of safety officers and safety committees.

第 B-V/2 節

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses

有關客船航海人員訓練準則

Section B-V/2

Guidance regarding training of seafarers on passenger ships

加強滅火

ENHANCED FIRE FIGHTING

1 對於客船之甲級船員與乙級船員應提供額外之訓練強調滅火之困難，包括進入侷限之空間及防止火之蔓延至鄰接之空間。

1 For officers and crew on passenger ships, additional training should be provided highlighting the difficulties of fighting fires, including access to confined spaces and prevention of the spread of fire to adjoining spaces.

損害管制

DAMAGE CONTROL

2 在依第 A-II/1, A-II/2 及 A-III/2 節之規定制定適任標準，以獲得必要程度之損害管制與水密完整性之理論知識、瞭解與熟練時，公司與訓練機構應考慮及下列有關損害管制與水密完整性之知識、瞭解與熟練：

2 In developing standards of competency given in sections A-II/1, A-II/2 and A-III/2 to achieve the necessary level of theoretical knowledge, understanding and proficiency in damage control and watertight integrity, companies and training institutions should take into account the minimum knowledge, understanding and proficiency for damage control and watertight integrity as given below:

適任

Competence

將泛水之風險減至最小，並保持備便狀態以回應涉及船舶完整性損害之緊急情況。

Minimize the risk of flooding and maintain a state of readiness to respond to emergency situations involving damage to the watertight integrity of the ship.

知識、瞭解與熟練

Knowledge, understanding and proficiency

船上損害管制計畫與組織。

Shipboard damage control plans and organization.

損害管制系統、設備（鎖扣裝置）與應急逃生路線

Damage control systems, equipment (lockers) and emergency escape routes

保持穩度與水密完整性之關鍵因素。

The key elements in maintaining stability and watertight integrity.

控制泛水與保持水密周界之重要性。

Importance of securing flooding and maintaining watertight boundaries.

船上發生爆炸、擱淺、碰撞或火災之際應採取之行動

Actions to be taken aboard a ship in the event of an explosion, grounding, collision, or fire

與船上現有之設備包括船舶艙底水系統與泵相關之損害管制技術。

Damage control techniques consistent with equipment found on board including the ship bilge systems and pumps.

第 B-V/a 節*

有關大型船舶及特殊操縱性能船舶船長及大副額外訓練之準則

Section B-V/a*

Guidance regarding additional training for masters and chief mates of large ships and ships with unusual manoeuvring characteristics

1 船長或大副擔負大型船舶或與最近其所服務船舶大不相同具有特殊操縱及操作特性之船舶之職責前，應先行具備相關經驗及訓練乙事相當重要，此等特性通常係指船舶具有相當大之載重量或船舶長度、或屬特殊設計或高速者。

1 It is important that masters and chief mates should have had relevant experience and training before assuming the duties of master or chief mate of large ships or ships having unusual manoeuvring and handling characteristics significantly different from those in which they have recently served. Such characteristics will generally be found in ships which are of considerable deadweight or length or of special design or of high speed.

2 任職於此船舶前，船長及大副應：

2 Prior to their appointment to such a ship, masters and chief mates should:

.1 由公司告知該船舶之操作特性，尤其是有關於表 A-II/2 總噸位 500 以上船舶之船長及大副之最低適任標準第 2 欄所列之船舶操縱及操作之知識、瞭解及熟練；及

.1 be informed of the ship's handling characteristics by the company, particularly in relation to the knowledge, understanding and proficiency listed under ship manoeuvring and handling in column 2 of table A-II/2 Specification of the minimum standard of competence for masters and chief mates on ships of 500

* 在本公約或本章程 A 篇各節中，對 B-V/a、B-V/b、B-V/c、B-V/d、B-V/e、B-V/f 及 B-V/g 並無相對應之條文。

* Note there are no corresponding regulations in the Convention or sections in part A of the Code for sections B-V/a, B-V/b, B-V/c, B-V/d, B-V/e, B-V/f and B-V/g.

gross tonnage or more; and

- .2 完全熟悉有關船舶所裝設之所有助航設備及操縱設備之使用，包括其容量與限制。
- .2 be made thoroughly familiar with the use of all navigational and manoeuvring aids fitted in the ship concerned, including their capabilities and limitations.

3 在上述船舶上，初次擔負指揮之前，即將接任船長者應具有足夠及適當的作為船長或大副之基本經驗；及下列之任一經驗：

3 Before initially assuming command of one of the ships referred to above, the prospective master should have sufficient and appropriate general experience as master or chief mate, and either:

- .1 具有在監督下操縱同型船舶或操縱具有類似操縱特性船舶之足夠及適當經驗；或
- .1 have sufficient and appropriate experience manoeuvring the same ship under supervision or in manoeuvring a ship having similar manoeuvring characteristics; or
- .2 在能模擬此船舶操縱特性之裝置上，業已參加認可的操船模擬課程*。
- .2 have attended an approved ship handling simulator course on an installation capable of simulating the manoeuvring characteristics of such a ship.*

4 動力支撐及高速船艇之船長及大副其額外之訓練及資格，應依 IMO 動力支撐船安全章程及 IMO 高速船安全章程（[1994 HSC 章程與 2000HSC 章程](#)）可適用之準則。

4 The additional training and qualifications of masters and chief mates of dynamically supported and high-speed craft should be in accordance with the relevant guidelines of the IMO Code of Safety for Dynamically Supported Craft and the IMO International Codes of Safety for High-Speed Craft (1994 HSC Code and 2000 HSC Code), as appropriate.

第 B-V/b 節**

有關載運散裝固體危險及有害物質之船上負責貨物操作甲級船員及乙級船員訓練之準則 Section B-V/**

Guidance regarding training of officers and ratings responsible for cargo handling on ships carrying dangerous and hazardous substances in solid form in bulk

1 訓練應分為兩部分，即有關原理之基本部分及應用此等原理於船舶操作上之部分。

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

** 在本公約或本章程 A 篇各節中，對 B-V/a、B-V/b、B-V/c、B-V/d、B-V/e、B-V/f 及 B-V/g 並無相對應之條文。

** Note there are no corresponding regulations in the Convention or sections in part A of the Code for sections B-V/a, B-V/b, B-V/c, B-V/d, B-V/e, B-V/f and B-V/g.

所有訓練及講授應由有適當資格及有適當經驗的人員擔任，並至少包括下列第 2 至 [14](#) 項所列之科目。

1 Training should be divided into two parts, a general part on the principles involved and a part on the application of such principles to ship operation. All training and instruction should be given by properly qualified and suitably experienced personnel and cover at least the subjects given in paragraphs 2 to 14 hereunder.

原理

PRINCIPLES

特性及性質

Characteristics and properties

2 危險及有害物質之重要物理特性及化學性質，足以對所涉及的危害及危險之本質有基本的瞭解。

2 The important physical characteristics and chemical properties of dangerous and hazardous substances, sufficient to give a basic understanding of the intrinsic hazards and risks involved.

具有化學危害之物質分類

Classification of materials possessing chemical hazards

3 IMO 第 4~9 類危險品及[在國際海上散裝固體貨物（IMSBC）章程所述](#)僅在散裝時具有危害之物質（MHB）及與各類危險品有關之危害。

3 IMO dangerous goods classes 4 to 9 and the hazards associated with each class; and materials hazardous only in bulk (MHB) outlined in the International Maritime Solid Bulk Cargoes (IMSBC) Code.

健康危害

Health hazards

4 皮膚接觸、吸入、吞入及放射性危害。

4 Dangers from skin contact, inhalation, ingestion and radiation.

公約、規則及建議案

Conventions, regulations and recommendations

5 大致上熟悉經修正 1974 年 SOLAS 公約第 II-2 章及第 VII 章之有關要求。

5 General familiarization with the relevant requirements of chapters II-2 and VII of the 1974 SOLAS Convention, as amended.

6 通常使用及熟悉[國際海上散裝固體貨物（IMSBC）章程](#)，特別注意及：

6 General use of and familiarization with the International Maritime Solid Bulk Cargoes (IMSBC) Code, with particular reference to:

- .1 人員安全：包括安全設備、測量儀器，其使用及實際應用與對結果之解釋；
- .1 safety of personnel, including safety equipment, measuring instruments, their use and practical application and interpretation of results;
- .2 由於貨移動傾向之危害；及
- .2 hazards from cargoes which have a tendency to shift; and
- .3 具有化學危害之物質。
- .3 materials possessing chemical hazards.

船上應用

SHIPBOARD APPLICATION

第 4.1 類－易燃固體

Class 4.1 — Flammable solids

第 4.2 類－易自燃物質

Class 4.2 — Substances liable to spontaneous combustion

第 4.3 類－遇水釋出易燃氣體之物質

Class 4.3 — Substances which, in contact with water, emit flammable gases

7 載運、積載及控制溫度，以防止分解及可能之爆炸；積載分類；包括適用於自行反應及相關物質之一般積載預防措施；為防止發熱及點燃之隔離要求；有毒氣體或易燃氣體之散發及爆炸混合氣之形成。

7 Carriage, stowage and control of temperature to prevent decomposition and possible explosion; stowage categories; general stowage precautions, including those applicable to self-reactive and related substances; segregation requirements to prevent heating and ignition; the emission of poisonous or flammable gases and the formation of explosive mixtures.

第 5.1 類－氧化物質

Class 5.1 — Oxidizing substances

8 裝載、積載及溫度控制以防止分解及可能之爆炸；積載分類；一般積載預防措施及隔離要求，確保與易燃物質、酸及熱源分離以防止著火、爆炸及毒性氣體之形成。

8 Carriage, stowage and control of temperature to prevent decomposition and possible explosion; stowage categories; general stowage precautions and segregation requirements to ensure separation from combustible material, from acids and heat sources to prevent fire, explosion and the formation of toxic gases.

第 6.1 類－毒性物質

Class 6.1 — Toxic substances

- 9 食物區、工作區及起居艙區之污染及通風。
- 9 Contamination of foodstuffs, working areas and living accommodation and ventilation.

第 7 類－放射性物質

Class 7 — Radioactive material

- 10 運輸指數；礦砂或精煉礦石型式；積載及與人員、未經沖洗之底片、感光板及食物之隔離；積載分類；一般積載要求；特殊積載要求；隔離要求及分隔距離；與其他危險品之隔離。
- 10 Transport index; types of ores and concentrates; stowage and segregation from persons, undeveloped photographic film and plates and foodstuffs; stowage categories; general stowage requirements; special stowage requirements; segregation requirements and separation distances; segregation from other dangerous goods.

第 8 類－腐蝕性物質

Class 8 — Corrosive substances

- 11 受潮物質之危險。
- 11 Dangers from wetted substances.

第 9 類－雜項危險物質

Class 9 — Miscellaneous dangerous substances and articles

- 12 樣品及其附屬品之危害；僅在散裝時具危害物質 (IMSBC 章程) 之危害；一般及特殊積載預防措施；工作及運輸預防措施；隔離要求。
- 12 Examples and associated hazards; the hazards of materials hazardous only in bulk (IMSBC Code); general and specific stowage precautions; working and transport precautions; segregation requirements.

安全預防措施及應急程式

Safety precautions and emergency procedures

- 13 貨物艙區內電之安全；進入可能缺氧、具有有毒或易燃氣體之圍閉艙間應採取之預防措施；船舶載運各類物質可能造成火災；船舶裝載運危險品時應急程式之使用；涉及危險及有害物質意外事故發生時應遵循之應急計畫及程式，及 國際海上散裝固體貨物 (IMSBC) 章程 各別規定在此方面之使用。
- 13 Electrical safety in cargo spaces; precautions to be taken for entry into enclosed spaces that may contain oxygen-depleted, poisonous or flammable atmospheres; the possible effects of

fire in shipments of substances of each class; use of the Emergency Response Procedures for Ships Carrying Dangerous Goods; emergency plans and procedures to be followed in case of incidents involving dangerous and hazardous substances and the use of individual entries in the International Maritime Solid Bulk Cargoes (IMSBC) Code, as appropriate, in this respect.

醫療急救

Medical first aid

14 「涉及危險品意外事故之 IMO 醫療急救指南」(MFAG) 及配合其他指南及無線電醫護勸告之使用及應用。

14 The IMO Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG) and its use and application in association with other guides and medical advice by radio.

第 B-V/c 節*

有關在載運包裝危險及有害物質之船上負責貨物操作之甲級船員及乙級船員訓練之準則

Section B-V/c*

Guidance regarding training of officers and ratings responsible for cargo handling on ships carrying dangerous and hazardous substances in packaged form

1 訓練應分為兩部分，即有關原理之基本部分及應用此等原理於船舶操作上部分。所有訓練及講授應由有適當資格及有適當經驗人員擔任，並包括下列第 2 至 19 項所列之科目。

1 Training should be divided into two parts, a general part on the principles involved and a part on the application of such principles to ship operation. All training and instruction should be given by properly qualified and suitably experienced personnel and cover at least the subjects given in paragraphs 2 to 19 hereunder.

原理

PRINCIPLES

特性及性質

Characteristics and properties

2 危險及有害物質之重要物理特性及化學性質；足以對所涉及的危害及危險之本質有基本的瞭解；

2 The important physical characteristics and chemical properties of dangerous and hazardous substances, sufficient to give a basic understanding of the intrinsic hazards and risks

* 在本公約或本章程 A 篇各節中，對 B-V/a、B-V/b、B-V/c、B-V/d、B-V/e、B-V/f 及 B-V/g 並無相對應之條文。

* Note there are no corresponding regulations in the Convention or sections in part A of the Code for sections B-V/a, B-V/b, B-V/c, B-V/d, B-V/e, B-V/f and B-V/g.

involved.

危險及有害物質及具有化學危害物質之分類

Classification of dangerous and hazardous substances and materials possessing chemical hazards

3 IMO 第 1~9 類危險品及與各類有關之危害。

3 IMO dangerous goods classes 1 to 9 and the hazards associated with each class.

健康危害

Health hazards

4 皮膚接觸、吸入、吞入及放射性危害。

4 Dangers from skin contact, inhalation, ingestion and radiation.

公約、規則及建議案

Conventions, regulations and recommendations

5 大致上熟悉經修正 1974 年 SOLAS 公約第 II-2 章及第 VII 章之有關要求及 MARPOL 73/78 公約附錄 III 之有關要求，包括透過 IMDG 章程予以施行。

5 General familiarization with the relevant requirements of chapters II-2 and VII of the 1974 SOLAS Convention and of Annex III of MARPOL 73/78, including its implementation through the IMDG Code.

熟悉及使用國際海運危險品章程（IMDG Code）

Use of and familiarization with the International Maritime Dangerous Goods (IMDG) Code

6 有關申報、檔、包裝、標籤及標貼等要求之基本知識；貨櫃與車輛式包裝；可移式槽罐，槽罐貨櫃、公路液罐車及用以運送危害物質之其他形式運輸容器。

6 General knowledge of the requirements of the IMDG Code concerning declaration, documentation, packing, labelling and placarding; freight container and vehicle packing; portable tanks, tank containers and road tank vehicles, and other transport units used for dangerous substances.

7 IMDG 章程對不同型式船舶所要求之積載、繫固、分隔及隔離所需識別、標記及標籤之知識。

7 Knowledge of identification, marking and labelling for stowage, securing, separation and segregation in different ship types mentioned in the IMDG Code.

8 人員安全，包括安全設備、量測儀器及其使用與實際應用以及對結果之解釋。

8 Safety of personnel, including safety equipment, measuring instruments, their use and practical application and the interpretation of results.

船上應用

SHIPBOARD APPLICATION

第 1 類－爆炸物

Class 1 — Explosives

9 6 種危害分類及 13 種相容組合；裝運爆炸物所使用之包裝及箱盒；貨櫃及貨車之結構適用性；包括在甲板及甲板下積載及特殊佈置之積載規定；同屬第 1 類之其他各級危險品間之隔離及與非危險品之隔離；在客船上運送及簍載；裝貨艙間之適當性；繫固注意事項；在裝卸期間應採取之預防措施。

9 The six hazard divisions and 13 compatibility groups; packagings and magazines used for carriage of explosives; structural serviceability of freight containers and vehicles; stowage provisions, including specific arrangements for on-deck and under-deck stowage; segregation from dangerous goods of other classes within class 1 and from non-dangerous goods; transport and stowage on passenger ships; suitability of cargo spaces; security precautions; precautions to be taken during loading and unloading.

第 2 類－易燃、不易燃、無毒及有毒氣體(壓縮、液化或加壓溶解)

Class 2 — Gases (compressed, liquefied, or dissolved under pressure), flammable, non-flammable, non-toxic and toxic

10 壓力式容器及可移動式容器之型式，包括其所用之安全釋放與關閉設施；積載分類；包括易燃及有毒氣體及對海洋污染之氣體之一般積載預防措施。

10 Types of pressure vessels and portable tanks, including relief and closing devices used; stowage categories; general stowage precautions, including those for flammable and poisonous gases and gases which are marine pollutants.

第 3 類－易燃液體

Class 3 — Flammable liquids

11 包裝、槽罐貨櫃、可移動槽罐及公路液罐車；包括塑膠容器特殊要求之積載分類；包括海洋污染物之一般積載預防措施；隔離要求；當載運易燃液體，溫度升高時，應採取之預防措施。

11 Packagings, tank containers, portable tanks and road tank vehicles; stowage categories, including the specific requirements for plastics receptacles; general stowage precautions, including those for marine pollutants; segregation requirements; precautions to be taken when carrying flammable liquids at elevated temperatures.

第 4.1 類－易燃固體

Class 4.1 — Flammable solids

第 4.2 類－易自燃物質

Class 4.2 — Substances liable to spontaneous combustion

第 4.3 類－遇水釋出易燃氣體之物質

Class 4.3 — Substances which, in contact with water, emit flammable gases

12 包裝型式；為防止分解及可能之爆炸在溫度控制下載運及積載；積載分類；包括適用於自行反應及相關物質、不敏感爆炸品及海洋污染物之一般積載預防措施；防止發熱及點燃、散發有毒氣體或易燃氣體及形成爆炸混合氣之隔離要求。

12 Types of packagings; carriage and stowage under controlled temperatures to prevent decomposition and possible explosion; stowage categories; general stowage precautions, including those applicable to self-reactive and related substances, desensitized explosives and marine pollutants; segregation requirements to prevent heating and ignition, the emission of poisonous or flammable gases and the formation of explosive mixtures.

第 5.1 類－氧化物質

Class 5.1 — Oxidizing substances

第 5.2 類－有機過氧化物

Class 5.2 — Organic peroxides

13 包裝型式；為防止分解及可能之爆炸在溫度控制下之載運及積載；積載分類；包括適用於海洋污染物之一般積載預防措施；為確保與易燃物質、酸及熱源分隔以防止著火、爆炸及形成有毒氣體之隔離要求；減少能產生分解之摩擦及碰撞之預防措施。

13 Types of packagings; carriage and stowage under controlled temperatures to prevent decomposition and possible explosion; stowage categories; general stowage precautions, including those applicable to marine pollutants; segregation requirements to ensure separation from combustible material, from acids and heat sources to prevent fire, explosion and the formation of toxic gases; precautions to minimize friction and impact which can initiate decomposition.

第 6.1 類－毒性物質

Class 6.1 — Toxic substances

第 6.2 類－傳染性物質

Class 6.2 — Infectious substances

14 包裝型式；積載分類；包括適用於毒性、易燃液體及海洋污染物之一般積載預防措施；隔離要求，尤應考慮該等物質之共同特性為能引起死亡或嚴重損害人類健康者；洩漏

時之清除污染措施。

14 Types of packagings; stowage categories; general stowage precautions, including those applicable to toxic, flammable liquids and marine pollutants; segregation requirements, especially considering that the characteristic common to these substances is their ability to cause death or serious injury to human health; decontamination measures in the event of spillage.

第 7 類－放射性物質

Class 7 — Radioactive material

15 包裝類型；與積載及隔離有關之運輸指數；積載及與人員、未經沖洗之底片、感光板及食物之隔離；稱載分類；一般積載要求；隔離要求及分隔距離；與其他危險品之隔離。

15 Types of packagings; transport index in relation to stowage and segregation; stowage and segregation from persons, undeveloped photographic film and plates and foodstuffs; stowage categories; general stowage requirements; segregation requirements and separation distances; segregation from other dangerous goods.

第 8 類－腐蝕性物質

Class 8 — Corrosive substances

16 包裝類型；積載分類；包括適用於腐蝕性、易燃液體及海洋污染物之一般積載預防措施；隔離要求，尤應考慮該等物質共同特性為能對生命體造成嚴重傷害者。

16 Types of packagings; stowage categories; general stowage precautions, including those applicable to corrosive, flammable liquids and marine pollutants; segregation requirements, especially considering that the characteristic common to these substances is their ability to cause severe damage to living tissue.

第 9 類－雜項危險物質

Class 9 — Miscellaneous dangerous substances and articles

17 包括海洋污染在內之危害樣本。

17 Examples of hazards, including marine pollution.

安全預防措施及應急程式

Safety precautions and emergency procedures

18 貨物艙區內電之安全；進入可能缺氧、具有有毒或易燃氣體之圍閉艙間應採取之預防措施；船舶載運各類物質可能造成洩漏或火災；甲板上及甲板下發生情況之考慮；「IMO 船舶載運危險品之應急程式」之使用；涉及危險物質之意外事故發生時遵循之應急計畫及應急程式。

18 Electrical safety in cargo spaces; precautions to be taken for entry into enclosed spaces that may contain oxygen-depleted, poisonous or flammable atmospheres; the possible effects of

spillage or fire in shipments of substances of each class; consideration of events on deck or below deck; use of the IMO Emergency Response Procedures for Ships Carrying Dangerous Goods; emergency plans and procedures to be followed in case of incidents involving dangerous substances.

醫療急救

Medical first aid

19 「涉及危險品意外事故之 IMO 醫療急救指南」(MFAG)，及配合其他指南及無線電醫護勸告之使用及應用。

19 The IMO Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG) and its use and application in association with other guides and medical advice by radio.

第 B-V/d 節*

STCW 公約規定適用於移動式離岸設施 (MOUs) 準則

Section B-V/d*

Guidance on application of the provisions of the STCW Convention to mobile offshore units (MOUs)

1 STCW 公約之規定適用於自行推進移動式離岸設施在航行中之航海人員。

1 The provisions of the STCW Convention apply to the maritime personnel of self-propelled MOUs proceeding on voyages.

2 STCW 公約之規定不適用於非自行推進移動式離岸設施或在工作站之移動式離岸設施。

2 The provisions of the STCW Convention do not apply to non-self-propelled MOUs or to MOUs on station.

3 當進行考慮在工作站之移動式離岸設施之適當訓練與發證標準時，註冊國應考慮及國際海事組織之建議案。尤其是在自行推進移動式離岸設施上之航海人員及在要求時於其他設施上者，應符合經修正 STCW 公約之規定。

3 When considering appropriate standards of training and certification when an MOU is on station, the country of registry should take account of relevant IMO recommendations. In particular, all maritime crew members on self-propelled MOUs and, where required, on other units should meet the requirements of the STCW Convention, as amended.

4 在國際航線上航行之自行推進移動式離岸設施，應要求攜備安全配額文件。

* 在本公約或本章程 A 篇各節中，對 B-V/a、B-V/b、B-V/c、B-V/d、B-V/e、B-V/f 及 B-V/g 並無相對應之條文。

* Note there are no corresponding regulations in the Convention or sections in part A of the Code for sections B-V/a, B-V/b, B-V/c, B-V/d, B-V/e, B-V/f and B-V/g.

4 Self-propelled MOUs proceeding on international voyages are required to carry safe manning documents.

5 在工作站之移動式離岸設施應接受其作業之專屬經濟海域（EEZ）沿岸國家國內法之規範。此沿岸國家亦應考慮及國際海事組織之建議案，並不應要求在他國註冊之移動式離岸設施之標準較在該沿岸國註冊者為高。

5 MOUs on station are subject to the national legislation of the coastal State in whose Exclusive Economic Zone (EEZ) they are operating. Such coastal States should also take account of relevant IMO recommendations and should not prescribe higher standards for MOUs registered in other countries than the standards applied to MOUs registered in that coastal State.

6 凡受雇在移動式離岸設施（不論是否為自行推進）上之特殊人員，應依國際海事組織之有關建議案提供予適當之熟悉與基本安全訓練。

6 All special personnel employed on board MOUs (whether or not self-propelled) should be provided with appropriate familiarization and basic safety training in accordance with relevant IMO recommendations.

第 B-V/e 節*

有關離岸供應船船長及負責航行當值甲級船員訓練及資格之準則

Section B-V/e*

Guidance regarding training and qualifications of masters and officers in charge of a navigational watch on board offshore supply vessels

1 在涉及離岸供應作業之船長與甲級船員在承擔離岸供應船職責之前，很重要的應具有相關之經驗或訓練。其重點在船上操作之經驗或及操作經驗與模擬訓練之結合。

1 It is important that masters and officers involved in offshore supply operations should have relevant experience or training before assuming their duties on offshore supply vessels. The focus should be on onboard operational experience or a combination of operational experience and simulator training.

2 船長與甲級船員應瞭解離岸供應船共同之操縱與操作之特性。

2 Masters and officers should understand the unique manoeuvring and handling characteristics common to offshore supply vessels.

3 在執行離岸供應作業之前，船長與甲級船員應：

3 Prior to performing offshore supply operations, the master and officers should:

.1 具有離岸業者與不同作業所使用術語之知識；

* 在本公約或本章程 A 篇各節中，對 B-V/a、B-V/b、B-V/c、B-V/d、B-V/e、B-V/f 及 B-V/g 並無相對應之條文。

* Note there are no corresponding regulations in the Convention or sections in part A of the Code for sections B-V/a, B-V/b, B-V/c, B-V/d, B-V/e, B-V/f and B-V/g.

- .1 have knowledge of the offshore industry and the terms used in the various operations;
 - .2 在離岸位置/裝置工作時，瞭解始終保持安全工作距離之重要性；
 - .2 understand the importance of maintaining a safe working distance at all times when working in an offshore location/installation;
 - .3 瞭解船舶操縱性及在各種天候狀況下保持其位置；
 - .3 have knowledge of vessel manoeuvring and station-keeping under various weather conditions;
 - .4 瞭解船舶特定之設計參數；及
 - .4 understand the specific design parameters of the vessels; and
 - .5 瞭解需要不受限制之監視與觀察工作區域。
 - .5 understand the need to have unrestricted oversight and views of work areas.
- 4 當在離岸供應船上時，船長與甲級船員應：
- 4 While on board an offshore supply vessel, the master and officers should:
- .1 瞭解該船所裝置各種推進裝置之操作特性與作用；及
 - .1 have knowledge of the handling characteristics and behaviour of vessels fitted with various propulsion arrangements; and
 - .2 在鄰近離岸裝置與其他船舶時，能操縱離岸供應船。
 - .2 be capable of operating the offshore supply vessel in close proximity to an offshore installation and other vessels.
- 5 船長應瞭解在船上施行離岸供應作業之其他人員需要熟悉其職責。
- 5 Masters should understand the need for other personnel on board who are involved in performing offshore supply operations to be familiarized with their duties.

離岸供應船錨泊操作之施行

Offshore supply vessels performing anchor-handling operations

- 6 在供應船上涉及錨泊操作之船長及負責航行當值甲級船員，很重要的應具有相關之經驗或訓練。
- 6 It is important that masters and officers in charge of a navigational watch on board supply vessels involved in anchor-handling operations have relevant experience and training.
- 7 在施行錨泊操作之前，船長及負責航行當值甲級船員應：
- 7 Prior to performing anchor-handling operations, masters and officers in charge of a

navigational watch should:

.1 充分瞭解有關錨泊操作之船舶操作特性，包括但不限於下列：

- .1 be well informed of the ship's handling characteristics in relation to anchor-handling, including, but not limited to:

.1.1 航行與定位，

- .1.1 navigation and position-holding;

.1.2 船舶操作，

- .1.2 ship-handling;

.1.3 徹底瞭解離岸供應船之穩度，尤其是 GZ-max 低角度、低開敞甲板與大外力結合時之穩度。使用裝載計算機及剛性與硬性船舶間之相互抵觸，暨甲板上良好之工作環境。使用減搖設備潛在穩度之降低。

- .1.3 thorough knowledge of the stability of offshore supply vessels, in particular the combination of low angle of GZmax, low open deck and large external forces. Use of loading calculators and the conflict between a rigid and stiff ship and good work environment on deck. Potential reduction of stability from use of anti-rolling devices; and

.1.4 在危險之油田區域操作，包括在海床上安放有任何管線或其他結構之區域可能應使用錨泊或其他繫泊設備；及

- .1.4 operations in hazardous oil-field areas, including locating any pipelines or other structures on the seabed in the area where anchors or other mooring equipment is likely to be used; and

.2 徹底熟悉船舶錨泊操作所使用安裝於有關船上之各種儀器與系統，包括其能量與限制。包括但不限於下列：

- .2 be made thoroughly familiar with the use of all instruments and systems fitted in the ship concerned and involved in anchor-handling, including their capabilities and limitations, including, but not limited to:

.2.1 使用各種型式推力器、傳統或全向推進；

- .2.1 use of various thrusters, conventional or azimuth propulsion;

.2.2 離岸設備、駁船及裝置之撈起、操縱、吊重、拖曳、錨泊與佈錨；

- .2.2 pickup, handling, heavy lifting, towing out, anchor-handling and laying of anchors for offshore rigs, barges and installations;

.2.3 裝置、駁船與其他船舶之拖曳；

- .2.3 towing of rigs, barges and other vessels;
- .2.4 操作拉力高達 600 公噸之吊升與拖曳絞機；
- .2.4 operation of lifting and towing winches with up to 600 metric tons pull;
- .2.5 對拖曳與錨泊操作之絞機，尤其是有負載限制之設施及釋放系統與其附屬之設備如拖曳銷與栓等詳細透徹之知識；及
- .2.5 detailed thorough knowledge of the basis of operation of towing- and anchor-handling winches; in particular, functions of load-limiting devices and release systems and associated equipment as towing pins and stoppers; and
- .2.6 緊急釋放拖鈎與絞機間之重大區別。
- .2.6 the significant difference between emergency release of towing hooks and winches.

8 當船長及負責航行當值甲級船員在負責錨泊操作時，應以監督多台在運轉中之裝置而具有充分與適當之訓練與經驗，經主管機關認為適當。訓練得以適當之模擬設備補足之。

8 Masters and officers in charge of a navigational watch when in charge of anchor-handling should have sufficient and appropriate training and experience by having been supervised during a number of Rig-moves, as deemed appropriate by the Administration. Training may be supplemented by appropriate simulator training.

第 B-V/f 節*

有關操作動力定位系統人員之訓練與經驗準則

Section B-V/f*

Guidance on the training and experience for personnel operating dynamic positioning systems

1 動力定位係指自航船之船位與艏向以其本身之推進裝置自動控制之系統。

1 Dynamic positioning is defined as the system whereby a self-propelled vessel's position and heading is automatically controlled by using its own propulsion units.

2 從事操作動力定位(DP)系統之人員應接受相關之訓練與實作之經驗。該訓練之理論基礎應能使動力定位操作員(DPOs)瞭解 DP 系統與其構件之操作。所獲得之知識、瞭解與經驗應使人員在 DP 安全操作船舶，尤其是海上人命之安全及海洋環境之保護。

2 Personnel engaged in operating a Dynamic Positioning (DP) system should receive relevant training and practical experience. Theoretical elements of this training should enable Dynamic Positioning Operators (DPOs) to understand the operation of the DP system and its

* 在本公約或本章程 A 篇各節中，對 B-V/a、B-V/b、B-V/c、B-V/d、B-V/e、B-V/f 及 B-V/g 並無相對應之條文。

* Note there are no corresponding regulations in the Convention or sections in part A of the Code for sections B-V/a, B-V/b, B-V/c, B-V/d, B-V/e, B-V/f and B-V/g.

components. Knowledge, understanding and experience gained should enable personnel to operate vessels safely in DP, with due regard for safety of life at sea and protection of the marine environment.

3 訓練與經驗之內容應包括 DP 系統之下列各方面：

3 The content of training and experience should include coverage of the following components of a DP system:

.1 DP 控制站;

.1 DP control station;

.2 電機之發生和管理;

.2 power generation and management;

.3 推進裝置;

.3 propulsion units;

.4 定位參考系統;

.4 position reference systems;

.5 艏向參考系統;

.5 heading reference systems;

.6 環境參考系統;及

.6 environmental reference systems; and

.7 外力參考系統例如大纜索之張力計。

.7 external force reference systems, such as hawser tension gauges.

4 訓練與經驗應包括 DP 之日常操作、對 DP 之缺點、故障、事故及緊急狀態之處理，以確保操作能安全之繼續進行或終止。訓練不應僅限於動力定位操作員（DPOs）及 DP 之船長；船上之其他人員，如電機員與輪機員，亦得要求額外訓練與經驗以確保其能在 DP 船舶上執行其職責。應考慮將施行適當之 DP 演習作為在船上訓練與經驗之一部分。應使 DPOs 具有與 DP 操作相關文獻之知識，例如操作手冊、故障模式與影響分析 (FMEAs) 與性能圖之型式與目的。

4 Training and experience should cover the range of routine DP operations, as well as the handling of DP faults, failures, incidents and emergencies, to ensure that operations are continued or terminated safely. Training should not be limited to DPOs and DP masters only; other personnel on board, such as electro-technical and engineer officers, may require additional training and experience to ensure that they are able to carry out their duties on a DP vessel. Consideration should be given to conducting appropriate DP drills as a part of onboard training

and experience. DPOs should be knowledgeable of the type and purpose of documentation associated with DP operations, such as operational manuals, Failure Modes and Effects Analysis (FMEAs) and capability plots.

5 所有之訓練應由具有適當資格與適當經驗之人員提供。

5 All training should be given by properly qualified and suitably experienced personnel.

6 當指定船舶應在 DP 模式下操作時，船長、DPOs 與其他曾接受 DP 訓練之人員應熟練裝置於其船上之特定設備及該船之性能。尤應考慮該船舶之工作性質及 DP 系統對此工作之重要性。

6 Upon appointment to a vessel operating in DP mode, the master, DPOs and other DP-trained personnel should be familiarized with the specific equipment fitted on and the characteristics of the vessel. Particular consideration should be given to the nature of the work of the vessel and the importance of the DP system to this work.

第 B-Vg 節*

有關在極地水域作業船舶船長與甲級船員之訓練準則**

Section B-V/g*

*Guidance regarding training of masters and officers for ships operating in polar waters***

1 在極地水域作業船舶之船長、負責航行當值甲級船員及負責輪機當值甲級船員，很重要的應具有下列相關之經驗或訓練：

1 It is important that masters, officers in charge of a navigational watch and officers in charge of an engineering watch on board ships operating in polar waters should have relevant experience and training, as follows:

.1 經指派承擔此等船上之職責前：

.1 Prior to being assigned duties on board such ships:

.1.1 對於船長與負責航行當值之甲級船員，訓練應提供基本之知識，至少包括下列第 2 至 11 項所述之科目；及

.1.1 For masters and officers in charge of a navigational watch, the training should provide basic knowledge on at least the subjects given in paragraphs 2 to 11 hereunder; and

.1.2 對於負責輪機當值之甲級船員，訓練應提供基本之知識，至少包括下列第 3、6、10 及 11 項所述之科目。

* 在本公約或本章程 A 篇各節中，對 B-V/a、B-V/b、B-V/c、B-V/d、B-V/e、B-V/f 及 B-V/g 並無相對應之條文。

**參見 A.1024 (26) 號決議案對在極地水域作業船舶之準則。

* Note there are no corresponding regulations in the Convention or sections in part A of the Code for sections B-V/a, B-V/b, B-V/c, B-V/d, B-V/e, B-V/f and B-V/g.

** Refer to resolution A.1024(26) on Guidelines for ships operating in polar waters

- .1.2 For officers in charge of an engineering watch, the training should provide basic knowledge on at least the subjects given in paragraphs 3, 6, 10 and 11 hereunder.

.2 船長與輪機長應具有充分與適當在極地水域操作之經驗。

- .2 Masters and Chief Engineer Officers should have sufficient and appropriate experience in operating ships in polar waters.

冰的特性-冰區

Ice characteristics – ice areas

2 解釋不同冰區之海圖並對氣象與海洋學數據之限制、冰之物理性質、形成、發展、老化與融化階段、冰之類型與濃度、冰壓力、為雪所覆蓋冰之摩擦力、枝狀結冰、結冰之密切關係、防止結冰及減輕其後果之措施、不同地區、不同季節之間包括北極與南極之結冰形式、冰與氣候條件迅速變化之後果、冰山與冰群之移動有所認識。

2 Interpretation of different ice-charts and awareness of limitations in meteorology and oceanography data, ice physics, formation, growth, ageing and stage of melt; ice types and concentrations; ice pressure; friction from snow-covered ice; implications of spray-icing and icing up; precautions against icing up and mitigation of consequences; ice regimes in different regions and different seasons, including the differences between the Arctic and the Antarctic; recognition of consequences of rapid change in ice and weather conditions; movement of icebergs and pack ice.

船舶在冰冷氣候下之性能

Ship's performance in ice and cold climate

3 船舶特性、船舶型式、船體設計、冰強度要求、不同船級機構之冰級-極地級與當地規則、冰級之限制、船舶之防凍準備、低溫系統之性能。

3 Vessel characteristics; vessel types, hull designs; ice-strengthening requirements; ice-class in different classification societies – polar class and local regulations; limitations of ice-classes; winterization and preparedness of vessel; low-temperature system performance.

船舶在冰區之航程與航路計劃*

Voyage and passage planning for a ship in ice*

4 制訂安全航路與航道之計畫以在可能時避開冰區，包括詮釋各種形式之冰像與數據以支持有戰略性之航道計劃、從開敞水域進入冰區避免冰山或危險之冰區條件、由於天黑、湧、霧、或壓力冰之存在決定何時航行進入有冰或冰山之海域始屬安全。

4 Development of safe routeing and passage planning to avoid ice where possible,

* 參見 A.999 (25) 號決議案對在人跡罕至水域作業客船航程計劃之準則。

* Refer to resolution A.999(25) on Guidelines on voyage planning for passenger ships operating in remote areas.

including interpreting various forms of ice imagery and data to assist in the preparation of a strategic passage planning; entering ice from open water to avoid icebergs and dangerous ice conditions; navigation, determining when it is safe or not safe to enter areas containing ice or icebergs due to darkness, swell, fog or pressure ice.

船舶在冰區中的操縱

Operating and handling a ship in ice

5 在接近有冰群聚之水域前之準備與風險評估工作、不同冰級之船舶在不同冰況下無助之操作、在有冰與冰山存在時之安全航速、與破冰船或其他船舶之通信、在不同冰濃度與覆蓋程度下之航行、在行進中能源消耗提高之認識、利用冰山作為遮蔽以穿過有冰群之水域。

5 Preparations and risk assessment before approaching ice-infested waters; unassisted operation of vessels with different ice-class in different ice-types; safe speed in the presence of ice and icebergs; communications with an icebreaker and other vessels; navigation in various ice concentrations and coverage; awareness of the increase in energy of movement; use of icebergs for shelter and access through packed ice.

6 使用不同型式之推進系統與舵，包括瞭解系統之強度與能量限制、使用橫傾與縱傾系統、引擎之負載與冷卻問題。

6 Use of different type of propulsion system and rudder, including awareness of system strength and capacity limitations; use of heeling and trim systems, engine loads and cooling problems.

規則及建議案

Regulations and recommendations

7 進入不同區域之當地規定，包括南極條約;國際規則及建議案。

7 Local requirements for entering different regions, including the Antarctic Treaty; international regulations and recommendations.

設備之限制

Equipment limitations

8 在極地水域中有關地文助航設備之使用與風險、高緯度之羅經誤差、雷達目標與在雜冰中冰特徵之辨別、在高緯度時電子定位系統之限制、海圖與導航限制之記述、通信系統之限制。

8 Use of and hazards associated with terrestrial navigational aids in polar waters; high-latitude compass errors; discrimination of radar targets and ice-features in ice-clutter; limitations of electronic positioning systems at high latitude; limitations in nautical charts and pilot descriptions; limitations in communication systems.

安全注意事項與應急程式

Safety precautions and emergency procedures

9 水道數據之獲取足供安全航行、當在海圖欠詳細之水域航行時之注意事項、迅即獲得搜索與救助之能力受限制，包括 GMDSS 之 A4 海域及 SAR 通信設施受限制、對應急計劃之認識、對拖曳程式之知識、保持與其他船舶或當地 SAR 組織聯繫之重要性、對暴露於低溫船員危險性之認識、棄船與在冰區求生之程式與技巧、由於噪音與震動肇致船員之疲勞、額外物資之攜載，如：燃料、食物與額外之衣服、在極地水域事故所造成特別嚴重後果之認識。

9 Availability of hydrographic data sufficient for safe navigation; precautions when navigating in poorly charted waters; limitations of search and rescue readiness and responsibility, including GMDSS area A4 and its SAR communication facility limitation; awareness of contingency planning; knowledge of towing procedures; value of contact with other ships and local SAR organization; recognizing dangers when crews are exposed to low temperatures; procedures and techniques for abandoning the ship and survival on the ice; crew-fatigue problems due to noise and vibrations; carriage of additional resources such as bunkers, food and extra clothing; awareness of the additional severity of consequences of incidents in polar waters.

10 制定安全之工作程式、認識最常見之船體與設備損壞及其如何避免、滅火系統之限制。

10 Establishing safe working procedures; awareness of the most common hull and equipment damage and how to avoid them; fire-fighting systems limitations.

環境之考慮

Environmental considerations

11 有關在敏感海域之排洩、禁航或應避航之海域、MARPOL 規定之特殊海域、洩油設備之限制、增加垃圾，艙底污水，污泥，污水等收藏容量之計劃、在寒冷氣候之污染後果。

11 Sensitive sea areas regarding discharge; areas where shipping is prohibited or should be avoided; special areas in MARPOL; oil-spill equipment limitations; plan for coping with increased volumes of garbage, bilge water, sludge, sewage, etc.; consequences of pollution in a cold climate.

第六章
有關應急、職業安全、保全、醫護及求生專長之準則

CHAPTER VI

Guidance regarding emergency, occupational safety, security, medical care and survival functions

第 B-VI/1 節

有關所有航海人員應安全熟悉、基本訓練與講授之強制性要求

Section B-VI/1

Guidance regarding mandatory requirements for safety familiarization and basic training and instruction for all seafarers

防火及滅火

FIRE PREVENTION AND FIRE FIGHTING

1 第 A-VI/1 節所要求之防火及滅火之訓練，至少應包括下列第 2 至第 4 項所列之理論及實作項目*。

1 The training in fire prevention and fire fighting required by section A-VI/1 should include at least the theoretical and practical elements itemized in paragraphs 2 to 4 hereunder*.

理論訓練

Theoretical training

2 理論訓練須包括：

2 The theoretical training should cover:

- .1 燃燒及爆炸三要素；（火災三角形）燃油；引火源；氧；
- .1 the three elements of fire and explosion (the fire triangle): fuel; source of ignition; oxygen;
- .2 引火源：化學的；生物的；物理的；
- .2 ignition sources: chemical; biological; physical;
- .3 易燃物質：易燃性；燃點；燃燒溫度；燃燒速度；熱值；低可燃限(LFL)；高可燃限(UFL)；燃燒範圍；惰化；靜電；閃點；自燃；
- .3 flammable materials: flammability; ignition point; burning temperature; burning speed; thermal value; lower flammable limit (LFL); upper flammable limit (UFL);

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

flammable range; inerting; static electricity; flashpoint; auto-ignition;

- .4 火災之危害及輻射、對流與傳導所引起之火勢蔓延；
- .4 fire hazard and spread of fire by radiation, convection and conduction;
- .5 反應性；
- .5 reactivity;
- .6 火災分類及其適用之滅火劑；
- .6 classification of fires and applicable extinguishing agents;
- .7 船舶火災之主要原因：機艙漏油；香菸；（軸承）過熱；廚房設備（爐灶、煙道、炒鍋、平底鍋等）；（貨物、廢棄物等）自燃；（電焊、切割等）熱工作業；（短路、非專業人員修理）電氣設備；反應，自熱及自燃；縱火；靜電；
- .7 main causes of fire on board ships: oil leakage in engine-room; cigarettes; overheating (bearings); galley appliances (stoves, flues, fryers, hotplates, etc.); spontaneous ignition (cargo, wastes, etc.); hot work (welding, cutting, etc.); electrical apparatus (short circuit, non-professional repairs); reaction, self-heating and auto-ignition; arson; static electricity;
- .8 火災預防；
- .8 fire prevention;
- .9 火與煙偵測系統；自動火災警報裝置；
- .9 fire- and smoke-detection systems; automatic fire alarms;
- .10 滅火設備包括：
- .10 fire-fighting equipment, including:
 - .10.1 船上固定設備及其位置；消防總管，消防栓；國際岸上接頭；窒息滅火裝置；二氧化碳，泡沫；特殊艙間之壓力噴水系統等；自動灑水系統；應急消防泵；應急發電機；化學乾粉裝置；要求配置之備用移動設備概要；高壓水霧裝置；高膨脹泡沫；新發展及新設備；
 - .10.1 fixed installations on board and their locations; fire mains, hydrants; international shore connection; smothering installations, carbon dioxide (CO₂), foam; pressure water spray system in special category spaces, etc.; automatic sprinkler system; emergency fire pump; emergency generator; chemical powder applicants; general outline of required and available mobile apparatus; high-pressure fog system; high-expansion foam; new

- developments and equipment;
- .10.2 消防員裝具，個人裝備；呼吸裝置；心肺復甦器；防煙頭盔及防煙面具；防火救生繩及索具；及其在船上放置位置；及
 - .10.2 firefighter's outfit, personal equipment; breathing apparatus; resuscitation apparatus; smoke helmet or mask; fireproof lifeline and harness; and their location on board; and
 - .10.3 一般設備包括：水龍帶；噴嘴；接頭；太平斧；輕便型滅火器；消防毯；
 - .10.3 general equipment, including fire hoses, nozzles, connections, fire axes; portable fire extinguishers; fire blankets;
 - .11 結構及佈置，包括逃生路線；艙櫃清除有害氣體方法；A、B、C 類隔艙；惰性氣體系統；
 - .11 construction and arrangements, including escape routes; means for gas-freeing tanks; Class A, B and C divisions; inert gas systems;
 - .12 船舶消防組織，包括一般警報、防火控制圖、召集站及每位人員之職責；通信，包括在港時船對岸通信；人員安全程式；定期船上演習；巡邏制度；
 - .12 ship fire-fighting organization, including general alarm; fire control plans, muster stations and duties of individuals; communications, including ship-shore when in port; personnel safety procedures; periodic shipboard drills; patrol systems;
 - .13 心肺復甦術之實作知識；
 - .13 practical knowledge of resuscitation methods;
 - .14 滅火方法，包括警報鳴放；確定位置及隔離；貨物拋棄；抑制；冷卻；窒息；滅火；防止再之當燃值；排煙；及
 - .14 fire-fighting methods, including sounding the alarm; locating and isolating; jettisoning; inhibiting; cooling; smothering; extinguishing; reflash watch; smoke extraction; and
 - .15 滅火劑，包括水、固體噴射物、噴灑、水霧、泛水、泡沫（高、中、低膨脹）；二氧化碳；水膜合成泡沫（AFFF）；化學乾粉；新發展及新設備。
 - .15 fire-fighting agents, including water, solid jet, spray, fog, flooding; high-, medium- and low-expansion foam; carbon dioxide (CO₂); aqueous-film-forming foam (AFFF); dry chemical powder; new developments and equipment.

實作訓練

Practical training

3 下列各項實作訓練在真實之訓練情況（即模擬船舶情況）下進行，如可行時應於夜間及白晝訓練進行之，使學員能得到以下技能：

3 The practical training given below should take place in spaces which provide truly realistic training conditions (e.g., simulated shipboard conditions), and whenever possible and practical should also be carried out in darkness as well as by daylight and should allow the trainees to acquire the ability to:

- .1 使用各種型式輕便滅火器；
.1 use various types of portable fire extinguishers;
- .2 使用自給式呼吸器；
.2 use self-contained breathing apparatus;
- .3 撲滅小火，如電火、油火及丙烷火災；
.3 extinguish smaller fires, e.g., electrical fires, oil fires and propane fires;
- .4 以水撲滅較大火災（噴射及噴灑噴嘴）；
.4 extinguish extensive fires with water (jet and spray nozzles);
- .5 使用泡沫或乾粉或任何其他適當之化學滅火劑滅火；
.5 extinguish fires with either foam, powder or any other suitable chemical agent;
- .6 使用救生索但未戴呼吸器進入或通過業已噴入高膨脹泡沫之艙間；
.6 enter and pass through, with lifeline but without breathing apparatus, a compartment into which high-expansion foam has been injected;
- .7 穿著自給式呼吸器在充滿煙霧之密閉艙間滅火；
.7 fight fire in smoke-filled enclosed spaces, wearing self-contained breathing apparatus;
- .8 使用水霧或任何其他適當之滅火劑，在有火及濃煙之起居艙或模擬之機艙滅火；
.8 extinguish fire with water fog or any other suitable fire-fighting agent in an accommodation room or simulated engine-room with fire and heavy smoke;
- .9 使用水霧噴器及噴灑噴嘴、化學乾粉或泡沫產生器撲滅油火；
.9 extinguish an oil fire with fog applicator and spray nozzles; dry chemical powder or foam applicators; and
- .10 穿戴呼吸器在充滿煙霧之艙間救人。
.10 effect a rescue in a smoke-filled space, wearing breathing apparatus.

一般要求

General

4 學員亦應認識在船上保持備便之必要性。

4 Trainees should also be made aware of the necessity of maintaining a state of readiness on board.

基本急救*

ELEMENTARY FIRST AID*

5 在職訓練之早期，最好在出海前之訓練中，應依規則 VI/1 所要求之基本急救訓練作為基本訓練之一部分實施之，以使該航海人員在面臨意外事故時採取立即措施，或在具有急救技能人員或負責船上醫護之人員到達之前，採取其他緊急醫護。

5 The training in elementary first aid required by regulation VI/1 as part of the basic training should be given at an early stage in vocational training, preferably during pre-sea training, to enable seafarers to take immediate action upon encountering an accident or other medical emergency until the arrival of a person with first-aid skills or the person in charge of medical care on board.

個人安全及社會責任*

PERSONAL SAFETY AND SOCIAL RESPONSIBILITIES*

6 主管機關應牢記溝通及語言技能在保持海上人命與財產安全及防止海洋污染方面之重要性。航運業之國際化特點，船對船、船對岸通信均依靠口頭溝通，多國籍海員同船現象增多，及重視海員在緊急情況下應有能力與旅客溝通之關注，因此海事通信採用一種通用語言以減少重要通信之人為錯誤，提昇安全作業。

6 Administrations should bear in mind the significance of communication and language skills in maintaining safety of life and property at sea and in preventing marine pollution. Given the international character of the maritime industry, the reliance on voice communications from ship to ship and from ship to shore, the increasing use of multinational crews, and the concern that crew members should be able to communicate with passengers in an emergency, adoption of a common language for maritime communications would promote safe practice by reducing the risk of human error in communicating essential information.

7 普通實用英語，雖非全球性，但正迅速成為海事安全通信之標準語言。部分係因使用「IMO 標準海事通信用語」所造成之結果。

7 Although not universal, by common practice English is rapidly becoming the standard language of communication for maritime safety purposes, partly as a result of the use of the

*相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

IMO Standard Marine Communication Phrases.

8 主管機關應考慮及確保航海人員至少能運用以航海術語及航海情況為重點之英語詞彙之能力，以得到好處。

8 Administrations should consider the benefits of ensuring that seafarers have an ability to use at least an elementary English vocabulary, with an emphasis on nautical terms and situations.

第 B-VI/2 節

有關簽發救生艇筏、救難艇及快速救難艇專業訓練證書之準則

Section B-VI/2

Guidance regarding certification for proficiency in survival craft, rescue boats and fast rescue boats

1 訓練前，申請發證者之健康情況，尤其是視力及聽力，應符合要求。

1 Before training is commenced, the requirement of medical fitness, particularly regarding eyesight and hearing, should be met by the candidate.

2 訓練應與經修正海上人命安全國際公約（SOLAS）之有關規定相符合*。

2 The training should be relevant to the provisions of the International Convention for the Safety of Life at Sea (SOLAS), as amended*.

3 締約國亦得接受船上訓練與經驗（例如參加演習）作為保持表 A-VI/2-1 所列適任性標準之要求。在第 A-VI/2 節第 6.1.2、6.1.3、6.1.4、6.2.1 及 12.1.5 項所列之項目中，主管機關應切記此等船上訓練僅當天氣狀況良好及港口規則許可之情況下始能施行。

3 Parties may also accept onboard training and experience (such as participation in drills) for maintaining the required standard of competence of table A-VI/2-1, in the areas outlined in section A-VI/2, paragraphs 6.1.2, 6.1.3, 6.1.4, 6.2.1, and 12.1.5. Administrations should bear in mind that onboard training in these areas can only be carried out under good weather conditions and port regulations permitting.

第 B-VI/3 節

有關進階滅火訓練之準則

Section B-VI/3

Guidance regarding training in advanced fire fighting

(無條文)

(No provisions)

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

第 B-VI/4 節

有關醫療急救及醫護要求之準則

Section B-VI/4

Guidance regarding requirements in medical first aid and medical care

1 經指派承擔表A-VI/4-1第1欄所列任務，職責與責任航海人員之訓練計畫以提供船上之醫療急救，適當時應考慮及經修正之船舶醫護指南。

1 Training programmes for seafarers designated to undertake the tasks, duties and responsibilities listed in column 1 of table A-VI/4-1 to provide medical first aid on board ship should take into account guidance in the revised International Medical Guide for Ships, as appropriate.

第 B-VI/5 節

有關船舶保全人員訓練與發證之準則

Section B-VI/5

Guidance regarding training and certification for ship security officers

1 訓練應與 ISPS 章程及經修正 SOLAS 公約之規定有關。*

1 The training should be relevant to the provisions of the ISPS Code and the SOLAS Convention, as amended.*

2 在訓練完成後，船舶保全人員應具有足夠之英語知識以正確翻譯並傳送有關之資訊與船舶或港口設施之保全人員。

2 On completion of training, a ship security officer should have adequate knowledge of the English language to correctly interpret and communicate messages relevant to ship or port facility security.

3 在特別必要之情況下，當持有船舶保全人員專業訓練證書之人員暫缺時，主管機關得許由具有明確保全職責與責任並瞭解船舶保全計畫之航海人員，擔任船舶保全人員，並執行其所有之職責與責任迄抵達下一停靠港，或不超過 30 天之期限，兩者以較長者為準。公司應儘早通知下一停靠港的主管當局作適當之安排。

3 In circumstances of exceptional necessity, when a person holding a certificate of proficiency as a ship security officer is temporarily unavailable, the Administration may permit a seafarer having specific security duties and responsibilities and an understanding of the ship security plan to serve as ship security officer and to execute all duties and responsibilities of the ship security officer until the next port of call or for a period not exceeding 30 days, whichever is greater. The company should, as soon as possible, inform the competent authorities of the next port(s) of call of the arrangements in place.

* 相關之 IMO 典型課程可能有助於課程之準備。

* The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

第 B-VI/6 節

有關所有航海人員保全有關之訓練與講習強制性最低要求之準則

Section B-VI/6

Guidance regarding mandatory minimum requirements for security-related training and instruction for all seafarers

熟悉與保全意識

Familiarization and security-awareness

1 航海人員與船上人員對保全並不內行，因此本公約或本章程規定之目的並無意使其成為保全專家。

1 Seafarers and shipboard personnel are not security experts and it is not the aim of the provisions of the Convention or this Code to convert them into security specialists.

2 航海人員與船上人員應接受足夠與保全有關之訓練或講習與熟悉訓練，以使其獲得執行所指派職責之知識與瞭解，以加強海上之保全。

2 Seafarers and shipboard personnel should receive adequate security-related training or instruction and familiarization training so as to acquire the required knowledge and understanding to perform their assigned duties and to collectively contribute to the enhancement of maritime security.

3 未經指派承擔保全職責之航海人員，在其職業生涯中至少應完成一次第 A-VI/6 節所列與保全有關之基本訓練或講習。如有關之航海人員或船上人員符合規則 VI/6 與保全有關之熟悉要求，並曾參加 ISPS 章程所要求之演習與練習，則無必要施行更新或重新有效訓練。

3 Seafarers without designated security duties should complete the security awareness training or instruction set out in section A-VI/6 at least one time in their career. There is no need for refreshment or revalidation of this training if the seafarer or the shipboard personnel concerned meet the security-related familiarization requirements of regulation VI/6 and participate in the drills and exercises required by the ISPS Code.

經指派負保全職責之航海人員

Seafarers with designated security duties

4 第 A-VI/6 節中“經指派負保全職責之航海人員”一詞係指在船上保全計畫中負有明確保全職責與責任之人員。

4 The expression “with designated security duties” in section A-VI/6 denotes those having specific security duties and responsibilities in accordance with the ship security plan.

5 經指派負保全職責之航海人員，在其職業生涯中至少應完成一次第 A-VI/6 節所列之

訓練。如有關之航海人員或船上人員符合規則 VI/6 與保全有關之熟悉要求，並曾參加 ISPS 章程所要求之演習與練習，則無必要施行更新或重新有效訓練。

5 Seafarers with designated security duties should complete the training as set out in section A-VI/6 at least one time in their career. There is no need for refreshment or revalidation of this training if the seafarer or the shipboard personnel concerned meet the security-related familiarization requirements of regulation VI/6 and participate in the drills and exercises required by the ISPS Code.

6 依據第 A-VI/6 節之要求，為航海人員提供“保全有關熟悉練”之人員無需符合規則 I/6 或第 A-I/6 節之要求。

6 Those providing “security-related familiarization training” in accordance with section A-VI/6 should not be required to meet the requirements of either regulation I/6 or of section A-I/6.

7 在特別必要之情況下，當船上有關保全職責需由具有資格以執行有關保全職責之人員施行而此人員暫缺時，主管機關得許由未經指派負保全職責但瞭解船舶保全計畫之航海人員執行此職責，迄抵達下一停靠港，或不超過 30 天之期限，兩者以較長者為準。

7 In circumstances of exceptional necessity, when the shipboard security-related duties are required to be undertaken by a person qualified to perform designated security-related duties and such a person is temporarily unavailable, the Administration may permit a seafarer without designated security duties to perform such duties provided such a person has an understanding of the ship security plan, until the next port of call or for a period not exceeding 30 days, whichever is greater.

第七章
有關另一發證方式之準則
CHAPTER VII
Guidance regarding alternative certification

第 B-VII/1 節

有關替代證書之簽發之準則

Section B-VII/1

Guidance regarding the issue of alternative certificates

(無條文)

(No provisions)

第 B-VII/2 節

有關艙面與輪機綜合特別訓練計畫之準則

Section B-VII/2

Guidance regarding special integrated deck and engine training programmes

1 締約國應確保艙面與輪機綜合特別訓練計畫：

1 Each Party should ensure that any special integrated deck and engine training programme:

.1 係由認可之訓練計畫提供；

.1 is provided by means of an approved training programme;

.2 在岸上海事訓練機構內及/或在認可之訓練船舶上施行；及

.2 takes place ashore within maritime training institutions and/or on board approved training ships; and

.3 記載於認可之訓練紀錄簿內。

.3 is documented in an approved training record book.

第 B-VII/3 節

有關簽發替代證書之原則之準則

Section B-VII/3

Guidance regarding principles governing the issue of alternative certificates

(無條文)

(No provisions)

第八章
有關當值之準則
CHAPTER VIII
Guidance regarding watchkeeping

第 B-VIII/1 節

有關適於當值之準則

Section B-VIII/1

Guidance regarding fitness for duty

防止疲勞

Prevention of fatigue

1 遵守休息時間之要求時，「意外操作之狀況」應解釋為僅指重要之船上工作，而該工作由於安全或防止污染之原因不能予以耽誤者或解釋為在航次開始時該工作不能合理地預期者。

1 In observing the rest period requirements, “overriding operational conditions” should be construed to mean only essential shipboard work which cannot be delayed for safety or environmental reasons or which could not reasonably have been anticipated at the commencement of the voyage.

2 疲勞尚無普遍被接受之技術定義，凡參與船舶操作之人員皆應警覺可能造成疲勞之因素，包括但不限於本組織所確定之因素*，並在決定船舶工作時予以考慮之。

2 Although there is no universally accepted technical definition of fatigue, everyone involved in ship operations should be alert to the factors which can contribute to fatigue, including, but not limited to, those identified by the Organization*, and take them into account when making decisions on ship operations.

3 應用規則 VIII/1 時，應考慮及下列：

3 In applying regulation VIII/1, the following should be taken into account:

.1 防止疲勞之規定應確保並未從事過度或不合理之全部工作時間，尤其是對第 A-VIII/1 節所述之最少休息時間不應被解釋為包含可能專心從事當值或其他職責之所有其他時間；

.1 provisions made to prevent fatigue should ensure that excessive or unreasonable overall working hours are not undertaken. In particular, the minimum rest periods

* 參見附錄於 IMO 決議案 A.722(18)第 2 項至第 4.4.1 目及 [MSC/Circ.1014](#)。

* See the annex to IMO resolution A.722(18), paragraphs 2 to 4.4.1 and MSC/Circ.1014.

specified in section A-VIII/1 should not be interpreted as implying that all other hours may be devoted to watchkeeping or other duties;

- .2 下班期間之次數及長短及補償性下班之核准係為防止因增加一段時間而疲勞之體能因素；
- .2 the frequency and length of leave periods, and the granting of compensatory leave, are material factors in preventing fatigue from building up over a period of time; and
- .3 短程航行之船舶，如已提出特殊安排得作不同之規定；
- .3 the provisions may be varied for ships on short sea voyages, provided special safety arrangements are put in place.

【或3 改為：在第A-VIII/1節第9項所規定之豁免應與生效後之ILO 1996（180 號）航海人員工作時間與船員配額公約，或2006年 海事勞工公約所解釋之豁免意義相同。適用該豁免的情況應由締約國定之。】

[3bis Exceptions provided for in section A-VIII/1, paragraph 9, should be construed to mean the exceptions laid down by the ILO Convention on Seafarers' Hours of Work and the Manning of Ships, 1996 (No.180) or the Maritime Labour Convention, 2006, when it enters into force. The circumstances under which such exceptions are applied should be defined by the Parties.]

- 4 依據海上事故調查結果所獲得之資料，主管機關應對其防止疲勞之規定予以審查。
- 4 Based on information received as a result of investigating maritime casualties, Administrations should keep their provisions on prevention of fatigue under review.

防止吸毒與酗酒

Prevention of drug and alcohol abuse

5 吸毒及酗酒直接影響航海人員執行其當值職責或涉及所指派安全職責、污染防止及保全職責之體能及能力，當發現航海人員受到吸毒及酗酒之影響時，應不准其當值或涉及所指派安全職責、污染防止及保全職責，直至執行其職責之能力不再受到妨礙時始可。

5 Drug and alcohol abuse directly affect the fitness and ability of a seafarer to perform watchkeeping duties or duties that involve designated safety, prevention of pollution and security duties. Seafarers found to be under the influence of drugs or alcohol should not be permitted to perform watchkeeping duties or duties that involve designated safety, prevention of pollution and security duties, until they are no longer impaired in their ability to perform those duties.

6 主管機關應確保採取適當之措施以防止酒精及毒品妨礙當值、涉及所指派安全職責、污染防止及保全職責之人員及其能力，並應制定必要的過濾計畫；該計畫：

- 6 Administrations should ensure that adequate measures are taken to prevent alcohol and

drugs from impairing the ability of watchkeeping personnel and those whose duties involve designated safety, prevention of pollution and security duties, and should establish screening programmes as necessary which:

.1 鑑別吸毒及酗酒；

.1 identify drug and alcohol abuse;

.2 尊重有關當事人之尊嚴、隱私、保密及基本合法權利；

.2 respect the dignity, privacy, confidentiality and fundamental legal rights of the individuals concerned; and

.3 考慮及有關之國際準則。

.3 take into account relevant international guidelines.

7 公司應考慮施行防止吸毒及酗酒之明確書面政策，包括禁止當值人員在當值前 4 小時內喝酒。該書面政策並不應是包含於公司之品質管理系統，抑對航海人員提供適當資料與教育之方法。

7 Companies should consider the implementation of a clearly written policy of drug and alcohol abuse prevention, including prohibition to consume alcohol within four hours prior to serving as a member of a watch either by inclusion in the company's quality-management system or by means of providing adequate information and education to the seafarers.

8 有關防止毒品及酒精計畫之制定應考慮及國際勞工組織所刊行及嗣後可能再修正之航運業防止毒品及酒精計畫（供計畫人員用手冊）*內所含之準則。

8 Those involved in establishing drug and alcohol abuse prevention programmes should take into account the guidance contained in the ILO publication *Drug and Alcohol Prevention Programmes in the Maritime Industry (A Manual for Planners)**, as may be amended.

第 B-VIII/2 節

有關當值安排及應遵守原則之準則

Section B-VIII/2

Guidance regarding watchkeeping arrangements and principles to be observed

1 公司、船長及當值甲級船員應對下列操作準則予以考慮；

1 The following operational guidance should be taken into account by companies, masters and watchkeeping officers.

* 該手冊之附錄 III 含有“全球航運業所適用對毒品及酒精試驗秩序之指導原則”。此指導原則經 ILO/WHO 航海人員健康委員會於 1993 年 5 月採納。

* Annex III of this manual includes “Guiding Principles on Drug and Alcohol Testing procedures for Worldwide Application in the Maritime Industry”. These guiding principles were adopted by the Joint ILO/WHO Committee on the Health of Seafarers (May 1993).

第 1 部分 — 發證之準則

PART 1 – GUIDANCE ON CERTIFICATION

(無條文)

(No provisions)

第 2 部分 — 航次計畫之準則

PART 2 – GUIDANCE ON VOYAGE PLANNING

(無條文)

(No provisions)

第 3 部分 — 當值之一般原則

PART 3 – WATCHKEEPING PRINCIPLES IN GENERAL

(無條文)

(No provisions)

第 4 部分 — 海上當值之準則

PART 4 – GUIDANCE ON WATCHKEEPING AT SEA

第 4-1 部分 — 保持航行當值之準則

Part 4-1 – Guidance on keeping a navigational watch

引言

Introduction

2 特殊型式之船舶及載運有害、危險、有毒或高易燃性貨物之船舶可能有必要特別準則。船長應適當提供此操作準則。

2 Particular guidance may be necessary for special types of ships as well as for ships carrying hazardous, dangerous, toxic or highly flammable cargoes. The master should provide this operational guidance as appropriate.

3 負責航行當值之甲級船員很重要的要重視有效執行其職責為海上人命財產安全及防止海上環境污染所必需者。

3 It is essential that officers in charge of the navigational watch appreciate that the efficient performance of their duties is necessary in the interests of the safety of life and property at sea and of preventing pollution of the marine environment.

錨泊當值

Anchor watch

4 在無遮蔽之錨地、開敞之泊地與任何其他等於“在海上”同樣之狀態，依據 STCW 章程第 VIII 章、第 A-VIII/2 節、第 4-1 部分第 51 項之規定，各船之船長應確保足以保持所有錨泊時期安全之當值安排。一位航行員應自始至終保持錨泊安全當值之責任。

4 The master of every ship at an unsheltered anchorage, at an open roadstead or any other virtually “at sea” conditions in accordance with chapter VIII, section A-VIII/2, part 4-1, paragraph 51 of the STCW Code, should ensure that watchkeeping arrangements are adequate for maintaining a safe watch at all times. A deck officer should at all times maintain responsibility for a safe anchor watch.

5 在決定當值及相當於保持船舶安全、保全、保護海洋環境之安排時，船長應考慮及所有相關之環境與狀況，如：

5 In determining the watchkeeping arrangements, and commensurate with maintaining the ship’s safety and security and the protection of the marine environment, the master should take into account all pertinent circumstances and conditions such as:

.1 以目視、聽力及其他所有可用之方法保持連續之警戒狀態；

.1 maintaining a continuous state of vigilance by sight and hearing as well as by all other available means;

.2 船與船及船與岸間通信之要求；

.2 ship-to-ship and ship-to-shore communication requirements;

.3 常見之天氣、海浪、冰與流之狀況；

.3 the prevailing weather, sea, ice and current conditions;

.4 連續監控船位之必要性；

.4 the need to continuously monitor the ship’s position;

.5 錨地之類型、大小與特性；

.5 the nature, size and characteristics of anchorage;

.6 交通狀況；

.6 traffic conditions;

.7 可能影響船舶保全之情況；

.7 situations which might affect the security of the ship;

.8 裝卸作業；

.8 loading and discharging operations;

.9 待命船員之指派，及

.9 the designation of stand-by crew members; and

.10 向船長報警及保持主機備便之程式。

.10 the procedure to alert the master and maintain engine readiness.

第4-2部分 – 保持輪機當值之準則

Part 4-2 – Guidance on keeping an engineering watch

6 特殊型式之推進系統或輔機及載運有害、危險、有毒或高易燃物質或者其他特種型式貨物之船舶可能需要特別之準則。輪機長應適當提供此操作之準則。

6 Particular guidance may be necessary for special types of propulsion systems or ancillary equipment and for ships carrying hazardous, dangerous, toxic or highly flammable materials or other special types of cargo. The chief engineer officer should provide this operational guidance as appropriate.

7 負責輪機當值之甲級船員要重視有效執行輪機當值職責，為海上人命財產安全及防止海上環境污染所必需者。

7 It is essential that officers in charge of the engineering watch appreciate that the efficient performance of engineering watchkeeping duties is necessary in the interest of the safety of life and property at sea and of preventing pollution of the marine environment.

8 接班之甲級船員，在承擔輪機當值職責前，應：

8 The relieving officer, before assuming charge of the engineering watch, should:

.1 熟悉為危險或有毒環境之人命安全而配置之設備位置及其使用；及

.1 be familiar with the location and use of the equipment provided for the safety of life in a hazardous or toxic environment;

.2 確定緊急醫療急救所使用之物品備妥可用，特別是處理燒傷、燙傷之所需者；及

.2 ascertain that materials for the administration of emergency medical first aid are readily available, particularly those required for the treatment of burns and scalds; and

.3 在港安全內錨泊或繫泊時，瞭解：

.3 when in port, safely anchored or moored, be aware of:

.3.1 貨物作業、維修保養狀況及其他影響當值之操作；及

.3.1 cargo activities, the status of maintenance and repair functions and all other operations affecting the watch, and

.3.2 正供船員或旅客起居艙服務、貨物作業、操作中之供水及排氣系統用之輔機。

- .3.2 the auxiliary machinery in use for passenger or crew accommodation services, cargo operations, operational water supplies and exhaust systems.

第 4-3 部分 — 保持無線電當值之準則

Part 4-3 – Guidance on keeping a radio watch

一般要求

General

9 其他文件雖然另有規定，無線電規則規定每船之電台應備有執照，並係在船長或其他對船舶負責人員最後授權下，限由適格人員控制下操作。該無線電規則亦規定遇險警報應限由船長或其他對船舶負責之人員授權發送。

9 Among other things, the Radio Regulations require that each ship radio station is licensed, is under the ultimate authority of the master or other person responsible for the ship and is only operated under the control of adequately qualified personnel. The Radio Regulations also require that a distress alert shall only be sent on the authority of the master or other person responsible for the ship.

10 船長須切記：所有指定負責發送遇險警報之人員應依規則 I/1 第 1.5 項之要求，對所有船舶之無線電設備，均已接受過訓練，具有知識並能正常操作。此點應於甲板日誌或無線電日誌記載之。

10 The master should bear in mind that all personnel assigned responsibility for sending a distress alert must be instructed with regard to, be knowledgeable of, and be able to operate properly all radio equipment on the ship, as required by regulation I/14, paragraph 1.5. This should be recorded in the deck or radio log-book.

當值

Watchkeeping

11 除有關無線電當值之要求外，凡航行船舶之船長應確保：

11 In addition to the requirements concerning radio watchkeeping, the master of every seagoing ship should ensure that:

- .1 考慮及被授權操作船舶無線電台人員之職責所受之限制，適當地為船舶無線電台配置人員，以達成交換一般通信之目的，特別是公眾業務通信；

- .1 the ship's radio station is adequately manned for the purpose of exchanging general communications – in particular public correspondence, taking into account the constraints imposed by the duties of those authorized to operate it; and

- .2 安裝在船上之無線電設備及備有備用電源時之該電源均保持使於有效之工作

狀態。

- .2 the radio equipment provided on board and, where fitted, the reserve sources of energy are maintained in an efficient working condition.

12 在佈署表中被指定於遇險事故時，負有無線電通信主要責任者，應定期對所有有關航海人員講解無線電設備之使用及遇險與安全程式之必要說明與資料，並應特此記入無線電日誌。

12 Necessary instruction and information on use of radio equipment and procedures for distress and safety purposes should be given periodically to all relevant crew members by the person designated in the muster list to have primary responsibility for radiocommunications during distress incidents. This should be recorded in the radio log.

13 不受 SOLAS 公約約束之每艘船舶，其船長應考慮及無線電規則，要求無線電當值依主管機關之決定予以適當保持。

13 The master of every ship not subject to the SOLAS Convention should require that radio watchkeeping is adequately maintained as determined by the Administration, taking into account the Radio Regulations.

操作

Operational

14 在駛離港口前，被指定於遇險事故時，負有無線電通信主要責任之無線電操作員應確保：

14 Prior to sailing, the radio operator designated as having primary responsibility for radiocommunications during distress incidents should ensure that:

- .1 所有遇險及安全無線電設備及備用電源係處於有效工作狀態，並記入無線電日誌；
- .1 all distress and safety radio equipment and the reserve source of energy are in an efficient working condition, and that this is recorded in the radio log;
- .2 所有國際協約所要求之文書、船舶電台通告及主管機關所規定之其他文書均已備妥，並依最新之增補通知予以修正。遇有任何不符，已向船長報告；
- .2 all documents required by international agreement, notices to ship radio stations and additional documents required by the Administration are available and are corrected in accordance with the latest supplements, and that any discrepancy is reported to the master;
- .3 無線電時鐘應依標準時間信號正確設定；
- .3 the radio clock is correctly set against standard time signals;

- .4 天線係正確架設、無損壞並妥予連接；及
 - .4 antennae are correctly positioned, undamaged and properly connected; and
 - .5 依據實際情況，將船舶即將要航行之區域連同船長所要求之其他區域之例行氣象與航行警告電文予以更新，並將此該等電文送交船長。
 - .5 to the extent practicable, routine weather and navigational warning messages for the area in which the ship will be navigating are updated together with those for other areas requested by the master, and that such messages are passed to the master.
- 15 航行中，開啓電台時，無線電操作員應：
- 15 On sailing and opening the station, the radio operator on watch should:
- .1 在適當之遇險頻率上守聽任何可能發生之遇險情況；及
 - .1 listen on the appropriate distress frequencies for any possible existing distress situation; and
 - .2 向當地海岸電台及其他任何預期可進行一般通信之適當海岸電台，發送一份航行通報（船名、位置及目的地等）；
 - .2 send a traffic report (name, position and destination, etc.) to the local coast station and any other appropriate coast station from which general communications may be expected.
- 16 當電台開啓時，當值之無線電操作員應：
- 16 While the station is open, the radio operator on watch should:
- .1 至少每天一次與標準時間信號校對無線電時鐘；
 - .1 check the radio clock against standard time signals at least once a day;
 - .2 當駛入及駛離預計可進行一般通信之海岸電台服務區時，向其發送一份航行通報；及
 - .2 send a traffic report when entering and on leaving the service area of a coast station from which general communications might be expected; and
 - .3 按照船長指示向船舶報告系統發送報告。
 - .3 transmit reports to ship reporting systems in accordance with the instructions of the master.
- 17 當在海上時，指派於遇險事故時負有無線電通信主要責任之無線電操作員應確保下列設備處於正常工作狀態：
- 17 While at sea, the radio operator designated as having primary responsibility for

radiocommunications during distress incidents should ensure the proper functioning of:

- .1 每週至少一次，以試驗呼叫方法，測試數位選擇呼叫之遇險及安全無線電設備；及
- .1 the digital selective calling (DSC) distress and safety radio equipment by means of a test call at least once each week; and
- .2 每天至少一次，測試遇險及安全無線電設備，但不應發射任何信號。
- .2 the distress and safety radio equipment by means of a test at least once each day but without radiating any signal.

試驗之結果應記載於無線電日誌。

The results of these tests should be recorded in the radio log.

18 經指派處理一般通信之無線電操作員在考慮及船位及與船位有關之海岸電台暨預期可能進行通信業務之海岸衛星電台，確保在可能交換通信之頻率上保持有效之守聽。交換通信業務時，無線電操作員應遵守有關之 ITU 建議。

18 The radio operator designated to handle general communications should ensure that an effective watch is maintained on those frequencies on which communications are likely to be exchanged, having regard to the position of the ship in relation to those coast stations and to coast earth stations from which traffic may be expected. When exchanging traffic, radio operators should follow the relevant ITU recommendations.

19 在抵達港口，封閉電台時，當值之無線電操作員應將抵港封台乙事，通知當地海岸電台及其他曾保持聯繫之海岸電台。

19 When closing the station on arrival at a port, the radio operator on watch should advise the local coast station and other coast stations with which contact has been maintained of the ship's arrival and of the closing of the station.

20 在封閉電台時，經指派在遇險事故時負有無線電通信主要責任之無線電操作員應：

20 When closing the radio station, the radio operator designated as having primary responsibility for radiocommunications during distress incidents should:

- .1 確保發射無線接地；及
- .1 ensure that transmitting antennae are earthed; and
- .2 檢查備用電源係充分充電。
- .2 check that the reserve sources of energy are sufficiently charged.

遇險警報及程式

Distress alerts and procedures

21 遇險警報或遇險呼叫絕對優先於所有其他發射，無線電規則規定，所有收到該種信號之電台應立即停止可能影響遇險通信之一切發射。

21 The distress alert or distress call has absolute priority over all other transmissions. All stations which receive such signals are required by the Radio Regulations to immediately cease all transmissions capable of interfering with distress communications.

22 如本船遇險，則經指派在遇險事故時負有無線電通信主要責任之無線電操作員，應按無線電規則之程式及有關 ITU-R 之建議，立即承擔起責任。

22 In the case of a distress affecting own ship, the radio operator designated as having primary responsibility for radiocommunications during distress incidents should immediately assume responsibility for following the procedures of the Radio Regulations and relevant ITU-R Recommendations.

23 在收到遇險警報時：

23 On receiving a distress alert:

.1 當值之無線電操作員應立即向船長報告，適當時，並應向經指派在遇險事故時負有無線電通信主要責任之無線電操作員報告；及

.1 the radio operator on watch should alert the master and, if appropriate, the radio operator designated as having primary responsibility for radiocommunications during distress incidents; and

.2 經指派在遇險事故時負有無線電通信主要責任之無線電操作員應評估情況，並立即按照無線電規則之程式及有關 ITU-R 之建議，立即承擔起責任。

.2 the radio operator designated as having primary responsibility for radiocommunications during distress incidents should evaluate the situation and immediately assume responsibility for following the procedures of the Radio Regulations and relevant ITU-R Recommendations.

緊急通信

Urgency messages

24 本船發生緊急事件時，經指派在遇險事故時負有無線電通信責任之無線電操作員，應按照無線電規則之程式及有關的 ITU-R 之建議立即承擔起責任。

24 In cases of urgency affecting own ship, the radio operator designated as having responsibility for radiocommunications during distress incidents should immediately assume responsibility for following the procedures of the Radio Regulations and relevant ITU-R Recommendations.

25 發生有關醫護建議之通信時，經指派在遇險事故時負有無線電主要責任之無線電操作員，應遵循無線電規則之程式及依國際性檔（見第 14.2 項）或衛星業務提供者所述之

條件辦理。

25 In cases of communications relating to medical advice, the radio operator designated as having primary responsibility for radiocommunications during distress incidents should follow the procedures of the Radio Regulations and adhere to the conditions as published in the relevant international documentation (see paragraph 14.2) or as specified by the satellite service provider.

26 發生有關 1949 年 8 月 12 日日內瓦公約補充議定書附錄一有關「保護國際武裝衝突受難者（議定書一）」所界定之醫護運輸事件之通信時，經指派在遇險事故時負有無線電通信主要責任之無線電操作員，應遵照無線電規則之程式辦理。

26 In cases of communications relating to medical transports, as defined in the Protocol additional to the Geneva Conventions of 12 August 1949, and relating to the protection of victims of international armed conflicts (Protocol I), the radio operator designated as having primary responsibility for radiocommunication during distress incidents should follow the procedures of the Radio Regulations.

27 當收到緊急信文時，當值之無線電操作員應向船長報告，適當時，並應向經指派在遇險事故時負有無線電通信主要責任之無線電操作員報告。

27 On receiving an urgency message, the radio operator on watch should alert the master and, if appropriate, the radio operator designated as having primary responsibility for radiocommunications during distress incidents.

安全信文

Safety messages

28 當發送安全信文時，船長及當值之無線電操作員應遵照無線電規則之程式辦理。

28 When a safety message is to be transmitted, the master and the radio operator on watch should follow the procedures of the Radio Regulations.

29 當收到安全信文時，船長及當值之無線電操作員應記錄其內容並按船長之指示為之。

29 On receiving a safety message, the radio operator on watch should note its content and act in accordance with the master's instructions.

30 船橋間通信應在 VHF 13 頻道上進行；船橋間通信在無線電規則中定義為「船舶間航行安全通信」。

30 Bridge-to-bridge communications should be exchanged on VHF channel 13. Bridge-to-bridge communications are described as “Intership Navigation Safety Communications” in the Radio Regulations.

無線電紀錄

Radio records

31 應按照第 10、12、14、17 及 33 項之規定，在無線電日誌上作額外記錄。

31 Additional entries in the radio log should be made in accordance with paragraphs 10, 12, 14, 17 and 33.

32 可能時，對未經許可之發射及有害干擾事件，須予以辨認，記入無線電日誌，並根據無線電規則，連同一份適當的無線電日誌摘要提請主管機關注意。

32 Unauthorized transmissions and incidents of harmful interference should, if possible, be identified, recorded in the radio log and brought to the attention of the Administration in compliance with the Radio Regulations, together with an appropriate extract from the radio log.

蓄電池保養

Battery maintenance

33 為無線電裝置各部分提供電源之蓄電池，包括附有不能間斷電源之無線電裝置，係由經指派在遇險事故時負有無線電通信主要責任之無線電操作員負責。並應：

33 Batteries providing a source of energy for any part of the radio installation, including those associated with uninterrupted power supplies, are the responsibility of the radio operator designated as having primary responsibility for radiocommunications during distress incidents and should be:

- .1 每天進行帶負荷及不帶負荷之測試，並且在必要時，使其處於滿充的狀態；
- .1 tested on-load and off-load daily and, where necessary, brought up to the fully charged condition;
- .2 可行時，每週以比重計測試一次，或比重計如不能使用，得以適當之負載試驗測試之；
- .2 tested once per week by means of a hydrometer where practicable, or, where a hydrometer cannot be used, by a suitable load test; and
- .3 每月一次檢查每一蓄電池之可靠性及其接頭，及蓄電池之狀況及與其分隔室。
- .3 checked once per month for the security of each battery and its connections and the condition of the batteries and their compartment or compartments.

測試結果應記入無線電日誌。

The results of these tests should be recorded in the radio log.

第 5 部分 — 在港當值之準則

PART 5 – GUIDANCE ON WATCHKEEPING IN PORT

(無條文)

(No provisions)”

中英文用語及名詞對照表

A

Abilities	能力
Able Seafarer Deck	幹練水手
Able Seafarer Engine	幹練機匠
Acceptance	接受
Accession	加入
Administration	主管機關
Alternation Certificate	替代證書
Amendment	修正
Application	適用
ARPA-Automatic Radar Plotting Aids	自動測繪雷達
Assessment	評估、考核
Assessor	評審員
Assistance Engineer Officer	助理輪機員
Attesting	證明
Authorized	授權、奉命

B

BAC - Blood Alcohol Level	血液中酒精含量
BC Code- Safe Practice for Solid Bulk Cargoes	散裝固體貨物安全操作章程
Beaching	搶灘
Blind Pilotage Techniques	無目視資訊之航行技術

C

Code of Safe Practice for cargo stowage and Securing	貨物積載及繫固安全操作章程
Candidate	申請發證者
Capacity	職務
Cargo-handling and stowage	貨物裝載
Chemical Tanker	化學液體船
Chemical in Bulk	散裝化學品
Certificate	證書
Certificated	發證、持證
Chief Engineering Officer	輪機長
Chief Mate	大副
Conduct of Trial	試驗之實施

Communicate of Information	資料遞送
Competence	適任(性)
-Assessment of	適任性評估
-Standard of	適任標準
Control	管制
-Officer	管制官員
-Procedure	管制程式
Crisis Management and Human Behaviors	危機處理及行為管理
Criteria	標準
-for Evaluation Competence	適任性之評估標準

D

Dangerous Quadrants	危險象限
Deck	艙面
-Department	艙面部門
-Officer	航行員
Deficiency	不符合(缺失)
Demonstration	證據、證明、示範
Denunciation	退出
Deposite	存放
Dispensation	特許證
Dragging	走錨
Duty	職責
Dynamic Position System	動力定位系統

E

ECDIS- Electronic Chart Display and Information System	電子海圖顯示及資訊系統
Electro-technical Officer	電機員
Electro-technical Rating	電匠
Endorsement	加簽
Engineering Officer	輪機員
Entry into Force	生效
EPIRB- Emergency Position Indication Radio Beacon	應急指位無線電示標
Equivalent	同等
Evaluation	評估、評審
-of Competence	適任性評估

Evaluator	評審員
Examination	測驗、審查
-Database	測驗題庫
Exemption	豁免
Experience	經驗
-in service	在職經驗
-Training Ship	訓練船上經驗

F

Final Act	蔵事文件
Fire Fighting	滅火
Fire Prevention	防火
First - Class Radioelectronic Certificate	一等無線電電子員證書
Fitness for Duty	適於當值
Force Majeur	不可抗力
Founder	沈沒
Function	專長、功能

G

GMDSS- Global Maritime Distress and Safety System	全球海上遇險及安全系統
GOC-General Operator's Certificate	通用值機員證書
Gross Register Ton	登記總噸位
Grounding	擱淺
Guidance	指導、準則
Guideline	指南、準則

H

Hazardous Cargo	有害物質
Hazardous Goods	危險品
Headreach	船艙接近

I

IMDG Code- International Maritime Dangerous Goods Code	國際海運危險品章程
IMO- International Maritime Organization	國際海事組織
IMO Model Course	國際海事組織典型課程
INMARSAT	國際海事衛星組織

Instructor	講師
Interface	介面

L

Laboratory Equipment	實驗設備
Level	層級
-Management	管理級
-of Responsibility	責任層級
-Operational	操作級
-Support	助理級
Liquefied Gas Tanker	液化氣體船
Lookout	瞭望

M

Mandatory Minimum Requirements	強制性最低要求
Manual Scale Ship Model	人為操縱縮小船模
Marine Engineering	輪機
Maritime Safety Committee	海事安全委員會
Maritime Training	海事訓練
Master	船長
Medical	醫療、醫藥
-Care	醫護
-Examination	健康檢查
-First Aids	醫療急救
-Standard of Fitness	健康標準
MERSAR-Merchant Ship Search and Rescue Manual	商船搜救手冊
Method for Demonstrating Competence	適任性之證明方法
MFAG-Medical First Aid Guide for Use in Accidents	醫療急救指南
Monitoring	監督、監視、監管、監測

N

National Provisions	國家規定
Navigation	航海、航行
Near-Coast Voyage	近岸航程
Near/ Immediate Vision	近距離視力

<i>O</i>	
Officer	甲級船員
-Dual Purpose	雙專長甲級船員
-Polyvalent	多專長甲級船員
Oil Tanker	油輪
Organization	組織
Overriding Operational Condition	意外之操作狀況

<i>P</i>	
Party	締約國
Passage	航程、航道
Passenger	旅客
Performance of Competence	稱職
Performance Standard	性能標準
Person, Personnel	人員
Pilot	引水人
-Station	引水站
Position Fix	定位
Practical	實作
Practice	操作、實務
Professional Competence	稱職
Proficiency	熟練、專業
Propulsion Power	推進動力
Provision	規定

<i>Q</i>	
Qualification	適格、資格
-and Experience	資歷
Qualified	適格、合格
Quality	品質
-Control	品質管制
-Standards	品質標準

<i>R</i>	
Radio	無線電
-Duty	無線電職責

-Officer	無線電甲級船員
-Operator	無線電操作員
-Personnel	<u>無線電人員</u>
-Regulation	無線電規則
Radio Communications	無線電通信
Ratification	批准
Rating	乙級船員
-Polyvalent	多專長乙級船員
RCC-Rescue Coordination Centers	搜救協調中心
Real Time	即時
Recognition of Certificate	證書之認可
Registration	登記
Regulation	規則
Response	反應
Revalidation Of Certificates	證書重新生效
Review	評審
ROC-Restricted Operator's Certificate	限用值機員證書
RO/RO Ship	駛上／駛下船

S

IMO Standard Marine Communication Phrases	國際海事組織標準海事通信用語
SART- Search and Rescue Radar Transponder	搜救雷達詢答機
Sea- Going Ship	航行船舶
Seafarers	航海人員
Seagoing Service	海勤資歷
Second - Class Radiotelephone Certificate	二等無線電電子員證書
Second Engineering Officer	大管輪
Secretary General	秘書長
Ship Security Officer	船舶保全人員
Ships' Routing	船舶航路
Signature	簽署
Simulator	模擬機設施
Snellen Decimal Notation	史耐倫視力檢查表
Standard Marine Navigational Vocabulary	標準航海語彙
STCW Code- Seafarer's Training Certification and Watchkeeping Code	航海人員訓練、發證及當值章程

Stopping Distances	停止距離
Stranding	坐礁
Supervisor	監督員
Synoptic Chart	天氣圖

T

Tactic	策略
Tanker	液貨船
Traffic Separation Scheme	分道通航制
Training	訓練
-Crowed Management	群眾管理之訓練
-Familiarization	<u>熟悉訓練</u>
-in Service	在職訓練
-on Board	船上訓練
-Practice	實作訓練
-Special	特殊訓練
Transitional Provisions	過渡時期之規定

U

Unmanned Engine Room	無人值守機艙
UTC - Co-ordinated Universal Time	世界協調時
Upgrading	提升

V

Voyage	航程、航行、航次
VTS-Vessels Traffic Service	船舶交通服務

W

Watch	當值(班)
Watchkeeping	當值、守聽

附錄一

工作會議紀錄

採購案編號：MOTC-IOT-99-SDB015

採購案標的名稱：1978 年航海人員訓練發証及當值標準國際公約及其
修正案（2010 年中譯本）」

時間：99 年 12 月 8 日 10:00 時

地點：運輸研究所

出席者：陳組長一昌、洪憲忠、郭長齡、顧其新

記錄：顧其新

討論議題：有關本採購案之工作項目

主要結論：一、工作進度符合計畫預定進度。

二、期中簡報預定於 99 年 12 月 22 日 10:00 時舉行（相關
資料已送呈）

三、修正案中之修正部份擬使用紅色字體，惟其印刷費用
過高，改使用以加底線方式（如附件）標示，惟修正
定稿所提送之磁碟片仍保持紅色字體並加底線標示
修正部份。

附錄二

「MOTC-IOT-99-SDB015 1978 年航海人員訓練發証 及當值標準國際公約及其修正案(2010 年中譯本)」

期中報告審查意見暨答覆說明

出席單位及人員意見	答覆說明	運研所 審查意見
<p>一、國立台灣海洋大學船員訓練中心 林彬教授</p> <p>1.P.30 及各相關條文 a seagoing ship 航海船舶，建議翻譯成「航行船舶」。</p> <p>2.P.39 workshop skill training 機工技能訓練，建議翻譯成「工廠實務技能訓練」。</p> <p>3.P.53 advanced training 進修級，建議翻譯成「進階訓練」。</p> <p>4.P.55 closing hull openings 關閉船體開口，建議翻譯成「關閉船體對外通道」。</p> <p>5.P.125 landmarks 陸標，建議翻譯成「岸標」。</p> <p>6.P.126 Sailing directions 航路指南，建議翻譯成「航行指南」。</p> <p>7.P.128 及 P.150 blind pilotage 盲目導航，建議翻譯成「無導航資訊之航行」。</p> <p>8.P.130 true motion 絕對運動，建議翻譯成「真運動」。</p> <p>9.P.131 critical echoes, exclusion areas and trial maneuvers (沒有翻譯完整)。</p> <p>10.P.132 familiarity with the functions of ECDIS required by performance standards in force 熟悉生效中性能標準所要求之 ECDIS 功能，建議翻譯成「熟悉 ECDIS 之功能，應合於已生效之執行標準之要求」。</p> <p>11.P.149 application and intent 應用及企圖，建議</p>	<p>除下列項目外均已依照修正</p> <p>第 2 項 參考</p> <p>第 12 項 採用「幹練水手」及「幹練機匠」俾於旅行法規一致第 7 項「盲目導航」一詞有多種譯各意見●確定後修正。</p>	<p>同意。</p>

<p>翻譯成「應用及意義」。</p> <p>12.P.138 corrosions 腐蝕，建議翻譯成「銹蝕」。</p> <p>Able seafares deck，建議翻譯成「幹練水手或全能水手」。</p> <p>Able seafares engine，建議翻譯成「幹練機匠或全能機匠」。</p>		
<p>二、國立高雄海洋科技大學船員訓練中心</p> <p>楊春陵教授</p> <p>1.目錄部份建議增加頁碼的標示。</p> <p>2.格式（內文）建議條文標號之後內縮第二行起齊頭對齊。</p> <p>3.內文中所有用到「○」的部份皆有加粗(例如 P.7 第 1 行)，應是軟體版本的問題可予以改善。</p> <p>4.部份條文有錯別字如下：(疑義字)</p> <p>(1)Pi、Pii「葳事文件」之「葳」字，請再確定正確。</p> <p>(2)P.3 第 7 行 1....業為，建議改成「業由」。</p> <p>(3)P.4 甲級船員的定義並不完整。</p> <p>(4)P.5 15.主機械，建議翻譯成「主推進機械」(main propulsion machinery)。</p> <p>(5)P.6 25.光船，建議翻譯成「空船」(bareboat)。</p> <p>(6)P.7 電子技術員，建議翻譯成「電子技術師」。</p> <p>(7)P.15 1.3.3.2 靠泊，建議翻譯成「碇泊」(berth)。</p> <p>(8)P.21 3.尚應執有...之「尚」刪除。</p> <p>(9)P.23 6....提供他...，建議改成「其它」。</p>	<p>除下列項目外均已依照修正</p> <p>第 3 項 將予改正</p> <p>第 4(6)項 擬採用「電機師」</p>	<p>同意。</p>
<p>三、私立台北海洋技術學院航海系 林銘智教授</p> <p>表 A-II/1~A-II/5：</p> <p>1.Procedure 均使用程「式」，是否依原來程「序」較佳。</p>	<p>均已依照修正</p>	<p>同意。</p>

<p>2.The International Regulation for Preventing Collisions at Sea, 1972, as amended. 均「經修正 1972 年國際海上避碰規則」。是否使用：「1972 年國際海上避碰規則及其修正案」較佳。</p> <p>3.P.131 第 2 欄.5 重要回.....？（後面沒有文字說明）</p> <p>4.P.133</p> <p>(1)第 2 欄 .5 是否改成：調整適合當前狀況之設定值。</p> <p>(2)第 4 欄第 1 段第 4 行：...保持「始終以海員之方式」。刪除並移至第 2 段第 1 行前：「始終以海員之方式清晰與簡要之溝通並確認。」</p> <p>5.P.137 第 2 欄「遭受之知識與能力」，建議改成「遭受之損害與瑕疵知識與能力」。</p> <p>6.P.146 第 2 欄.7 大潮汐影響區域是否改成：「潮汐影響大的區域」。</p> <p>7.P.146 第 4 欄第 1 行...例舉該航「行」所需之設備，...改成航「次」較佳。</p> <p>8.P.151 第 2 欄.6...and 「track history functions」for...是否譯成：「航跡紀錄功能」較佳。</p> <p>9.P.159 第 2 欄.1...「證書及其他檔」，建議改成「證書及其他文件檔」較佳。</p> <p>10.P.160 第 2 欄</p> <p>(1).3「海事人命安全國際公約」有關...請修正為「海上人命安全國際公約」。</p> <p>(2).6：「國際檔」，建議改成「國際文件檔」為佳。</p> <p>11.P.135 第 2 欄第 2 列：Visual 「Signaling」，建議改成「Signalling」。</p> <p>12.P.183 第 4 欄「在操作者責任範圍內之語言溝</p>		
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<p>通始終成功」，請改為：「在操作者責任範圍內之語言能順利溝通」。</p> <p>13.P.184 第 2 欄</p> <p>(1).2 Pilot ladder「引水梯」是否譯為：「引水人繩梯」較佳。</p> <p>(2)第 4 欄 下方陰影區內容？</p> <p>14.P.187 第 2 欄第 22 行：...「使用手動面電動工具」，建議改成「使用手動與電動工具」。</p> <p>15.P.258 第 2 欄</p> <p>(1)第 5 行 貨物操作...至第 10 行有毒液體...中英內容請重新安排。</p> <p>(2)第 17 行英文：請刪除「Portable fire-fighting foamr fires」。</p>		
<p>四、長榮船員訓練中心 林沛樵主任</p> <p>1.有關船員名詞的中譯，宜以船員法及船員服務規則為參考。</p> <p>2.中譯用詞宜尋求前後一致。如「專長」取代「功能」。</p> <p>3.章程 A 篇第 6 章（A-VI）共六節的「強制性最低標準」與「最低適任標準規範」尚未列入此中譯本。</p> <p>4.章程 A 篇第七及第八章（A-VII&A-VIII），也尚未列入此中譯本。</p> <p>5.P.30（5.2）與 P.39（2.2）之「譯意」應保持一致。</p> <p>6.P.43 第 7 行「功能」宜由「專長」代替以符合定義。</p> <p>7.保安員依定義取代 P.59 等之「保安甲級船員」。</p>	<p>均已依照修訂並參考國內航政法規名詞統一翻譯</p> <p>第 7 項依現行法規修正為「保全人員」</p>	<p>同意。</p>
<p>五、中華航業人員訓練中心 薛來弟主任</p> <p>1.為充實乙級船員之最低適任標準規範。建請增設相關教具等設備，以利提昇助理級船員學習</p>	<p>依照辦理</p>	<p>同意。</p>

<p>方式。同時，也俾使船員適任標準符合國際規定及要求。</p> <p>2.有關 2010 年修正案中，中英譯文各類名稱宜採用統一文字來顯示。</p>		
<p>六、交通部航政司船員科 陳翠華科長</p> <p>1. STCW 2010 年修正案仍應以英文為辦理依據，但為利相關單位參考，本案確有執行之必要性。茲本報告係採中英條文對照，爰建議於報告封面註明中譯若有不完整或未盡妥善之處，仍應以英文版為依據之相關文字(至於文字修辭部分，請研究單位再酌)。</p> <p>2.教育部目前已委託國立高雄海洋科技大學辦理「STCW 2010 新公約對我國海事教育的衝擊與因應策略之研究」案。計畫目標包括規劃公約新增適任能力課程教學內容、建立課程標準、專業進階訓練項目與訓練內容等，屆時本報告可提供該校參考。</p> <p>3.STCW 2010 年修正案對海事教育、船員及船公司均造成衝擊，目前航政司配合辦理事項部分，初步已將 STCW95 公約與 2010 年公約作一對照，相信國內海事校院航海輪機系科及船員訓練機構已開始規劃因應。日後若涉及船員專業訓練課程之新增或修正，亦請上開單位多予協助。</p> <p>4.本報告相關專有名詞定義，請依目前船員法及其子法已規範之用詞。另中譯表達儘以淺顯易懂及配合航政監理實務運作之方式辦理；至涉及前後各條款次英文版內容一致時，其前後中譯呈現方式亦應相同。</p> <p>5.本報告審查意見，分述如下：</p> <p>(1)p.4(規則 I/1 第 1.7 項)：「輪機員」指依本公</p>	<p>均已依照修正或統一用詞</p>	<p>同意。</p>

<p>約規則 III/1、III/2 或 <u>III/1</u> 規定取得資格之甲級船員，修正為「輪機員」指依本公約規則 III/1、III/2 或 <u>III/3</u> 規定取得資格之甲級船員。</p> <p>(2) p.7(規則 I/1 第 1.28 項)：「船舶<u>保安員</u>」指由公司...，修正為「船舶<u>保全人員</u>」指由公司...；並請再全面檢視本報告內容後，配合修正。</p> <p>(3) p.7(規則 I/1 第 1.30 項)：「<u>熟練證書</u>」指除適任證書外，...修正為「<u>專業訓練證書</u>」指除適任證書外，...；並請再全面檢視本報告內容後，配合修正。</p> <p>(4) p.7(規則 I/1) & p.230(A-III/6 節)：規則 I/I 第 1.32 項「<u>電子技術員</u>」依本公約規則...與 p.230 第 A-III/6 節「<u>電機師</u>發證之強制性最低要求」，其前後表達方式不一致，請統一名詞，並請再全面檢視本報告內容後，配合修正。</p> <p>(5) p.8(規則 I/1) & p.243(A-III/7 節)：規則 I/I 第 1.35 項「<u>電子技匠</u>」依本公約規則...與 p.243 第 A-III/7 節「<u>電匠</u>發證之強制性最低要求」，其前後表達方式不一致，請統一名詞，並請再全面檢視本報告內容後，配合修正。</p> <p>(6) p.9(規則 I/1 第 3 項)：本公約第 VI 條所述之「主管<u>官署</u>」或「發證主管<u>官署</u>」修正為本公約第 VI 條所述之「主管<u>機關</u>」或「發證主管<u>機關</u>」，並請再全面檢視本報告內容後，配合修正，以配合國內航政相關法規。</p> <p>(7) p.30(規則 II/1 第 2.2 項)：「具有至少<u>十二</u>個月...；或具有有至少<u>三十六</u>個月...」修正為</p>		
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- 「具有至少 12 個月...；或具有至少 36 個月...」。另 p.34 規則 II/3 第 4.2.2 「至少三十六個月...」併請修正為「至少 36 個月...」，並請再全面檢視本報告內容後，配合修正。
- (8) p.31(規則 II/1 第 2.5 項及第 2.6 項)：第 2.5 項「...，並且符合 STCW 章程第 A-II/1 節所述之適任標準」，及第 2.6 項「符合 STCW 章程 A-II/1 節 第 2 項...」，涉及章程節次表達建議一致性。另 p.34 規則 II/3 第 5 項「符合 STCW 章程 A-VI/1...」、p.40 規則 III/1 第 4 項併請修正；同時請再全面檢視本報告內容後，配合修正。
- (9) p.31(規則 II/2 第 2.1 項)：為文字表達更為順暢，建議「符合在總噸位 500 以上船舶負責航行當值甲級船員之發證要求，並具有在該職務之認可海勤資歷：」後段文字，修正為「...，並具有認可該職務之海勤資歷：」。
- (10) p.32(規則 II/2 第 3 項)：「凡在總噸位 500 至 3000 船舶之船長及大副，應持有適任之證書」修正為「凡在總噸位 500 至 3000 船舶之船長及大副，應持有適任證書」。
- (11) p.33(規則 II/3 第 2 項)：「凡在總噸位未滿 500 但非從事近岸航程...之適當證書」修正為「凡在總噸位未滿 500 但非從事近岸航程...之適任證書」。
- (12) p.33(規則 II/3 第 4 項)：「凡申請簽發在總噸位未滿 500...，每位負責航行當值之航行員證書者應：」修正為「凡申請簽發在總噸位未滿 500...，負責航行當值之航行員證書者應：」。
- (13) p.34(規則 III/6 第 2.2 項)：「業已完成不少

於 12 個月之...，及經認可不少 6 個月之海勤資歷，」修正為「業已完成至少 12 個月之...，及至少 6 個月经認可之海勤資歷，」。

(14) p.35(規則 II/4-標題) & p.37(規則 II/5 第 2 項)：規則 II/4-標題「構成航行當值一部分乙級船員發證之強制性最低要求」修正為「構成航行當值一部分之乙級船員發證之強制性最低要求」。規則 II/5 第 2 項「符合構成航行當值一部分乙級船員發證之要求：」修正為「符合構成航行當值一部分之乙級船員發證之要求：」，並請再全面檢視本報告內容後，配合修正。

(15) p.35(規則 II/4 第 1 項) & p.42(規則 III/4 第 1 項)：規則 II/4 第 1 項「...，除非接受訓練之乙級船員及在當值時其職責屬非技術性之乙級船員外，應經適當發證以執行該職責。」、規則 III/4 第 1 項「主機推進動力...或指派在無定期無人值守機艙凡在執行職責之乙級船員，除正在接受經訓練之乙級船員及其職責屬非技術性之乙級船員外，應適當發證以執行此職責。」，該 2 項英文寫法一致性，但中譯版本不同，建議前後統一。另規則 III/4 第 1 項「凡在」應屬贅字，建議刪除；「應適當發證...」建議修正「應經適當發證...」。並請再全面檢視本報告內容後，配合修正。

(16) p.37(規則 II/5 第 3 項) & p.43(規則 III/5 第 3 項)：規則 II/5 第 3 項「在有資格擔任構成航行當值一部分之乙級船員之同時，具有認可之艙面海勤資歷：」、規則 III/5 第 3 項「具有資格承擔輪機當值一部分之乙級

<p>船員，<u>並具有下列認可之輪機部門海勤資歷</u>：」，該 2 項英文寫法一致性，但中譯版本不同，建議前後統一。並請再全面檢視本報告內容後，配合修正。</p> <p>(17) p.37(規則 II/5 第 3.3.1 項及第 3.3.2)：規則 II/5 第 3.3.1 項「<u>少於</u> 18 個月；或」、第 3.3.2 項「<u>少於</u> 12 個月並已完成認可之訓練；及」，修正為規則 II/5 第 3.3.1 項「<u>至少</u> 18 個月；或」、第 3.3.2 項「<u>至少</u> 12 個月並已完成認可之訓練；及」(※not less than 之中譯文字請統一)，並請再全面檢視本報告內容後，配合修正。</p> <p>(18) p.37(規則 II/5 第 6 項) & p.44(規則 III/5 第 4 項) & p.45(規則 III/6 第 4 項)：規則 II/5 第 6 項「航海人員如在<u>本條規則於其締約國生效前之</u> 60 個月內已在艙面擔任相關之職務<u>不少於</u> 12 個月，<u>得經締約國認為業已符合本條規則之規定。</u>」、規則 III/5 第 4 項「<u>如航海人員在本規則對其締約國生效之日前</u> 60 個月內，<u>即已在輪機部門有關之職位服務不少於</u> 12 個月，<u>則該員得為該締約國認為業已符合本規則之規定，...</u>」、規則 III/6 第 4 項「<u>如航海人員在本規則對其締約國生效之日前</u> 60 個月內，<u>即已在船上有關之職位服務不少於</u> 12 個月，<u>則該員得為該締約國認為業已符合本規則之規定，...</u>」，該 3 項英文寫法一致性，但中譯版本不同，建議前後統一。</p> <p>(19) p.39(規則 III/1 第 2.2 項)：「業已完成...，其中<u>不少於</u> 30 個月」修正為「業已完成...，其中<u>至少</u> 30 個月」。(※not less than 之中</p>		
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譯文字請統一)，並請再全面檢視本報告內容後，配合修正。

- (20) p.39(規則 III/1 第 2.3 項) & p.30(規則 II/1 第 2.3 項)：規則 III/1 第 2.3 項「在海上服務期間，在輪機長或有資格之輪機甲級船員監督下，執行為期不少於 6 個月之輪機當值班任務；」、規則 II/1 第 2.3 項「在所要求之海勤期間，在船長或合格甲級船員之監督下執行駕駛台當值職責至少六個月，」，該 2 項英文寫法一致性，但中譯版本不同，建議前後統一。並請再全面檢視本報告內容後，配合修正。
- (21) p.41(規則 III/3 第 2.1.1.1 項 & 第 2.1.1.2 項)：規則 III/3 第 2.1.1.1 項「...應至少具有 12 個月之助理輪機員...」修正為「...應具有至少 12 個月之助理輪機員...」、規則 III/3 第 2.1.1.2 項「...應至少具有 24 個月認可之海勤資歷，其中至少有 12 個月係擔任大管輪之職位；及」修正為「...應具有至少 24 個月認可之海勤資歷，其中至少有 12 個月係擔任大管輪之職務；及」。
- (22) p.45(規則 III/6 第 5 項) & p.47(規則 III/7 第 5 項)：規則 III/6 第 5 項「前述 1 至 4 項縱有規定，已具適當資格之人員，仍得為締約國所認可，能執行 A-III 節之部分功能。」、規則 III/7 第 5 項「前述 1 至 4 項縱有規定，已具適當資格之人員，仍得為締約國所認可，能執行 A-III 節之部分功能。」，該 2 項「縱」字及「部分功能」乙詞係指為何？請再釐清確認。

- (23) p.50(規則 V/1-1 第 1 項)& p.52(規則 V/1-2

第 1 項)：規則 V/1-1 第 1 項「...經指派擔負與液貨或液貨設備...」、規則 V/1-2 第 1 項「...經指派擔負與貨物或貨物設備...」，該 2 項文字請統一。

- (24) p.50(規則 V/1-1)：第 2.1 項「...，並符合章程 A-VI/1-1」修正為「...，並符合章程 A-V/1-1」。第 2.2 項「...，並符合章程 A-VI/1-1」修正為「...，並符合章程 A-V/1-1」。第 3 項「...，應持有進修級油輪油貨操作證書」修正為「...，應持有油輪貨物操作進階訓練證書」。第 4 項「凡申請進修級油輪油貨操作證書者應：」修正為「凡申請油輪貨物操作進階訓練證書者應：」。第 4.2 項「輪與化學液體船...」修正為「油輪與化學液體船...」。第 4.2.1「認可油輪海勤資歷至少 3 個月；或」修正為「至少 3 個月認可之油輪海勤資歷；或」。第 4.2.2「少 1 個月參照...」修正為「至少 1 個月參照...」。第 4.3 項「...，並符合章程 A-VI/1-1...」修正為「...，並符合章程 A-V/1-1...」。第 5 項「...，應持有進修級化學液體船液貨操作證書」修正為「...，應持有化學液體船貨物操作進階訓練證書」。第 6 項「凡申請進修級化學液體船液貨操作證書者應：」修正為「凡申請化學液體船貨物操作進階訓練證書」。第 6.2.1 項「認可化學液體船海勤資歷至少 3 個月；或」修正為「至少 3 個月認可之化學液體船海勤資歷；或」。第 6.3 項「業已完成認可之進修級化學液體船操作訓練」修正為「業已完成認可之化學液體船貨物操作進

階訓練」。第 7 項「主管官署...簽發熟練證書...」修正為「主管機關...簽發專業訓練證書...」，並請再全面檢視本報告內容後，配合修正。

(25) p.53-p.54(規則 V/1-2)：第 2.1 項「在液化氣體船至少三個月認可之海勤資歷，並符合 STCW 章程 A-VI/1-2...」修正為「至少 3 個月認可之液化氣體船海勤資歷，並符合 STCW 章程 A-V/1-2...」。第 2.2 項「經認可之液化氣體船基本訓練，並符合 STCW 章程 A-VI/1-2...」修正為「經認可之液化氣體船貨物操作基本訓練，並符合 STCW 章程 A-V/1-2...」。第 3 項「...，應持有進修級液化氣體船貨物操作證書。」修正為「...，應持有液化氣體船貨物操作進階訓練證書。」。第 4 項「請進修級液化氣體船貨物操作證書者應：」修正為「凡申請液化氣體船貨物操作進階訓練證書者應：」。
第 4.3 項「化氣體船貨物操作基本訓練...」修正為「液化氣體船貨物操作基本訓練...」。第 4.2.1 項「可液化氣體船海勤資歷至少 3 個月；或」修正為「至少 3 個月認可之液化氣體船海勤資歷；或」。4.2.2 項「少 1 個月...」修正為「至少 1 個月...」。
第 3 項「已完成認可之進修級液化氣體船貨物操作訓練，並符合 STCW 章程 A-VI/1-2...」修正為第 5 項「已完成認可之液化氣體船貨物操作進階訓練，並符合 STCW 章程 A-V/1-2...」。第 5 項「官署...簽發熟練證書，...或熟練證書...」修正為第 6 項「主管機關署...簽發專業訓練證

書，...或專業訓練證書...」。並請再全面檢視本報告內容後，配合修正。

(26) p.54(規則 V/2): 第 2 項「...第 4 至第 8 項...」修正為「...第 4 至第 7 項...」。第 5 項「...，應已完成 STCW 章程第 A-V/2 節第 3 項...」修正為「...，應已完成 STCW 章程第 A-V/2 節第 2 項...」。並請再全面檢視本報告內容後，配合修正。

(27) p.57(規則 VI/1): 有關標題「所有航海人員...基本安全訓練與指導...」之英文版未訂有 safety，請再確認；另第 2 項「...未包基本訓練」之中譯版亦未有“安全”用詞。同(第 2)項「...並未包基本訓練時，應簽發熟練證書，...」，修正為「...並未包含基本訓練時，應簽發專業訓練證書，...」。並請再全面檢視本報告內容後，配合修正。

(28) p.58(規則 VI/2): 第 3 項「...之熟練救生艇、救難艇適任證書之標準。」修正為「...之救生艇、救難艇專業訓練證書之適任標準。」。

(29) p.58(規則 VI/3): 標題「進修級滅火訓練之強制性最低要求」修正為「進階滅火訓練之強制性最低要求」。第 1 項「...滅火進修級技術訓練...」修正為「...進階滅火訓練...」。第 2 項「...並未包含有進修滅火訓練時，應簽發熟練證書，...已參加進修級滅火訓練課程。」修正為「...並未包含進階滅火訓練時，應簽發專業訓練證書，...已參加進階滅火訓練課程。」。

(30) p.59(規則 VI/5): 標題「簽發船舶保安甲級船員熟練證書之強制性最低要求」修正

為「簽發船舶保全人員專業訓練證書之強制性最低要求」。第 1 項「凡申請船舶保安甲級船員熟練證書者應：」修正為「凡申請船舶保全人員專業訓練證書者應：」。另第 1.2 項中英文對照請調整。第 1.2 項「...熟練為船舶保安甲級船員證書之適任標準」修正為「...船舶保全人員專業訓練證書之適任標準」。(備註：p.7「船舶保安員」乙詞是否須一併修正為「船舶保全人員」，請再確認。)

(31) p.122(第 A-II/1 節)：標題「總噸位 500 以上...」修正為「在總噸位 500 以上...」。第 1 項「凡擬申請發證者應：」修正為「凡申請發證者應：」。並請再全面檢視本報告內容後，配合修正。(註明：本報告是否須全面增列”在”字，請再確認。)

(32) p.122(第 A-II/1 節第 1.1 項) & p.144(第 A-II/2 節第 1 項) & p.164 (第 A-II/3 節 1.1 項)：第 A-II/1 節第 1.1 項「被要求證明其能力承擔...」、第 A-II/2 節第 1 項「...，應要求其證明承擔...」、第 A-II/3 節第 1.1 項「...，被要求其能力能承擔...」，該 3 項中文表達建議前後一致。

(33) p.122(第 A-II/1 節第 1.2 項) & p.164(第 A-II/3 節第 1.2 項)：第 A-II/1 節第 1.2 項「至少持有依據無線電規則所要求之適當證書以執行特高頻無線電通信；及」、第 A-II/3 節第 1.2 項「至少持有適當證書以執行依據無線電規則所要求之特高頻無線電通信；及」，該 2 項中文表達方式請再確認釐清，並前後一致性。

- (34) p.123(第 A-II/1 節第 2.4 項) & p.145(第 A-II/2 節第 6 項) & p.165(第 A-II/3 節第 4 項) & p.189(第 A-III/1 節/適任標準/第 6 項)：第 A-II/1 節第 2.4 項「為達成...，並應考慮及本部分...之指導。」、第 A-II/2 節第 6 項「為達到...及本篇...之準則」、第 A-II/3 節第 4 項「為達到...及本部分...之準則」、第 A-III/1 節/適任標準/第 6 項「達到...及本部分...之準則」，該 4 項中文表達方式請再確認釐清，前後一致性。
- (35) p.123(第 A-II/1 節第 5 項) & p.145(第 A-II/2 節第 7 項) & p.165(第 A-II/3 節第 5 項) & p.177(第 A-II/4 節第 3 項) & p.180(第 A-II/5 節第 3 項)：第 A-II/1 節第 5 項「凡申請發證者應要求其依...」、第 A-II/2 節第 7 項「應要求每位申請發證者依...」、第 A-II/3 節第 5 項「凡申請發證者應要求其依...」、第 A-II/4 節第 3 項「應要求每位申請發證者依...」、第 A-II/5 節第 3 項「應要求每位申請發證者依...」，該 5 項中文表達方式請再確認釐清，前後一致性。
- (36) p.123(第 A-II/1 節第 6 項) & p.165(第 A-II/3 節第 6 項)：A-II/1 節第 6 項「凡申請發證為總噸位...」、第 A-II/3 節第 6 項「申請發證之申請人在總噸位...」，該 2 項中文表達方式請再確認釐清，前後一致性。
- (37) p.123(第 A-II/1 節第 6.1 項) & p.165(第 A-II/3 節第 6.1 項) & P.188(第 A-III/1 第 2.1 項)：A-II/1 節第 6.1 項「確保申請發證者在海勤期間，...所述之準則，在負責當值航行員之...」、第 A-II/3 節第 6.1 項「確保

<p><u>申請發證者在要求之海勤期間，...所列...在負責航當值甲級船員之...」、第 A-III/1 第 2.1 項「確保申請發證者，在海勤期間，.....」，該 3 項中文表達方式請再確認釐清，前後一致性。</u></p> <p>(38) p.134(第 2 欄)：「應急程<u>式</u>」修正為「應急程<u>序</u>」。</p> <p>(39) p.136(第 2 欄)：「3.救助落水人員之操縱及程<u>式</u>」修正為「3.救助落水人員之操縱及程<u>序</u>」。</p> <p>(40) p.137(第 2 欄)：「<u>闡述何處尋找由於下列最常遭受之知識與能力</u>」：係指何義？請再釐清確認。</p> <p>(41) p.139(第 3 欄)：「2.認可之<u>實習船</u>訓練」是否更正為「訓練船」，若是，請再全面檢視本報告內容後，配合修正。</p> <p>(42) p.141(第 1 欄) & p.142(第 1 欄)：「領導與統<u>禦</u>技巧之運用」修正為「領導與統<u>御</u>技巧之運用」。</p> <p>(43) p.142(第 2 欄) & p.162(第 2 欄)：「3.所作決策反映<u>遵</u>重團隊之經驗」修正為「3.所作決策反映<u>尊</u>重團隊之經驗」。</p> <p>(44) p.143(第 2 欄)：「人員求生技<u>術</u>之知識」修正為「人員求生技<u>能</u>之知識」。</p> <p>(45) p.145(第 A-II/2 節第 8 項)：「主管<u>官署</u>...」修正為「主管<u>機關</u>...」。</p> <p>(46) p.165(第 A-II/3 節第 6.2 項)：「在其執行認可之...適<u>格</u>甲級船員...」修正為「在其執行認可之...適<u>任</u>甲級船員...」。</p> <p>(47) p.177(第 A-II/4 節第 1 項)：「在總噸位 500 以上...之乙級船員<u>應要求其證明承擔</u>...之</p>		
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<p>助理級及航行專長之能力」修正為「<u>凡在總噸位 500 以上...之乙級船員，應要求其證明能承擔...之助理級航海專長之能力。</u>」。</p> <p>(48) p.178(第 1 欄)：「操舵並符合舵令(並包括...)」修正為「操舵並符合舵令(包括...)」。</p> <p>(49) p.179(第 2 欄)：「接班、值班及交班程<u>式</u>基本之環境保護程<u>式</u>」修正為「接班、值班及交班程<u>序</u>基本之環境保護程<u>序</u>」。</p> <p>(50) p.180(第 A-II/5 節)：「艙面部幹練水手發證之強制性最低要求<u>艙面幹練水手</u>」修正為「艙面部幹練水手發證之強制性最低要求」。</p> <p>(51) p.180(第 A-II/5 節第 1 項)：「凡在總噸位 500 以上...之艙面幹練水手<u>應要求其證明承擔...之助理級專長之能力。</u>」修正為「凡在總噸位 500 以上...之艙面幹練水手，<u>應要求其證明能承擔...之助理級。</u>」。</p> <p>(52) p.182(第 2 欄)：「3....程<u>式</u>與事件順序」修正為「3....程<u>序</u>與事件順序」、「4.在各種...程<u>式</u>」修正為「4.在各種...程<u>序</u>」；「相關繫泊...程<u>式</u>與」修正為「相關繫泊...程<u>序</u>與」。</p> <p>(53) p.184(第 2 欄)：「下列程<u>式</u>與...」修正為「下列程<u>式</u>與...」。「2...引水梯...」係指為何？「一舢水」之”舢”字，請再確認。</p> <p>(54) p.188(A-III/1 第 1 項)：「規則 III/1 節第 <u>2.3</u> 項」修正為「規則 III/1 節第 <u>2.4</u> 項」。</p> <p>(55) p.188 船上訓練(Onboard training)與 p.123 「在船訓練(Onboard training)」，用詞請統</p>		
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<p>一，並全面檢視。</p> <p>(56) p.189(A-III/1 節/適任標準/第 1 項):「凡申請...之<u>工作</u>、職責及責任之能力。」是否修正為「凡申請...之<u>任務</u>、職責及責任之能力。」，請再確認。</p>		
<p>七、交通部運輸研究所 洪憲忠研究員</p> <ol style="list-style-type: none"> 1.建議於期末報告初稿附錄補入專有名詞之中英對照表。 2.請合作單位參考委員及機關代表意見，於期末報告初稿前確實完成修正作業。 3.請將「期中報告審查會」之意見回覆表，填報本所審查後，再併入報告附錄。 <p>捌、主席結語：</p> <ol style="list-style-type: none"> 1.前後翻譯不一之問題，請於期末報告初稿完成檢查修正。 2.請合作單位依據期中報告審查意見，研提處理情形並列表答覆意見。 3.本期中報告審查通過。 	遵照辦理	同意。

附錄三

「MOTC-IOT-99-SDB015 1978 年航海人員訓練發証 及當值標準國際公約及其修正案(2010 年中譯本)」

期末報告審查意見暨答覆說明

出席單位及人員意見	答覆說明	運研所 審查意見
<p>一、國立台灣海洋大學船員訓練中心 林彬教授</p> <p>1.新增名詞中，若交通部已頒布使用者，應以交通部為主，例如：</p> <p>Security→保全</p> <p>Advanced fire fighting→進階滅火</p> <p>Medical first aid→醫療急救</p> <p>Ro-Ro passenger ship→駛上駛下客船</p> <p>2.教育部目前對 Training ship 係稱訓練船</p> <p>3.P.214 .6 國際檔→國際法令文件</p> <p>4.P.378 .3 在“ ”部→在艙底部</p> <p>5.P.146 .6 Vessel Traffic Services 船舶交通服務 (P.596 即為正確)</p> <p>6.P.272 「一般適用立工業準則」，建議改成「一般適用之工業準則」。</p>	均已依照修正。	同意。
<p>二、國立高雄海洋科技大學船員訓練中心 楊春陵教授</p> <p>1.下列名詞建議如下：</p> <p>(1)Electro-technical officer→“電技師”</p> <p>(2)Electro-technical rating→仍沿用“電匠”</p> <p>(3)Able Seafarer deck→幹練水手</p> <p>(4)Able Seafarer Engine→幹練機匠</p> <p>(5)Training Ship→訓練船</p> <p>2.建議交通部定期檢視此次的版本，在一段時間使用後再次檢視內容以求完善。</p>	<p>一、名詞及語句之排列因有不同審查意見如 1(1)「電技師」一詞已定為「電機員」。</p> <p>二、餘均已依照修正。</p>	同意。
三、私立台北海洋技術學院航海系 林銘智教授	一、第四項仍採用「經	同意。

<p>1.P.125 第 4 欄：中文第 1 段第 3 行末：「認出」建議改為「辨識」。</p> <p>2.P.126 第 2 欄：中文第 1 段第 2 行：「航行通告」建議與教科書一致為：「航船佈告」。</p> <p>3.P.129 第 2 欄第 2 行 .3 racons 建議譯為「雷桿」。</p> <p>4.P.128 第 2 欄第 2 段：「經修正 1972 年國際海上避碰規則」。建議譯為：「1972 年國際海上避碰規則及其修正案」。</p> <p>另：本文中有關國際公約或規則均請參考本建議。</p> <p>5.P.137 第 2 欄第 2 列：</p> <p>中文第 2 行：「最常遭受之知識與能力」。建請改譯為「最常遭受損害與瑕疵之知識與能力」。</p> <p>6.P.146 第 3 欄中文最後一行：船舶規格「表」（Ship particulars）。建議加入「」內容。</p> <p>7.P.169 第 4 欄第 5 段...與觀測「試」係精確...，建議「」之試字刪除。</p> <p>8.P.184 第 4 欄第 4 段建議改譯為：「展示纜繩、鋼索、繩索及鏈索之適當操作方法」。</p> <p>9.P.260 第 2 欄 .9 Slop 污水，建議改譯為「污水水」。</p> <p>10.P.258 第 2 欄第 4 項： Portable fire-fighting foam fires，建議改譯為：「可用輕便泡沫滅火器滅火之火災」。</p> <p>11.P.262 第 1 欄第 2 列：Familiarity 「精通」，建議：「」內容改譯為「熟悉度」。即「精通油貨之物理與化學性質」，建議改譯為「對油貨之物理與化學性質之熟悉度」。</p> <p>另本文中之「Familiarity」中譯均請全面修正。</p> <p>12.P.264 第 4 欄第 3 段 isolation procedures，建議改譯為「隔離程序」。</p>	<p>修正 1972 年國際海上避碰規則」。</p> <p>二、餘均已依照修訂。</p>	
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<p>13.P.265 第 2 欄建議改譯為「對防止船舶污染國際公約（MARPOL）及其修正案之規定，及其他有關國際海事組織之文書、一般適用之工業準則與港口規則之知識與瞭解」。</p> <p>14.P.267 第 2 欄.16 污水管理，建議改譯為「污水水管理」。</p> <p>15.同前項.16 第 2 段：建議改譯為「對液體船安全素養與安全管理之執行均能熟練」。</p> <p>16.P.279 第 2 欄第 1 列第 3 段建議改譯為「用以撲滅液化氣火災之滅火劑」。</p> <p>17.P.310 第 2 欄第 2 段：Appreciation 鑑識，建議改譯為「瞭解」。</p> <p>18.P.378 .3 slop tank 污油艙，建議改譯為「污油水艙」。</p>		
<p>四、長榮船員訓練中心 林沛樵主任</p> <p>1.重要術語之建議：</p> <p>(1)原文：Blind Pilotage Planning 現譯：盲目導航之計畫 建議：電子航儀導航計畫或非目視導航計畫</p> <p>(2)原文：Ship Security 現譯：船舶保安 建議：船舶保全</p> <p>(3)原文：Advanced Training 現譯：進修級訓練 建議：進階級訓練</p> <p>(4)原文：Electro-Technical Officer 現譯：電機師 建議：電子技術員</p> <p>(5)原文：Electro-Technical Rating 現譯：電匠 建議：電子技術匠</p>	<p>一、第 1(1)「盲目導航」已定為「無目視資訊之航行」。</p> <p>二、第 1(4)已定為「電機員」、(5)已定為「電匠」。</p> <p>三、第 1(8)「網格式電子海圖」已定為「影像式海圖」。</p> <p>四、餘均依照修正。</p>	<p>同意。</p>

<p>(6)原文：Practical Training 現譯：實際之訓練 建議：實作訓練</p> <p>(7)原文：Troubleshooting 現譯：瑕疵探測 建議：故障排除</p> <p>(8)原文：Raster electronic charts 現譯：電視銀幕電子海圖 建議：網格式電子海圖</p> <p>(9)原文：Gyro north 現譯：迴轉儀北 建議：電羅經北</p> <p>2.重要術語，句意及編輯之建議：</p> <p>(1)P.9 規則 I/2 1、P.10、P.12「可靠性」修訂為「確實性」。</p> <p>(2)P.18 規則 I/7 1 刪除「各締約國應將 STCW 章程可能要求的，」。</p> <p>(3)P.23 規則 I/11 1 刪除「正」...。</p> <p>(4)P.39 規則 III/1 .1 刪除「責」。</p> <p>(5)P.44 規則 III/5 4、P.45 規則 III/6 4「位」修訂為「務」。</p> <p>(6)P.50 規則 V/I-1 3 及 P.53 規則 V/1-2 3「立即」修訂為「直接」。</p> <p>(7)P.55 規則 V/2 .7 增「駛上/駛下」客船，「立即」修訂為「直接」。</p> <p>(8)P.57 及 P.58 規則 VI/2 刪除「熟練」增列「專業訓練」證書。</p> <p>(9)P.59 規則 VI/5 1 刪除「之熟練」修訂「船舶保全員專業訓練」證書。</p> <p>(10)P.66 規則 VIII/1 .1 及 .2「職責」修正為「當值」。</p>		
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<p>(11)P.97 第一部份：刪除「一九九八年八月一日之前，或」及「以對有關締約國為遲者為準」及「名稱、通信地址、電話、傳真號碼以」修訂為「聯絡細節」。</p> <p>(12)P.113 第 A-I/11 節 3.1.「以往之五年中」修訂為「過去五年內」。</p> <p>(13)P.132 第 1 欄刪除「應反應...證書中」及第 4 欄「通過...溝通並確認」。</p> <p>(14)P.137 第 4 欄補原文。</p> <p>(15)P.143 第 4 欄「設計」修訂為「指定」，「配合」修訂為「依據」。</p> <p>(16)P.151 第 2 欄「外貌」修訂為「配置」。</p> <p>(17)P.162 第 4 欄「通信能...」修訂為「清晰及明確的溝通」。</p> <p>(18)P.176 及 P.202 第 4 欄「設計」修訂為「指定」。「配合」修訂為「依據」。</p> <p>(19)P.179 第 4 欄「當值資料或」修訂為「當值資訊或指示」。</p> <p>(20)P.181「舵令」修訂為「命令的」、「實際」修訂為「實作」。P.182、P.183、P.185、P.187、P.225、P.227、P.228、P.229、P.244、P.246、P.247 及 P.248「實際」修訂為「實作」。</p> <p>(21)P.211「瑕疵探測」修訂為「故障排除」。</p> <p>(22)P.266、P.273、P.281「進修級訓練」修訂為「進階級訓練」。</p> <p>(23)P.314 A-VI/2、P.572 B-VI/2 修訂為「救難艇專業證書」。</p> <p>(24)P.325 A-VI/3、P.327 表 A-VI/3「進修」修訂為「進階」。</p> <p>(25)P.346、P.348、P.349 第 1 欄修訂為「保全</p>		
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<p>威脅之認知」。</p> <p>(26)P.411、P.415「依據經一九九五年」刪除修訂為「經」。</p> <p>(27)P.464「習題」修正為「練習」。</p> <p>(28)P.465 48 .1「向量與電視銀幕間之不同」修訂為「向量式與影像式之不同」及 P.466 .4「向量與電視銀幕電子海圖」修訂為「向量式與影像式電子海圖」。</p> <p>(29)P.467 9.9.3「調整」修訂為「座標」。</p> <p>(30)P.468 .8 及 P.471「迴轉儀」修訂為「電羅經」。</p> <p>(31)P.532 B-V/1 節「立即」修訂為「直接」。</p> <p>(32)P.7、P.15、P.24、P.28、P.60、P.66、P.67、P.68、P.93、P.301、P.335、P.336、P.337、P.338、P.339、P.340、P.341、P.342、P.343、P.344、P.356、P.573、P.574、P.575、P.578、P.581「保安」修訂為「保全」。</p>		
<p>五、中華航業人員訓練中心 薛來弟主任</p> <p>1.P.7 第 1.32 項「電子技術員」和 P.230 第 A-III/6 節電機師 Electro-technical officer 前後英譯中不一致，建議修正為「科電技術師」較符合英文字意。</p> <p>2.P.8 第 1.35 項電子技匠和 P.243(A-III/7)電匠 Electro Technical Rating 前後英譯中不一致，建議修正為「科電技匠」。</p> <p>3.P.128 和 P.150「Blind Pilotage」、P.30「航海船舶」、P.6 .25「光船」……等等。以上係於期中報告各委員所建議英譯中不一致之問題，尚有少部份可能未達共識或遺漏，請再審查修正作業。</p> <p>4.P.187 第 2 欄「應用、保養養」，可能係編字有</p>	<p>一、第 1、2 已定為「電機員」及「電匠」。</p> <p>二、餘均已依照修正。</p>	<p>同意。</p>

<p>誤多了一個養字，請改正。</p> <p>5.P.258 第 2 欄第 4 項 Portable fire-fighting foam fires 建議英譯中為「用輕便泡沫滅火器滅火之火災」。</p> <p>6.P.265 第 2 欄「...污染國際公約 (MARPOL) 之規定...」建議修正為「...污染國際公約 (MARPOL) 及「其修正案」之規定...」;「...一般適用立工業準則」建議修正為「...一般適用之工業準則」。</p> <p>7.P.310 第 2 欄第 2 項「Appreciation」鑑識，建議修正為瞭解或辨別。</p> <p>8.P.262、269、284、285 第 1 欄「Familiarity」精通，建議修正為「熟悉」。</p>		
<p>六、交通部航政司船員科 董文財管理師</p> <p>1.報告內容之錯別字、遺漏字及前後英文中譯對照不一致等，均已用紅色字體標示，已修正並請研究單位全面檢視確認。</p> <p>2.海事相關專有名詞之翻譯，請配合目前本部使用之法規用語，例如：medical first aid 醫療急救、medical care 醫護、ship security officer 船舶保全人員、training ship 訓練船、electrical 電機、advanced training 進階訓練、officers in charge of an engineering watch 負責輪機當值之甲級船員、able seafarer deck 幹練水手等，已修正並請研究單位全面檢視確認;另 workshop skill training 翻譯為「機工技能訓練」或「工廠技能訓練」請研究單位統一用字。</p> <p>3.本期末報告經審查修正如附檔，請研究單位再自行全面檢視。</p>	<p>一、均已依照修正。</p>	<p>同意。</p>
<p>七、交通部運輸研究所 洪憲忠研究員</p> <p>1.請合作單位依本所規定格式，提報報告封面封</p>	<p>遵照辦理。</p>	<p>同意。</p>

<p>底以及中英文摘要，並請於中英文摘要補入「本 STCW2010 年修正案中譯本係採中英對照翻譯，中譯部分若有不完整或未盡妥善之處，仍應以英文為辦理依據」之說明。</p> <p>2.請會後盡速將「期末報告審查會議」之意見回覆表，填報本所審查。</p> <p>3.請於報告附錄補入期中、期末報告審查會議意見回覆表以及期末簡報。</p> <p>4.期末報告初稿附錄「專有名詞中英對照表」之專有名詞尚有加強空間，請補強。</p> <p>5.請將期末報告審查會議討論確認之中譯專有名詞，補入報告附錄之「專有名詞中英對照表」內。</p> <p>6.合作單位尚未逐條參考期中報告審查會議意見，將期末報告初稿修正完成，請補修正。</p> <p>7.請逐條參考期末報告審查會議意見，修正期末報告。</p>		
<p>八、主席結語：</p> <p>1.感謝各位委員及機關代表提供寶貴建議。</p> <p>2.請合作單位儘速參照本次審查會議各位委員及代表意見列表回覆辦理情形，提報本所複審，以便修正報告定稿。</p> <p>3.本次會議審查結果顯示，合作單位尚未依據期中報告審查會議意見回覆表之意見全面修正完成期末報告初稿，報告仍缺部分應有資料。</p> <p>4.各委員同意由本所督促合作單位於本會議結束後 24 日曆天內(即 100 年 2 月 21 日前)，補強及更正期末報告內容。經本所複審通過後，完成期末報告審查程序，並辦理後續結案事宜。</p>	遵照辦理。	同意。

附錄四

**1978年航海人員訓練發證及當值
標準國際公約及其修正案
(2010年中譯本)
期末簡報**

中華民國100年1月28日

本計畫案已於99年12月22日完成，期中報告所提翻譯及中英文對照初稿（265頁）經審查所提意見均已予修正，並將修正案修正部分以底線標示，光碟片並以紅色字體標示。

修正案全部之翻譯及中英文對照已於100年1月初旬完成，共計596頁（請見資料）尚待修訂審查，惟其中若干名詞及條文之翻譯有待確定，茲列表如次，敬請確定。

修正案新增名詞或條文	資料頁碼	現行法規譯名	本計畫擬用譯名及條文
Electro-technical officer	P.7		電機員
Electro-technical rating	P.8	電匠	電匠
Able Seafarer deck	P.7	幹練水手	幹練水手
Able Seafarer engine	P.8	機匠	幹練機匠
Blind pilotage	P.128、P.150	盲目導航	無目視資訊之航行
Bilge	P.184	艙底、舳	艙底
Training Ship	P.139		訓練船

註：本計畫擬用譯名及條文已經審查修訂。

修正案新增名詞或條文	資料頁碼	現行法規譯名	本計畫擬用譯名及條文
Every candidate for certification shall be required to provide evidence	P.123、P.145、P.165、P.177、P.180		凡申請發證者應要求其依.....
Every candidate for certification as officer in charge of a navigational watch on ships of less than 500 gross tonnage or more	P123、P165		申請發證之申請人在.....
ensures that, during the required period of seagoing service,	P.123、P.165、P.188		確保申請發證者在海勤期間
Knowledge and ability to explain where to look for damage and defects most commonly encountered due to	P.137		何處尋找下列最常遭遇損壞及瑕疵之知識與能力

註：本計畫擬用譯名及條文已經審查修訂。