INTERNATIONAL MARITIME ORGANIZATION

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REPORT OF THE MARITIME SAFETY COMMITTEE ON ITS 107TH SESSION

Attached are annexes 1 to 8 and 10 to 47 to the report of the Maritime Safety Committee on its 107th session (MSC 107/20).

(See document MSC 107/20/Add.2 for annex 9)

MARPOL AT 50
OUR COMMITMENT GOES ON

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ANNEX 1

RESOLUTION MSC.531(107)
(adopted on 8 June 2023)

STRENGTHENING MEASURES FOR ENSURING THE SAFETY OF INTERNATIONAL SHIPPING

THE MARITIME SAFETY COMMITTEE,

RECALLING that the purposes of the Organization are to encourage and facilitate the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and to deal with administrative and legal matters related to the purposes,

RECALLING that the Committee shall consider any matter within the scope of the Organization concerned with maritime safety procedures and requirements, hydrographic information and any other matters directly affecting maritime safety,

NOTING that the Council at the 128th session strongly condemned the Democratic People's Republic of Korea (DPRK) for its recent missile launches without proper prior notification, aside from the incompatibility of ballistic missile launches with the relevant United Nations Security Council resolutions, which seriously threatened the safety of international shipping,

NOTING that the Council at the 128th session urgently called upon the DPRK to comply strictly with SOLAS regulation V/4, the recommendations contained in resolution A.706(17), as amended, *on World-Wide Navigational Warning Service* (in particular, paragraph 4.2.1.3.13 of annex 1 thereto) and relevant circulars, and cease unlawful and unannounced ballistic missile launches across international shipping lanes,

CONSIDERING the invitation from the Council to consider possible measures to be taken to address the issue of missiles launches without proper prior notification by the DPRK and inform the Council of any action taken, including recommendations and guidelines, as appropriate, for consideration at its 129th session,

1 STRONGLY CONDEMNS the DPRK for its missile launches without proper prior notification, aside from the incompatibility of ballistic missile launches with the relevant United Nations Security Council resolutions, which seriously threatened the safety of seafarers and international shipping;

2 URGENTLY CALLS upon the DPRK to comply strictly with SOLAS regulation V/4, the recommendations contained in resolution A.706(17), as amended, on *World-Wide Navigational Warning Service* (in particular, paragraph 4.2.1.3.13 of annex 1 thereto) and relevant circulars, that Member States should provide prior notification via transmission as NAVAREA warning;

3 URGENTLY CALLS upon the DPRK to cease unlawful and unannounced ballistic missile launches across international shipping lanes;

4 REQUESTS the Secretary-General to take appropriate and practicable actions to establish close and cooperative relationships with relevant other international organizations including the International Civil Aviation Organization, which face the common serious challenges posed by the afore-said DPRK missile launches endangering the safety of international transport, and to report an update to Member States and relevant maritime stakeholders.

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ANNEX 2

RESOLUTION MSC.532(107)
(adopted on 8 June 2023)

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

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO article VIII(b) of the International Convention for the Safety of Life at Sea, 1974 ("the Convention"), concerning the amendment procedure applicable to the annex to the Convention, other than to the provisions of chapter I,

HAVING CONSIDERED, at its 107th session, amendments to the Convention proposed and circulated in accordance with article VIII(b)(i) of the Convention,

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

2 DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the said amendments shall be deemed to have been accepted on 1 July 2025, unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments, the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified the Secretary-General of their objections to the amendments;

3 INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2026 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention;

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

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

CHAPTER II-1
CONSTRUCTION – STRUCTURE, SUBDIVISION AND STABILITY, MACHINERY AND ELECTRICAL INSTALLATIONS

Part A
General

Regulation 2
Definitions

1 The following new paragraphs are added after existing paragraph 29:

"30 *Lifting appliance* means any load-handling ship's equipment:

.1 used for cargo loading, transfer, or discharge;

.2 used for raising and lowering hold hatch covers or moveable bulkheads;

.3 used as engine-room cranes;

.4 used as stores cranes;

.5 used as hose handling cranes;

.6 used for launch and recovery of tender boats and similar applications; and

.7 used as personnel handling cranes.

31 *Anchor handling winch* means any winch for the purpose of deploying, recovering and repositioning anchors and mooring lines in subsea operations.

32 *Loose gear* means an article of ships equipment by means of which a load can be attached to a lifting appliance or an anchor handling winch but which does not form an integral part of the appliance or load.

33 The expression *installed on or after 1 January 2026*, as provided in regulation 3-13, means:

.1 for ships the keel of which is laid or which is at a similar stage of construction on or after 1 January 2026, any installation date on the ship; or

.2 for ships other than those specified in .1, including those constructed before 1 January 2009, a contractual delivery date for lifting appliance or anchor handling winches, or in the absence of a contractual delivery date, the actual delivery date of the lifting appliance or anchor handling winches to the ship on or after 1 January 2026."

Part A-1
Structure of ships

2 The following new regulation is added after existing regulation II-1/3-12, together with the associated footnotes:

"**Regulation 3-13**
Lifting appliances and anchor handling winches

1 Application

1.1 Unless expressly provided otherwise, this regulation shall apply to lifting appliances and anchor handling winches, and loose gear utilized with the lifting appliances and the anchor handling winches.

1.2 Notwithstanding the above, this regulation does not apply to:

.1 lifting appliances on ships certified as MODUs;[1]

.2 lifting appliances used on offshore construction ships, such as pipe/cable laying/repair or offshore installation vessels, including ships for decommissioning work, which comply with standards acceptable to the Administration;

.3 integrated mechanical equipment for opening and closing hold hatch covers; and

.4 life-saving launching appliances complying with the International Life-Saving Appliance (LSA) Code.

1.3 The Administration shall determine to what extent the provisions of paragraphs 2.1 and 2.4 do not apply to lifting appliances which have a safe working load below 1,000 kg.

2 Design, construction and installation

2.1 Lifting appliances installed on or after 1 January 2026 shall be:

.1 designed, constructed and installed in accordance with the requirements of a classification society which is recognized by the Administration in accordance with the provisions of regulation XI-1/1 or standards acceptable to the Administration which provide an equivalent level of safety; and

.2 load tested and thoroughly examined after installation and before being taken into use for the first time and after repairs, modifications or alterations of major character.

2.2 Anchor handling winches installed on or after 1 January 2026 shall be designed, constructed, installed and tested to the satisfaction of the Administration, based on the Guidelines developed by the Organization.[2]

2.3 Lifting appliances installed on or after 1 January 2026 shall be permanently marked and provided with documentary evidence for the safe working load (SWL).

2.4 Lifting appliances installed before 1 January 2026 shall be tested and thoroughly examined, based on the Guidelines developed by the Organization[3] and comply with paragraph 2.3 no later than the date of the first renewal survey on or after 1 January 2026.

2.5 Anchor handling winches installed before 1 January 2026 shall be tested and thoroughly examined, based on the Guidelines developed by the Organization[2] no later than the date of the first renewal survey on or after 1 January 2026.

3 Maintenance, operation, inspection and testing

All lifting appliances and anchor handling winches, regardless of installation date, and all loose gear utilized with any lifting appliances and anchor handling winches, shall be operationally tested, thoroughly examined, inspected, operated and maintained, based on the Guidelines developed by the Organization.[2,3]

4 Inoperative lifting appliances and anchor handling winches

Except as provided in regulation I/11(c), while all reasonable steps shall be taken to maintain lifting appliances, anchor handling winches and loose gear to which this regulation applies in working order, malfunctions of that equipment shall not be assumed as making the ship unseaworthy or as a reason for delaying the ship in ports, provided that action has been taken by the master to take the inoperative lifting appliance or anchor handling winch into account in planning and executing a safe voyage.[2, 3]

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1 Ships certified as MODUs are those subject to the MODU Code and which carry a MODU Code Certificate on board issued by the Administration or a recognized organization. The carriage of this certificate includes authorized electronic versions available on board.

2 Refer to the *Guidelines for anchor handling winches* (MSC.1/Circ.1662).

3 Refer to the *Guidelines for lifting appliances* (MSC.1/Circ.1663)."

CHAPTER II-2
CONSTRUCTION – FIRE PROTECTION, FIRE DETECTION AND FIRE EXTINCTION

Part A
General

Regulation 1
Application

2 Applicable requirements to existing ships

3 The following new paragraph 2.10 is added after existing paragraph 2.9, together with the associated footnote:

"2.10 Ships constructed before 1 January 2026 shall comply with regulation 10.11.2, as adopted by resolution MSC.532(107), not later than the date of the first survey* on or after 1 January 2026.

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* Refer to the *Unified interpretation of the term "first survey" referred to in SOLAS regulations* (MSC.1/Circ.1290)."

Part C
Suppression of fire

Regulation 10
Fire fighting

4 The following new paragraph 11 is added after existing section 10:

"**11 Fire-extinguishing media restrictions**

The purpose of this paragraph is to protect persons on board against exposure to dangerous substances used in firefighting, as well as to minimize the impact of fire-extinguishing media that are deemed detrimental to the environment.

11.1 Application

This regulation applies to ships constructed on or after 1 January 2026.

11.2 General

11.2.1 The prohibited substances in this regulation shall be delivered to appropriate shore-based reception facilities when removed from the ship.

11.2.2 Use or storage of extinguishing media containing perfluorooctane sulfonic acid (PFOS) shall be prohibited."

CHAPTER V
SAFETY OF NAVIGATION

Regulation 2
Definitions

5 The following new paragraphs are added after existing paragraph 7, together with the associated footnotes:

"8 *Bulk carrier* means a bulk carrier as defined in regulation XII/1.1.[1]

9 *Containership* means a ship which is intended primarily to carry containers.[2]

1 Refer to *Clarification of the term 'bulk carrier' and guidance for application of regulations in SOLAS to ships which occasionally carry dry cargoes in bulk and are not determined as bulk carriers in accordance with regulation XII/1.1 and chapter II-1* (resolution MSC.277(85)).

2 Refer to the term 'container' as defined in article II of the International Convention for Safe Containers (CSC), 1972."

Regulation 18
Approval, surveys and performance standards of navigational systems and equipment and voyage data recorder

6 The following reference is added to the footnote corresponding to paragraph 2:

"*Performance standards for electronic inclinometers* (resolution MSC.363(92))"

Regulation 19
Carriage requirements for shipborne navigational systems and equipment

7 The following new paragraph 2.12 is added after existing paragraph 2.11:

"2.12 Containerships and bulk carriers of 3,000 gross tonnage and upwards constructed on or after 1 January 2026 shall be fitted with an electronic inclinometer, or other means, to determine, display and record the ship's roll motion."

CHAPTER XIV
SAFETY MEASURES FOR SHIPS OPERATING IN POLAR WATERS

Regulation 2
Application

8 Regulation 2 is replaced by the following:

"**Regulation 2**
Application

1 Unless expressly provided otherwise, this chapter applies to the following ships operating in polar waters:[1]

.1 ships certified in accordance with chapter I;

.2 fishing vessels of 24 metres in length overall and above;

.3 pleasure yachts of 300 gross tonnage and upwards not engaged in trade; and

.4 cargo ships of 300 gross tonnage and upwards but below 500 gross tonnage.

[1] Refer to the *Interim safety measures for ships not certified under the SOLAS Convention operating in polar waters* (resolution A.1137(31)).

2 Ships subject to paragraph 1.1 constructed before 1 January 2017 shall meet the relevant requirements of the Polar Code by the first intermediate or renewal survey, whichever occurs first, after 1 January 2018.

3 Ships subject to paragraphs 1.2, 1.3 or 1.4 constructed before 1 January 2026 shall meet the relevant requirements of chapters 9-1 and 11-1 in part I-A of the Polar Code by 1 January 2027.

4 In applying part I-A of the Polar Code, consideration should be given to the additional guidance in part I-B of the Polar Code.

5 This chapter shall not apply to ships owned or operated by a Contracting Government and used, for the time being, only in government non-commercial service. However, ships owned or operated by a Contracting Government and used, for the time being, only in government non-commercial service are encouraged to act in a manner consistent, so far as reasonable and practicable, with this chapter.

6 Nothing in this chapter shall prejudice the rights or obligations of States under international law."

Regulation 3
Requirements for ships to which this chapter applies

9 Regulation 3 is replaced by the following:

"**Regulation 3**
Requirements for ships certified in accordance with chapter I

1 Ships subject to regulation 2.1.1 above shall comply with the requirements of the safety-related provision of the introduction and with part I-A of the Polar Code and shall, in addition to the requirements of regulations I/7, I/8, I/9 and I/10, as applicable, be surveyed and certified, as provided for in that Code.

2 Ships subject to regulation 2.1.1 above holding a certificate issued pursuant to the provisions of paragraph 1 shall be subject to the control established in regulations I/19 and XI-1/4. For this purpose, such certificates shall be treated as a certificate issued under regulation I/12 or I/13."

10 The following new regulation is inserted after existing regulation 3:

"**Regulation 3-1**
Requirements for fishing vessels of 24 metres in length overall and above, pleasure yachts of 300 gross tonnage and upwards not engaged in trade and cargo ships of 300 gross tonnage and upwards but below 500 gross tonnage

1 Ships subject to regulations 2.1.2, 2.1.3 or 2.1.4 on all voyages in the Antarctic area and voyages in Arctic waters beyond the outer limit of the territorial sea of the Contracting Government whose flag the ship is entitled to fly shall comply with the provisions of chapters 9-1 and 11-1 of part I-A of the Polar Code, taking into account the introduction and the safety-related provisions of paragraphs 1.2, 1.4 and 1.5 of chapter 1 of part I-A of the Polar Code.

2 Notwithstanding paragraph 1 above, the Administration shall determine to what extent the provisions of regulations 9-1.3.1 and 9-1.3.2 of chapter 9-1 of part I-A of the Polar Code do not apply to:

.1 fishing vessels of 24 metres in length overall and above; and

.2 ships of 300 gross tonnage and upwards but below 500 gross tonnage not engaged in international voyages."

APPENDIX

CERTIFICATES

Record of equipment for passenger ship safety (Form P)

2 Details of life-saving appliances

11 In the table for "Details of life-saving appliances", entries 10 to 10.2 are replaced by the following:

10	Number of immersion suits

Form of Safety Equipment Certificate for Cargo Ships

Cargo Ship Safety Equipment Certificate

Type of ship

12 The following new entry is added after "Gas carrier":

"Containership"

Record of equipment for cargo ship safety (Form E)

2 Details of life-saving appliances

13 In the table for "Details of life-saving appliances", entries 9 to 9.2 are replaced by the following:

9	Number of immersion suits

3 Details of navigational systems and equipment

14 In the table for "Details of navigational systems and equipment", the following new entry is added after existing entry 15 (Bridge navigational watch alarm system (BNWAS)):

"16 Electronic inclinometer"

Form of Safety Certificate for Nuclear Cargo Ships

Nuclear Cargo Ship Safety Certificate

Type of Ship

15 The following new entry is added after "Gas carrier":

"Containership"

Record of equipment for cargo ship safety (Form C)

2 Details of life-saving appliances

16 In the table for "Details of life-saving appliances", entries 9 to 9.2 are replaced by the following:

9	Number of immersion suits

5 Details of navigational systems and equipment

17 In the table for "Details of navigational systems and equipment", the following new entry is added after existing entry 15 (Bridge navigational watch alarm system (BNWAS)):

"16 Electronic inclinometer"

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ANNEX 3

RESOLUTION MSC.533(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO article VIII(b) of the International Convention for the Safety of Life at Sea, 1974 ("the Convention") and article II of the Protocol of 1978 relating to the Convention ("the 1978 SOLAS Protocol") concerning the procedure for amending the 1978 SOLAS Protocol,

HAVING CONSIDERED, at its 107th session, amendments to the 1978 SOLAS Protocol proposed and circulated in accordance with article VIII(b)(i) of the Convention and article II of the 1978 SOLAS Protocol,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention and article II of the 1978 SOLAS Protocol, amendments to the appendix to the annex to the 1978 SOLAS Protocol, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention and article II of the 1978 SOLAS Protocol, that the said amendments shall be deemed to have been accepted on 1 July 2025, unless, prior to that date, more than one third of the Parties to the 1978 SOLAS Protocol or Parties, the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified the Secretary-General of their objections to the amendments;

3 INVITES the Parties concerned to note that, in accordance with article VIII(b)(vii)(2) of the Convention and article II of the 1978 SOLAS Protocol, the amendments shall enter into force on 1 January 2026 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention and article II of the 1978 SOLAS Protocol, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to the 1978 SOLAS Protocol;

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Parties to the 1978 SOLAS Protocol.

ANNEX

AMENDMENTS TO THE PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

ANNEX

MODIFICATIONS AND ADDITIONS TO THE ANNEX TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

APPENDIX

FORM OF SAFETY EQUIPMENT CERTIFICATE FOR CARGO SHIPS

Type of ship

1 The following new entry is added after "Gas carrier":

"Containership"

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ANNEX 4

RESOLUTION MSC.534(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE PROTOCOL OF 1988 RELATING TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO article VIII(b) of the International Convention for the Safety of Life at Sea (SOLAS), 1974 ("the Convention") and article VI of the Protocol of 1988 relating to the Convention ("the 1988 SOLAS Protocol") concerning the procedure for amending the 1988 SOLAS Protocol,

HAVING CONSIDERED, at its 107th session, amendments to the 1988 SOLAS Protocol proposed and circulated in accordance with article VIII(b)(i) of the Convention and article VI of the 1988 SOLAS Protocol,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention and article VI of the 1988 SOLAS Protocol, amendments to the appendix to the annex to the 1988 SOLAS Protocol, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention and article VI of the 1988 SOLAS Protocol, that the said amendments shall be deemed to have been accepted on 1 July 2025, unless, prior to that date, more than one third of the Parties to the 1988 SOLAS Protocol or Parties, the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified the Secretary-General of their objections to the amendments;

3 INVITES the Parties concerned to note that, in accordance with article VIII(b)(vii)(2) of the Convention and article VI of the 1988 SOLAS Protocol, the amendments shall enter into force on 1 January 2026 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention and article VI of the 1988 SOLAS Protocol, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to the 1988 SOLAS Protocol;

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Parties to the 1988 SOLAS Protocol.

ANNEX

AMENDMENTS TO THE PROTOCOL OF 1988 RELATING TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

ANNEX

MODIFICATIONS AND ADDITIONS TO THE ANNEX TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

APPENDIX

FORM OF SAFETY EQUIPMENT CERTIFICATE FOR CARGO SHIPS

Type of ship

1 The following new entry is added after "Gas carrier":

"Containership"

FORM OF SAFETY CERTIFICATE FOR CARGO SHIPS

Type of ship

2 The following new entry is added after "Gas carrier":

"Containership"

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ANNEX 5

RESOLUTION MSC.535(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE INTERNATIONAL LIFE-SAVING APPLIANCE CODE (LSA CODE)

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO resolution MSC.48(66), by which it adopted the International Life-Saving Appliance (LSA) Code ("the LSA Code"), which has become mandatory under chapter III of the International Convention for the Safety of Life at Sea (SOLAS), 1974 ("the Convention"),

RECALLING FURTHER article VIII(b) and regulation III/3.10 of the Convention concerning the procedure for amending the LSA Code,

HAVING CONSIDERED, at its 107th session, amendments to the LSA Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the LSA Code, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 July 2025 unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments, the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

3 INVITES Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2026 upon their acceptance in accordance with paragraph 2 above;

4 ALSO INVITES Contracting Government to note that the provisions in the annex are to be applied to totally enclosed lifeboats installed on or after 1 January 2029 where the expression *installed on or after 1 January 2029* means:

(a) for ships for which the building contract is placed on or after 1 January 2029, or in the absence of the contract, constructed on or after 1 January 2029, any installation date on the ship; or

(b) for ships other than those ships prescribed in (a) above, a contractual delivery date for the equipment or, in the absence of a contractual delivery date, the actual delivery date of the equipment to the ship on or after 1 January 2029.

5 REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention;

6 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

AMENDMENTS TO THE INTERNATIONAL LIFE-SAVING APPLIANCE CODE (LSA CODE)

CHAPTER IV
SURVIVAL CRAFT

4.6 Totally enclosed lifeboats

The following new paragraphs 4.6.6 and 4.6.7 are added after existing paragraph 4.6.5:

"**4.6.6 Ventilation means**

4.6.6.1 A totally enclosed lifeboat shall be provided with means to achieve a ventilation rate of at least 5 m^3/h per person for the number of persons which the lifeboat is permitted to accommodate and for a period of not less than 24 hours. The ventilation means shall be operable from inside the lifeboat and shall be arranged to ensure that the lifeboat is ventilated without stratification or formation of unventilated pockets.

4.6.6.2 Where the means of ventilation is powered, the source shall not be the radio batteries referred to in paragraph 4.4.6.11; and where dependent on the lifeboat engine, sufficient fuel shall be provided to comply with paragraph 4.4.6.8.

4.6.7 Openings of the ventilation system and their means of closing

4.6.7.1 Each opening of the ventilation means required in paragraph 4.6.6 shall be provided with means of closing. The means of closing shall be operable by a person from inside the lifeboat. Means shall be provided to ensure that the openings can be kept closed before, i.e. while in the stowed position, and during the launching of the lifeboat.

4.6.7.2 Inlet and outlet openings of the ventilation means and their external fittings shall be located and designed in order to minimize the ingress of water through the openings, without using the means of closing required in paragraph 4.6.7.1 and taking into consideration the requirements provided in paragraph 4.6.3.2.

4.6.7.3 For a free-fall lifeboat complying with the requirements of section 4.7, the openings and their means of closing shall be designed to withstand the loads and to prevent ingress of water under the anticipated submerged condition of the lifeboat at the time of free-fall launching.

4.6.7.4 For a lifeboat with a self-contained air support system complying with the requirements of section 4.8, the openings and their means of closing shall be designed to maintain the pressure required by section 4.8.

4.6.7.5 For a fire-protected lifeboat complying with the requirements of section 4.9, the openings and their means of closing shall be designed to ensure that the capability of protecting persons in the lifeboat is not impaired, under the conditions specified in paragraph 4.9.1."

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ANNEX 6

RESOLUTION MSC.536(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MSC.36(63), by which it adopted the International Code of Safety for High-Speed Craft ("the 1994 HSC Code") which has become mandatory under chapter X of the International Convention for the Safety of Life at Sea, 1974 ("the Convention"),

NOTING ALSO article VIII(b) and regulation X/1.1 of the Convention concerning the procedure for amending the 1994 HSC Code,

HAVING CONSIDERED, at its 107th session, amendments to the 1994 HSC Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the 1994 HSC Code, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the said amendments shall be deemed to have been accepted on 1 July 2025, unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

3 INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2026 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention;

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)

CHAPTER 7
FIRE SAFETY

Part A
General

7.9 Miscellaneous

1 The following new paragraph 7.9.4 is added after existing paragraph 7.9.3.4, together with the associated footnote:

"**7.9.4** *Fire-extinguishing media restrictions*

7.9.4.1 The following restrictions should apply for the use, storage or disposal of perfluorooctane sulfonic acid (PFOS):

.1 on all craft, use or storage of extinguishing media containing perfluorooctane sulfonic acid (PFOS) should be prohibited no later than the date of the first survey* on or after 1 January 2026; and

.2 the substances prohibited by the requirements of 7.9.4.1.1 should be delivered to appropriate shore-based reception facilities when removed from the craft.

* Refer to the *Unified interpretation of the term "first survey" referred to in SOLAS regulations* (MSC.1/Circ.1290)."

ANNEX 1

FORM OF SAFETY CERTIFICATE FOR HIGH-SPEED CRAFT

Record of Equipment for High-Speed Craft Safety Certificate

2 In the table for "Details of life-saving appliances", entries 9 to 10.2 are replaced by the following:

9	Number of immersion suits	……..
10	Number of anti-exposure suits	……..

***

ANNEX 7

RESOLUTION MSC.537(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MSC.97(73), by which it adopted the International Code of Safety for High-Speed Craft, 2000 ("the 2000 HSC Code") which has become mandatory under chapter X of the International Convention for the Safety of Life at Sea, 1974 ("the Convention"),

NOTING ALSO article VIII(b) and regulation X/1.2 of the Convention concerning the procedure for amending the 2000 HSC Code,

HAVING CONSIDERED, at its 107th session, amendments to the 2000 HSC Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the 2000 HSC Code, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the said amendments shall be deemed to have been accepted on 1 July 2025, unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

3 INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2026 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention;

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)

CHAPTER 7
FIRE SAFETY

Part A
General

7.9 Miscellaneous

1 The following new paragraph 7.9.4 is added after existing paragraph 7.9.3.5, together with the associated footnote:

"**7.9.4** *Fire-extinguishing media restrictions*

7.9.4.1 The following restrictions shall apply for the use, storage or disposal of perfluorooctane sulfonic acid (PFOS):

.1 on craft constructed on or after 1 January 2026, use or storage of extinguishing media containing perfluorooctane sulfonic acid (PFOS) shall be prohibited;

.2 craft constructed before 1 January 2026 shall comply with the requirements of 7.9.4.1.1 no later than the date of the first survey* on or after 1 January 2026; and

.3 the substances prohibited by the requirements of 7.9.4.1.1 or 7.9.4.1.2 shall be delivered to appropriate shore-based reception facilities when removed from the craft.

* Refer to the *Unified interpretation of the term "first survey" referred to in SOLAS regulations* (MSC.1/Circ.1290)."

ANNEX 1

FORM OF HIGH-SPEED CRAFT SAFETY CERTIFICATE AND RECORD OF EQUIPMENT

Record of Equipment for High-Speed Craft Safety Certificate

2 In the table for "Details of life-saving appliances", entries 9 to 10.2 are replaced by the following:

9	Number of immersion suits	……..
10	Number of anti-exposure suits	……..

***

ANNEX 8

RESOLUTION MSC.538(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS (POLAR CODE)

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MSC.385(94), by which it adopted the safety-related provisions of the Introduction, and the whole of parts I-A and I-B of the International Code for Ships Operating in Polar Waters ("the Polar Code") which became mandatory under chapter XIV of the International Convention for the Safety of Life at Sea, 1974 ("the Convention"),

NOTING ALSO article VIII(b) and regulation XIV/1.1.1 of the Convention concerning the procedure for amending the safety-related provisions of the introduction and part I-A of the Polar Code,

NOTING FURTHER regulation XIV/1.1.2 of the Convention concerning the procedure for amending part I-B of the Polar Code,

RECOGNIZING the need to introduce safety measures for non-SOLAS ships operating in polar waters,

HAVING CONSIDERED, at its 107th session, amendments to the Polar Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to part I-A of the Polar Code, the text of which is set out in annex 1 to the present resolution;

2 ALSO ADOPTS, in accordance with regulation XIV/1.1.2 of the Convention, amendments to part I-B of the Polar Code, the text of which is set out in annex 2 to the present resolution;

3 DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments to part I-A of the Polar Code shall be deemed to have been accepted on 1 July 2025, unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

4 INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, said amendments shall enter into force on 1 January 2026 upon their acceptance in accordance with paragraph 3 above;

5 ALSO INVITES Contracting Governments to the Convention to note that the amendments to part I-B of the Polar Code will take effect on 1 January 2026 upon entry into force of the amendments to part I-A of the Code set out in annex 1.

6 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annexes to all Contracting Governments to the Convention;

7 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annexes to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX 1

AMENDMENTS TO THE INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS (POLAR CODE)

Part I-A
Safety measures

Chapter 9
Safety of navigation

1 The heading of chapter 9 is replaced by the following:

"**Chapter 9**
Safety of navigation for ships certified in accordance with SOLAS chapter I"

2 The following text is inserted after the heading of chapter 9:

"This chapter applies to ships certified in accordance with SOLAS chapter I."

3 The following new chapter is inserted after existing chapter 9:

"**Chapter 9-1**
Safety of navigation for fishing vessels of 24 metres in length overall and above, pleasure yachts of 300 gross tonnage and upwards not engaged in trade and cargo ships of 300 gross tonnage and upwards but below 500 gross tonnage

This chapter applies to:

.1 fishing vessels of 24 metres in length overall and above;

.2 pleasure yachts of 300 gross tonnage and upwards not engaged in trade; and

.3 cargo ships of 300 gross tonnage and upwards but below 500 gross tonnage.

9-1.1 Goal

The goal of this chapter is to provide for safe navigation.

9-1.2 Functional requirements

In order to achieve the goal set out in paragraph 9-1.1 above, the following functional requirements are embodied in the regulations of this chapter.

9-1.2.1 Nautical information

Ships shall have the ability to receive up-to-date information including ice information for safe navigation.

9-1.2.2 Navigational equipment functionality

.1 The navigational equipment and systems shall be designed, constructed and installed to retain their functionality under the expected environmental conditions in the area of operation.

.2 Systems for providing reference headings and position fixing shall be suitable for the intended areas.

9-1.2.3 Additional navigational equipment

Ships shall have the ability to visually detect ice when operating in darkness.

9-1.3 Regulations

9-1.3.1 Nautical information

In order to comply with the functional requirement of paragraph 9-1.2.1 above, ships shall have means of receiving and displaying current information on ice conditions in the area of operation.

9-1.3.2 Navigational equipment functionality

9-1.3.2.1 In order to comply with the functional requirement of paragraph 9-1.2.2.1 above, the following applies:

.1 ice-strengthened ships constructed on or after 1 January 2026, shall have either two independent echo-sounding devices or one echo-sounding device with two separate independent transducers. Other devices capable of depth sounding, such as fish finders, acceptable to the Administration, may be used as equivalent means of meeting this requirement;

.2 ships shall comply with SOLAS regulation V/22.1.9.4, irrespective of the date of construction and the size, and have a clear view astern. On ships which cannot comply with these requirements, arrangements acceptable to the Administration shall be provided to achieve a level of visibility that is equivalent to these requirements;

.3 for ships operating in areas, and during periods, where ice accretion is likely to occur, means to prevent the accumulation of ice on antennas required for navigation and communication shall be provided; and

.4 in addition, for ice-strengthened ships, the following applies:

.1 where equipment required by SOLAS chapter V or this chapter have sensors that project below the hull, such sensors shall be protected against ice; and

.2 in category A and B ships constructed on or after 1 January 2026, the bridge wings shall be enclosed or designed to protect navigational equipment and operating personnel. On ships which cannot comply with this regulation, arrangements acceptable to the Administration shall be provided to achieve a level of protection that is equivalent to this regulation.

9-1.3.2.2 In order to comply with the functional requirement of paragraph 9-1.2.2.2 above, the following applies:

.1 ships of 500 gross tonnage and upwards shall have two non-magnetic means to determine and display their heading. Both means shall be independent and shall be connected to the ship's main and emergency source of power; and

.2 ships proceeding to latitudes over 80 degrees shall be fitted with at least one GNSS compass or equivalent, which shall be connected to the ship's main and emergency source of power.

9-1.3.3 Additional navigational equipment

In order to comply with the functional requirement of paragraph 9-1.2.3, ships, with the exception of those solely operating in areas with 24 hours daylight, shall be equipped with two means of illumination to aid visual detection of ice."

Chapter 11
Voyage planning

4 The heading of chapter 11 is replaced by the following:

"**Chapter 11**
Voyage planning for ships certified in accordance with chapter I"

5 The following text is inserted after the heading of chapter 11:

"This chapter applies to ships certified in accordance with SOLAS chapter I."

6 The following new chapter is inserted after existing chapter 11, together with the associated footnotes:

"**Chapter 11-1**
Voyage planning for fishing vessels of 24 metres in length overall and above, pleasure yachts of 300 gross tonnage and upwards not engaged in trade and cargo ships of 300 gross tonnage and upwards but below 500 gross tonnage

This chapter applies to the following ships operating in polar waters:

.1 fishing vessels of 24 metres in length overall and above;

.2 pleasure yachts of 300 gross tonnage and upwards not engaged in trade; and

.3 cargo ships of 300 gross tonnage and upwards but below 500 gross tonnage.

11-1.1 Goal

The goal of this chapter is to ensure that the company, master and crew are provided with sufficient information to enable operations to be conducted with due consideration to safety of ship and persons on board and, as appropriate, environmental protection.

11-1.2 Functional requirement

In order to achieve the goal set out in paragraph 11-1.1 above, the voyage plan shall take into account the potential hazards of the intended voyage.

11-1.3 Requirements

In order to comply with the functional requirement of paragraph 11-1.2 above, the master shall consider a route through polar waters, taking into account the following:

.1 the procedures required by the safety management system on board; if no safety management system is implemented there shall be a documented procedure for operation in polar waters;

.2 any limitations of the hydrographic information and aids to navigation available;

.3 current information on the extent and type of ice and icebergs in the vicinity of the intended route;

.4 statistical information on ice and temperatures from former years;

.5 places of refuge;

.6 current information and measures to be taken when marine mammals are encountered relating to known areas with densities of marine mammals, including seasonal migration areas;[1]

.7 current information on relevant ships' routeing systems, speed recommendations and vessel traffic services relating to known areas with densities of marine mammals, including seasonal migration areas;[1]

.8 national and international designated protected areas along the route; and

.9 operation in areas remote from search and rescue (SAR) capabilities.[2]

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[1] Refer to MEPC/Circ.674 on *Guidance document for minimizing the risk of ship strikes with cetaceans*.

[2] Refer to MSC.1/Circ.1184 on *Enhanced contingency planning guidance for passenger ships operating in areas remote from SAR facilities* and resolution A.999(25) on *Guidelines on voyage planning for passenger ships operating in remote areas*."

ANNEX 2

AMENDMENTS TO THE INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS (POLAR CODE)

Part I-B
Additional guidance regarding the provisions of the Introduction and Part I-A

10 Additional guidance to chapter 9 (Safety of navigation)

7 The heading of section 10 is replaced by the following:

"**10 Additional guidance to chapters 9 and 9-1**"

12 Additional guidance to chapter 11 (Voyage planning)

8 The heading of section 12 is replaced by the following:

"**12 Additional guidance to chapters 11 and 11-1**"

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ANNEX 10

RESOLUTION MSC.540(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS (STCW), 1978

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO article XII of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 ("the 1978 STCW Convention"), concerning the procedures for amending the 1978 STCW Convention,

RECOGNIZING the need for providing a timely response to the global digitalization trend, as well as a solution for the management and control of seafarers' certificates issued pursuant to the 1978 STCW Convention,

HAVING CONSIDERED, at its 107th session, amendments to the 1978 STCW Convention proposed and circulated in accordance with article XII(1)(a)(i) thereof,

1 ADOPTS, in accordance with article XII(1)(a)(iv) of the 1978 STCW Convention, amendments to said Convention, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article XII(1)(a)(vii)(2) of the 1978 STCW Convention, that said amendments shall be deemed to have been accepted on 1 July 2024, 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 to the Secretary-General of the Organization that they object to the amendments;

3 INVITES Parties to note that, in accordance with article XII(1)(a)(ix) of the 1978 STCW Convention, the amendments annexed hereto shall enter into force on 1 January 2025 upon their acceptance, in accordance with paragraph 2 above;

4 URGES Parties to implement the amendments to regulations I/1 and I/2 at an early stage;

5 REQUESTS the Secretary-General, for the purposes of article XII(1)(a)(v) of the 1978 STCW Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to the 1978 STCW Convention;

6 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization, which are not Parties to the 1978 STCW Convention.

ANNEX

AMENDMENTS TO THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS (STCW), 1978

CHAPTER I
GENERAL PROVISIONS

Regulation I/1
Definitions and clarifications

1 In paragraph 1, the following new definition is added after existing sub-paragraph .44:

".45 *Original form* means a paper or an electronic form of any certificate required by the Convention, issued in the format approved by the Administration, provided that the minimum information, as required in paragraph 4 of section A-I/2 of the STCW Code, is readily available."

Regulation I/2
Certificates and endorsements

2 Paragraph 11 is replaced by the following, together with the associated footnote:

"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. If an electronic form* is used, the minimum required data must be accessible as defined by the Administration in accordance with the STCW Code, which is necessary to initiate a verification procedure.

* Refer to the *Guidelines on the use of electronic certificates of seafarers* (MSC.1/Circ.1665)."

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ANNEX 11

RESOLUTION MSC.541(107)
(adopted on 8 June 2023)

AMENDMENTS TO PART A OF THE SEAFARERS' TRAINING, CERTIFICATION AND WATCHKEEPING (STCW) CODE

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO article XII and regulation I/1.2.3 of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 ("the 1978 STCW Convention"), concerning the procedures for amending part A of the Seafarers' Training, Certification and Watchkeeping Code ("the STCW Code"),

RECOGNIZING the need for providing a timely response to the global digitalization trend, as well as a solution for the management and control of seafarers' certificates issued pursuant to the 1978 STCW Convention,

HAVING CONSIDERED, at its 107th session, amendments to part A of the STCW Code, proposed and circulated in accordance with article XII(1)(a)(i) of the 1978 STCW Convention,

1 ADOPTS, in accordance with article XII(1)(a)(iv) of the 1978 STCW Convention, amendments to the STCW Code, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article XII(1)(a)(vii)(2) of the 1978 STCW Convention, that said amendments to the STCW Code shall be deemed to have been accepted on 1 July 2024, 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 to the Secretary-General of the Organization that they object to the amendments;

3 INVITES Parties to note that, in accordance with article XII(1)(a)(ix) of the 1978 STCW Convention, the amendments to the STCW Code annexed hereto shall enter into force on 1 January 2025 upon their acceptance, in accordance with paragraph 2 above;

4 URGES Parties to implement the amendments to section A-I/2 of the STCW Code at an early stage;

5 REQUESTS the Secretary-General, for the purposes of article XII(1)(a)(v) of the 1978 STCW Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to the 1978 STCW Convention;

6 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization, which are not Parties to the 1978 STCW Convention.

ANNEX

AMENDMENTS TO PART A OF THE SEAFARERS' TRAINING, CERTIFICATION AND WATCHKEEPING (STCW) CODE

CHAPTER I
STANDARDS REGARDING GENERAL PROVISIONS

Section A-I/2
Certificates and endorsements

1 Paragraph 4 is replaced by the following:

"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 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;

.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;

.3 the terms "front", "back" and "overleaf", as referred to in these provisions, are not applicable for certificates and endorsements in electronic form; and

.4 an official seal, photograph and signature of seafarer are not necessary for certificates and endorsements in electronic form."

***

ANNEX 12

RESOLUTION MSC.542(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE CODE OF SAFETY FOR SPECIAL PURPOSE SHIPS,1983 (1983 SPS CODE)

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO resolution A.534(13), by which the Assembly, at its thirteenth session, adopted the Code of Safety for Special Purpose Ships, 1983 (1983 SPS Code),

RECALLING FURTHER that the Assembly authorized the Committee to amend the SPS Code as may be necessary,

NOTING the amendments to the International Convention for the Safety of Life at Sea, 1974 ("the Convention") adopted by resolution MSC.532(107),

HAVING CONSIDERED, at its 107th session, consequential amendments to Record of Equipment for the Special Purpose Ship Safety Certificate (Form SPS),

1 ADOPTS amendments to the SPS Code, the text of which is set out in the annex to the present resolution;

2 DETERMINES that the said consequential amendments to the 1983 SPS Code should become effective on 1 January 2026, in conjunction with the entry into force of amendments to the appendix (Certificates) of the 1974 SOLAS Convention, and the 1994 and 2000 HSC Codes, adopted by resolutions MSC.532(107), MSC.536(107) and MSC.537(107), respectively.

ANNEX

AMENDMENTS TO THE CODE OF SAFETY FOR SPECIAL PURPOSE SHIPS,1983 (1983 SPS CODE)

APPENDIX

Record of Equipment for the Special Purpose Ship Safety Certificate (Form SPS)

1 In the table for "Details of life-saving appliances", entries 9 to 9.2 are replaced by the following:

9	Number of immersion suits	……

***

ANNEX 13

RESOLUTION MSC.543(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE CODE OF SAFETY FOR SPECIAL PURPOSE SHIPS, 2008 (2008 SPS CODE)

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO resolution MSC.266(84), by which the Committee, at its eighty-fourth session, adopted the Code of Safety for Special Purpose Ships, 2008 (2008 SPS Code), which superseded the SPS Code adopted by resolution A.534(13), as amended, for special purpose ships certified on or after 13 May 2008,

NOTING the amendments to the International Convention for the Safety of Life at Sea, 1974 ("the Convention") adopted by resolution MSC.532(107),

HAVING CONSIDERED, at its 107th session, consequential amendments to Record of Equipment for the Special Purpose Ship Safety Certificate (Form SPS),

1 ADOPTS amendments to the 2008 SPS Code, the text of which is set out in the annex to the present resolution;

2 DETERMINES that the said consequential amendments to the 2008 SPS Code should become effective on 1 January 2026, in conjunction with the entry into force of amendments to the appendix (Certificates) of the 1974 SOLAS Convention, and the 1994 and 2000 HSC Codes, adopted by resolutions MSC.532(107), MSC.536(107) and MSC.537(107), respectively.

ANNEX

AMENDMENTS TO THE CODE OF SAFETY FOR SPECIAL PURPOSE SHIPS,2008 (2008 SPS CODE)

APPENDIX

Record of Equipment for the Special Purpose Ship Safety Certificate (Form SPS)

1 In the table for "Details of life-saving appliances", entries 8 to 8.2 are replaced by the following:

8	Number of immersion suits	……

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ANNEX 14

RESOLUTION MSC.544(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE REVISED RECOMMENDATION ON TESTING OF LIFE-SAVING APPLIANCES (RESOLUTION MSC.81(70))

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO that the Assembly, when adopting resolution A.689(17) on *Testing of life-saving appliances*, authorized the Committee to keep the annexed Recommendation on testing of life-saving appliances under review and to adopt, when appropriate, amendments thereto,

RECALLING FURTHER that, since the adoption of resolution A.689(17), the Committee has amended the Recommendation annexed thereto by resolutions MSC.54(66) and MSC.81(70), and by circulars MSC/Circ.596, MSC/Circ.615 and MSC/Circ.809,

RECOGNIZING the need to ensure that the references in the *Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70)) are kept up to date,

1 ADOPTS the Amendments to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), set out in the annex to the present resolution;

2 RECOMMENDS Governments to ensure that life-saving appliances installed on or after 1 January 2029 conform to the amended prototype tests in sections 6 (Lifeboats) and 7 (Rescue boats and fast rescue boats), as set out in the annex to the present resolution;

3 INVITES Contracting Governments to the SOLAS Convention to bring the above amendments to the attention of all parties concerned.

ANNEX

AMENDMENTS TO THE REVISED RECOMMENDATION ON TESTING OF LIFE-SAVING APPLIANCES (RESOLUTION MSC.81(70))

PART 1 – PROTOTYPE TESTS FOR LIFE-SAVING APPLIANCES

2 LIFEJACKETS

2.4 Tests of components other than buoyancy materials

1 The footnote to paragraph 2.4 is replaced by the following:

"* Refer to the recommendations of the International Organization for Standardization, in particular publication ISO 12402-7:2020 Personal flotation devices. Part 7: Materials and components. Safety requirements and test methods."

2.6 Tests for lifejacket buoyancy material

Tensile strength test

2 The footnote to paragraph 2.6.8 is replaced by the following:

" * Refer to the recommendations of the International Organization for Standardization, in particular publication ISO 12402-7:2020, Personal flotation devices. Part 7: Materials and components. Safety requirements and test methods."

3 IMMERSION SUITS

3.2 Thermal protective tests

General

3 Paragraph 3.2.3 is replaced by the following:

"3.2.3 Where human subjects are used, the tests should always be conducted under the supervision of a physician. Emergency resuscitation equipment should be available during all tests. For safety reasons, ECG should be monitored during every test. Testing should be stopped at the wish of the test subjects, if the falling rate of the core temperature is more than 1.5ºC per hour after the first half hour, if the skin temperature of the hand, foot or lumbar region should fall below 10ºC for more than 15 minutes, or if the attending physician considers it advisable."

6 LIFEBOATS

6.10 Lifeboat operational test

Operation of engine and fuel consumption test

4 Paragraph 6.10.1 is replaced by the following:

"6.10.1 The lifeboat should be loaded with weights equal to the mass of its equipment and the number of persons for which the lifeboat is to be approved. The engine should be started and the lifeboat manoeuvred for a period of at least four hours to demonstrate satisfactory operation. The lifeboat should be run at a speed of not less than 6 knots and, with the powered means of ventilation in operation if fitted, for a period which is sufficient to ascertain the fuel consumption and to establish that the fuel tank has the required capacity. The maximum towing force of the lifeboat should be determined. This information should be used to determine the largest fully loaded liferaft the lifeboat can tow at 2 knots. The fitting designated for towing other craft should be secured to a stationary object by a tow rope. The engine should be operated ahead at full speed for a period of at least two minutes, and the towing force measured and recorded. There should be no damage to the towing fitting or its supporting structure. The maximum towing force of the lifeboat should be recorded on the type approval certificate."

6.14 Additional tests for totally enclosed lifeboats

5 Paragraph 6.14.1 is replaced by the following:

"6.14.1 A suitable means should be provided to rotate the lifeboat about a longitudinal axis to any angle of heel and then release it. The lifeboat, in the enclosed condition, should be incrementally rotated to angles of heel up to and including 180° and should be released. After release, the lifeboat should always return to the upright position without the assistance of the occupants. The ventilation system of either powered or passive type while in operation should not compromise the ability of the lifeboat to self-right under any circumstance. These tests should be conducted in the following conditions of load:"

6 The following new paragraph 6.14.9 is added after existing paragraph 6.14.8:

"*Ventilation performance test*

6.14.9 The ventilation rate required by paragraph 4.6.6.1 of the LSA Code should be measured under moored conditions. The test should be carried out with only the persons necessary on board to perform the test. All entrances and hatches should be kept closed. Ventilation openings should stay open. The measured ventilation rate should not be less than 5 m^3/hour per person for the total number of persons which the lifeboat is permitted to accommodate."

7 RESCUE BOATS AND FAST RESCUE BOATS

7.4 Rigid fast rescue boats

7 Paragraph 7.4.1 is replaced by the following:

"7.4.1 Rigid fast rescue boats should be subjected to the tests prescribed in 6.2 to 6.12 (except 6.3, 6.4.2, 6.5, 6.6.2, 6.7.1, 6.9.6, 6.9.7, 6.10.1), 6.14.1 to 6.14.8 (if a rigid fast rescue boat is self-righting), 7.1.2 to 7.1.4, 7.1.6, 7.1.7 (if a rigid fast rescue boat is not self-righting), 7.1.8, 7.1.9 and 7.2.4.2. In the case of open fast rescue boats, the self-righting test should only be done in the light condition, and 6.14.1.1, 6.14.3, 6.14.4, 6.14.5 and 6.14.9 are not applicable. With regard to 6.14.2, a boat fitted with a helmsman's emergency release switch should be considered to be arranged to stop automatically when inverted."

7.5 Inflated fast rescue boats

8 Paragraph 7.5 is replaced by the following:

"Inflated fast rescue boats should be subjected to the tests prescribed in 6.4.1, 6.6.1, 6.7.2, 6.9.1 to 6.9.5, 6.10 (except 6.10.1), 6.11, 6.12, 6.14.1 to 6.14.8 (if inflated fast rescue boat is self-righting), 7.1.2, 7.1.3, 7.1.6 (if inflated fast rescue boat is equipped with outboard motor), 7.1.7 (if inflated fast rescue boat is not self-righting), 7.1.8, 7.2.2 to 7.2.16 and 7.4.2."

7.6 Rigid/inflated fast rescue boats

9 Paragraph 7.6 is replaced by the following:

"Rigid/inflated fast rescue boats should be subjected to the tests prescribed in 6.2 (for hull), 7.2.14 (for inflated part), 6.4.1, 6.6.1, 6.7.2, 6.9.1 to 6.9.5, 6.10 (except 6.10.1) to 6.12, 6.14.1 to 6.14.8 (if rigid/inflated fast rescue boat it self-righting), 7.1.2 to 7.1.4, 7.1.6 (if rigid/inflated rescue boat is equipped with outboard motor), 7.1.7 (if rigid/inflated fast rescue boat is not self-righting), 7.1.8, 7.2.2 to 7.2.11, 7.2.15, 7.2.16, 7.3.2 and 7.4.2."

APPENDIX 1

ADULT REFERENCE TEST DEVICE (RTD) DESIGN AND CONSTRUCTION

10 Paragraph 2 is replaced by the following:

"**2 MATERIALS**

All materials used should comply with ISO 12402-7:2020."

APPENDIX 2

CHILD REFERENCE TEST DEVICE (RTD) DESIGN AND CONSTRUCTION

11 Paragraph 2 is replaced by the following:

"**2 MATERIALS**

All materials used should comply with ISO 12402-7:2020."

APPENDIX 3

INFANT REFERENCE TEST DEVICE (RTD) DESIGN AND CONSTRUCTION

12 Paragraph 2 is replaced by the following:

"**2 MATERIALS**

All materials used should comply with ISO 12402-7:2020."

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ANNEX 15

REVISED ROAD MAP FOR DEVELOPING A GOAL-BASED CODE FOR MARITIME AUTONOMOUS SURFACE SHIPS (MASS)

Sessions of MSC	Work Plan
MASS-ISWG 2 (30 Oct – 3 Nov 2023)	
MSC 108 (15 to 24 May 2024)	- Consideration of outcome of MSC 107-established ISCG and MASS-ISWG 2 (30 Oct to 3 Nov 2023) - Consideration of outcome of LEG 111 (March 2024), FAL 48 (April 2024) and MASS-JWG 3 (April 2024) - Continue development of non-mandatory MASS Code with view to potential finalization - Consideration of input for MASS-JWG 4 (second half of 2024) - Consider impact, and identify changes, to existing IMO instruments and make recommendation on how to address changes to those instruments, as appropriate, also **taking into account any recommendations from MASS-JWG. Focus should be on "high-priority"**[1] **instruments:** o SOLAS chapters II-1, II-2, III, IV, V, VI, VII, IX, XI-1 and XI-2; o STCW Convention and Code; o STCW-F Convention; o 1966 LL Convention and 1988 Protocol thereto; o 1979 SAR Convention; o FSS Code; o IMSBC Code; o IMDG Code; o TONNAGE 1969; o IBC Code; and o IGC Code - **Identify matters for consideration by appropriate sub-committee**[2] **and liaison with** other international organizations such as ILO, ISO, IHO, IALA and IMSO - **Continue consideration of developing or amending guidance for non-mandatory MASS Code, including *Interim Guidelines on MASS trials* (MSC.1/Circ.1604)** - **Consideration of scope and framework of mandatory MASS Code** - Update this road map

[1] Medium and low priority instruments in accordance with the outcome of the RSE will be dealt with at a later date (MSC.1/Circ.1638, paragraphs 6.8.1 to 6.9.3).

[2] Tasks for sub-committees will be included in this road map when agreed by the Committee.

MSC 109 (2nd half 2024)	- **Finalization and adoption of new non-mandatory MASS Code** - **Commence development of mandatory MASS Code, based on non-mandatory Code, and consider amendments to SOLAS (new chapter) for Code's adoption** - Commence review of existing IMO instruments, under purview of MSC, taking into account adopted non-mandatory MASS Code and RSE (MSC.1/Circ.1638) - Update this road map
MSC 110 (1st half 2025)	- Finalization and approval of mandatory MASS Code[3] [4] and draft SOLAS chapter - Further development of consequential **amendments to existing instruments**
MSC 111 (1st half 2026)	- Adoption of new mandatory MASS Code - Further development of consequential **amendments to existing instruments**

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[3] Adoption should take into account the progress made by other Committees and the MASS-JWG.

[4] Entry-into-force date of 1 January 2028 means adoption on 1 July 2026 at the latest (first half of 2026).

ANNEX 16

DRAFT MSC-MEPC CIRCULAR

GUIDELINES FOR THE SAMPLING OF [OIL FUEL] FOR DETERMINATION OF COMPLIANCE WITH THE REVISED MARPOL ANNEX VI AND SOLAS CHAPTER II-2

1 The Maritime Safety Committee, at its 107th session (31 May to 9 June 2023), and the Marine Environment Protection Committee, at its […] session ([…]), approved the Guidelines for the sampling of [oil fuel] for determination of compliance with the revised MARPOL Annex VI and SOLAS chapter II-2, as set out in the annex.

2 Member States are invited to use the annexed Guidelines and bring them to the attention of all parties concerned.

* * *

ANNEX

GUIDELINES FOR THE SAMPLING OF [OIL FUEL] FOR DETERMINATION OF COMPLIANCE WITH THE REVISED MARPOL ANNEX VI AND SOLAS CHAPTER II-2

Note: The draft guidelines are based on resolution MEPC.182(59) and changes are highlighted with ~~deletions~~ and additions.

Title: ~~2009~~ GUIDELINES FOR THE SAMPLING OF [OIL FUEL] ~~OIL~~ FOR DETERMINATION OF COMPLIANCE WITH THE REVISED MARPOL ANNEX VI AND SOLAS CHAPTER II-2

1 Preface

The primary objective of these Guidelines is to establish an agreed method to obtain a representative sample of the oil fuel ~~oil for combustion purposes~~ delivered for use on board ships for combustion purposes. Samples should be taken in a safe manner under all circumstances.

2 Introduction:

The basis for these Guidelines is regulation 18.5 of Annex VI to MARPOL 73/78, as amended by resolution MEPC.176(58), which provides that for each ship subject to regulations 5 and 6 of that Annex, details of fuel oil for combustion purposes delivered to, and used on board the ship, shall be recorded by means of a bunker delivery note which shall contain at least the information specified in appendix V to that Annex. In accordance with regulation 18.8.1 of Annex VI, the bunker delivery note shall be accompanied by a representative sample of the fuel oil delivered.

In addition, these guidelines are intended to assist in the implementation of the flashpoint related regulations in SOLAS II-2 regulation 4, especially for confirming cases where oil fuel not complying with SOLAS II-2/4.2.1 was delivered.

This sample is to be used solely for determination of compliance with Annex VI of MARPOL 73/78 and of compliance with SOLAS chapter II-2.

3 Definitions

For the purpose of these Guidelines:

3.1 Supplier's representative is the individual from the bunker tanker who is responsible for the delivery and documentation or, in the case of deliveries direct from the shore to the ship, the person who is responsible for the delivery and documentation.

3.2 Ship's representative is the ship's master or officer in charge who is responsible for receiving bunkers and documentation.

3.3 Representative sample is a product specimen having its physical and chemical characteristics identical to the average characteristics of the total volume being sampled.

3.4 Primary sample is the representative sample of the fuel delivered to the ship collected throughout the bunkering period obtained by the sampling equipment positioned at the bunker manifold of the receiving ship.

3.5 Retained sample is the representative sample in accordance with regulation 18.8.1 of Annex VI to MARPOL 73/78, of the fuel delivered to the ship derived from the primary sample.

3.6 Oil fuel is defined in regulation 1 of Annex 1 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto.

4 Sampling methods

4.1 The primary sample should be obtained by one of the following methods:

.1 manual valve-setting continuous-drip sampler; or

.2 time-proportional automatic sampler; or

.3 flow-proportional automatic sampler.

4.2 Sampling equipment should be used in accordance with manufacturer's instructions, or guidelines, as appropriate.

4.3 The personnel taking the primary sample should be familiar with the guidelines and sampling equipment.

4.4 The primary sample should be drawn at the bunker manifold of the receiving ship witnessed by representatives for the receiving ship and supplier or by a surveyor acting on their behalf.

~~4.5 After all parties, including the ship's and supplier's representatives, are satisfied with the primary sample collected as being the representative sample, the sample should be properly shaken to promote homogeneity and then poured in equal portions into sample bottles (according to the need) making three or four passes to fill each bottle in turn. The sample bottles should be sealed in the presence of all parties with uniquely numbered security seals. One of these bottles will be the designated retained sample as required by regulation 18 of Annex VI of MARPOL 73/78. The unique seal number of the retained statutory sample bottle should be recorded in the bunker delivery note.~~

5 Sampling and sample integrity

5.1 A means should be provided to seal the sampling equipment throughout the period of supply.

5.2 Attention should be given to:

.1 the form of set up of the sampler;

.2 the form of the primary sample container;

.3 the cleanliness and dryness of the sampler and the primary sample container prior to use, there should be no traces of low-flashpoint solvents used to clean the equipment as this can contaminate the sample;

.4 the setting of the means used to control the flow to the primary sample container; and

.5 the method to be used to secure the sample from tampering or contamination during the bunker operation.

5.3 The primary sample receiving container should be attached to the sampling equipment and sealed so as to prevent tampering or contamination of the sample throughout the bunker delivery period.

6 Sampling location

For the purpose of these Guidelines, a sample of the fuel delivered to the ship should be obtained at the receiving ship's inlet bunker manifold and should be drawn continuously throughout the bunker delivery period.*

* The phrase "be drawn continuously throughout the bunker delivery period" in paragraph 6 of the Guidelines should be taken to mean continuous collection of drip sample throughout the delivery of bunker fuel covering each bunker delivery note. In case of receiving an amount of bunker fuel necessitating two or more delivery notes, the sampling work may be temporarily stopped to change primary sample container and then resumed as necessary.

7 Retained sample handling

7.1 The retained sample container should be clean and dry.

7.2 Immediately prior to filling the retained sample container, the primary sample quantity should be thoroughly agitated to ensure that it is homogeneous.

7.3 The retained sample should be of sufficient quantity to perform the tests required but should not be less than 600 ml. The container should be filled to 90% ± 5% capacity and sealed.

8 Sealing of the retained sample

8.1 Immediately following collection of the retained sample, a tamper proof security seal with a unique means of identification should be installed by the supplier's representative in the presence of the ship's representative. A label containing the following information should be secured to the retained sample container:

.1 location at which, and the method by which, the sample was drawn;

.2 date of commencement of delivery;

.3 name of bunker tanker/bunker installation;

.4 name and IMO number of the receiving ship;

.5 signatures and names of the supplier's representative and the ship's representative;

.6 details of seal identification; and

.7 bunker grade.

8.2 To facilitate cross-reference details of the seal, identification should also be recorded on the bunker delivery note.

9 Retained sample storage

9.1 The retained sample should be kept in a safe storage location, outside the ship's accommodation, where personnel would not be exposed to vapours which may be released from the sample. Care should be exercised when entering a sample storage location.

9.2 The retained sample should be stored in a sheltered location where it will not be subject to elevated temperatures, preferably at a cool/ambient temperature, and where it will not be exposed to direct sunlight.

9.3 Pursuant to regulation 18.8.1 of Annex VI of MARPOL 73/78, the retained sample should be retained under the ship's control until the fuel oil is substantially consumed, but in any case for a period of not less than 12 months from the time of delivery.

9.4 The Company should develop and maintain a process to keep track of the retained samples.

10 Procedures and documentation following testing of retained sample

10.1 If the retained sample has been sent for testing, the laboratory should take a sub-sample enabling the tests to be carried out and immediately reseal the remaining retained sample container with a new tamper proof security seal with a unique means of identification in the presence of a representative for the authority that has ordered the test. A label containing the following information should be secured to the retained sample container:

.1 name and address of laboratory:

.2 date when the sample was resealed;

.3 volume remaining in the retained sample container when resealed;

.4 names and signatures of the person resealing the sample and the authority's representative witnessing the process;

.5 details of the new unique seal identification;

.6 a declaration that no other material has been added to the sample; and

.7 relevant information from previous label, including details of original seal identification; name and IMO number of the receiving ship and bunker grade.

10.2 The laboratory should issue a test record with copies to all relevant parties, i.e. the authority that requested the testing, and the ship. Copies may also be sent to the supplier and the authority under whose jurisdiction the supplier operates. The test record should include the test result(s) and the test method(s), and the seal number of the ship's retained sample which the testing was carried out on.

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ANNEX 17

DRAFT AMENDMENTS TO SOLAS REGULATION II-2/4 RELATED TO OIL FUEL PARAMETERS OTHER THAN FLASHPOINT

CHAPTER II-2
CONSTRUCTION – FIRE PROTECTION, FIRE DETECTION AND FIRE EXTINCTION

Part B
Prevention of fire and explosion

Regulation 4 - *Probability of ignition*

1 At the end of paragraph 2.1.8, the word "and" is deleted and at the end of paragraph 2.1.8, "." is replaced by ";".

2 The following new sub-paragraph is added after existing paragraph 2.1.8:

".9 Oil fuel delivered to and used on board ships shall not jeopardize the safety of ships or adversely affect the performance of the machinery or be harmful to personnel."

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ANNEX 18[1]

DRAFT AMENDMENTS TO THE IGF CODE

1 The following new paragraph 2.2.43 is added after existing paragraph 2.2.42:

"2.2.43 *Ship constructed on or after 1 January 2026* means:

.1 for which the building contract is placed on or after 1 January 2026; or

.2 in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 July 2026; or

.3 the delivery of which is on or after 1 January 2030."

2 The existing paragraph 4.2.2 is amended as follows:

"4.2.2 For ships to which part A-1 applies, the risk assessment required by 4.2.1 need only be conducted where explicitly required by paragraphs 5.10.5, 5.12.3, 6.4.1.1, 6.4.15.4.7.2, 8.3.1.1, 8.4.2, 13.4.1, 13.7 and 15.8.1.10 as well as by paragraphs 4.4 and 6.8 of the annex."

3 The existing paragraph 5.3.3.3 is amended as follows:

"5.3.3.3 For independent tanks the protective distance shall be measured to the tank shell (the primary barrier of the fuel ~~tank~~ containment system). For membrane tanks the distance shall be measured to the bulkheads surrounding the tank insulation."

4 The existing paragraph 5.3.4.4 is amended as follows:

"5.3.4.4 For independent tanks the protective distance shall be measured to the tank shell (the primary barrier of the fuel ~~tank~~ containment system). For membrane tanks the distance shall be measured to the bulkheads surrounding the tank insulation."

5 The existing paragraph 5.12.1 is amended as follows:

"5.12.1 For ships constructed on or after 1 January 2026, ~~A~~an air lock is a space enclosed by gastight bulkheads with two substantially gastight doors spaced at least 1.5 m and not more than 2.5 m apart. Unless subject to the requirements of the International Convention on Load Line, the ~~door~~ sill height of the door leading to the hazardous area shall not be less than 300 mm ~~in height~~. The doors shall be self-closing without any holding back arrangements."

6 The existing paragraph 6.4.15.3.1.2 is amended as follows:

"6.4.15.3.1.2 The design vapour pressure shall not be less than:

$$P_0 = 0.2 + AC(\rho_r)^{1.5} \text{ (MPa)}$$

[1] Tracked changes are created using "strikeout" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text, based on resolution MSC.391(95).

where:

A = 0.00185 (σ_m / $\Delta\sigma_A$) ^{2}

with:

σ_m = design primary membrane stress;

$\Delta\sigma_A$ = allowable dynamic membrane stress (double amplitude at probability level Q = 10^{-8}) and equal to:

- 55 N/mm^2 for ferritic-perlitic, martensitic and austenitic steel;
- 25 N/mm^2 for aluminium alloy (5083-O);

C = a characteristic tank dimension to be taken as the greatest of the following:

h, 0.75b or 0.45ℓ,

with:

h = height of tank (dimension in ship's vertical direction) (m);

b = width of tank (dimension in ship's transverse direction) (m);

ℓ = length of tank (dimension in ship's longitudinal direction) (m);

ρ_r = the relative density of the fuel ~~cargo~~ (ρ_r = 1 for fresh water) at the design temperature."

7 The existing paragraph 6.7.3.1.1 is amended as follows:

"6.7.3.1.1 ~~PRVs shall have a combined relieving capacity for each liquefied gas fuel tank to discharge the greater of the following, with not more than a 20% rise in liquefied gas fuel tank pressure above the MARVS~~: For ships constructed on or after 1 January 2026, the pressure relief system for each liquefied gas fuel tank shall be designed so that, regardless of the state of any one PRV, the capacity of the residual PRVs meets the combined relieving capacity requirements of the system. The combined relieving capacity shall be the greater of the following, with no more than 20% rise in liquefied gas fuel tank pressure above the MARVS. The tank shall not be loaded until the full relieving capacity is restored."

8 The existing paragraph 6.7.3.1.1.2 is amended as follows:

"6.7.3.1.1.2 Vapours generated under fire exposure computed using the following formula:

$Q = FGA^{0.82}$ (m^3/s)

where:

Q = minimum required rate of discharge of air at standard conditions of 273.15 Kelvin (K) and 0.1013 MPa.

F = fire exposure factor for different liquefied gas fuel tank types:

F = 1.0 for tanks without insulation located on deck; (…)"

9 The existing paragraph 6.9.1.1 is amended as follows:

"6.9.1.1 For ships constructed on or after 1 January 2026, ~~W~~with the exception of liquefied gas fuel tanks designed to withstand the full gauge vapour pressure of the fuel under conditions of the upper ambient design temperature, liquefied gas fuel tanks' pressure and temperature shall be maintained at all times within their design range by means acceptable to the Administration, e.g. by one or more of the following methods: "

10 The existing paragraph 7.3.2.1 is amended as follows:

"7.3.2.1 For ships constructed on or after 1 January 2026, ~~T~~the minimum wall thickness shall be calculated as follows:

$t = (t_0 + b + c) / (1 - |a|/100)$ (mm)

where:

t_0 = theoretical thickness

$t_0 = PD / (2.0Ke + P)$ (mm)

with:

P = design pressure (MPa) referred to in 7.3.3;

D = outside diameter (mm);

K = allowable stress (N/mm²) referred to in 7.3.4; and

e = efficiency factor equal to 1.0 for seamless pipes and for longitudinally or spirally welded pipes, delivered by approved manufacturers of welded pipes, that are considered equivalent to seamless pipes when non-destructive testing on welds is carried out in accordance with recognized standards. In other cases an efficiency factor of less than 1.0, in accordance with recognized standards, may be required depending on the manufacturing process;

b = allowance for bending (mm). The value of b shall be chosen so that the calculated stress in the bend, due to internal pressure only, does not exceed the allowable stress. Where such justification is not given, b shall be:

$b = D \cdot t_0 / 2.5r$ (mm)

with:

r = mean radius of the bend (mm);

c = corrosion allowance (mm). If corrosion or erosion is expected the wall thickness of the piping shall be increased over that required by other design regulations. This allowance shall be consistent with the expected life of the piping; and

a = negative manufacturing tolerance for thickness (%) i.e. where a is the manufacturing tolerance of -5%, i.e. $|a|$is equal to 5 and shall be entered into the formula as 1- (5/100)."

11 The existing paragraph 8.4.1 is amended as follows:

"8.4.1 The bunkering manifold shall be designed to withstand the external loads during bunkering. The connections at the bunkering station shall be arranged in order to achieve a dry-disconnect operation in one of the followings ways: ~~of dry-disconnect type equipped with additional safety dry break-away coupling/ self-sealing quick release. The couplings shall be of a standard type.~~

.1 a Dry-Disconnect/Connect Coupling in accordance with a standard at least equivalent to those acceptable to the Organization;[1] or

.2 a manual connect coupler or hydraulic connect coupler, used to connect the bunker system to the receiving vessel bunkering manifold presentation flange;[2] or

.3 a bolted flange to flange assembly[2]

12 In paragraph 8.4, the following new sub-paragraphs are added:

"8.4.2 When intended to use either of the connections specified in paragraphs 8.4.1.2 and 8.4.1.3, these shall be combined with operating procedures that ensure a dry-disconnect is achieved. The arrangement shall be subject to special consideration informed by a bunkering arrangement risk assessment[2] conducted at the design stage and considering dynamic loads at the bunkering manifold connection to a recognized standard acceptable to the Administration, the safe operation of the ship and other hazards that may be relevant to the ship during bunkering operation. The fuel handling manual required by 18.2.3 shall include documentation that the bunkering arrangement risk assessment was conducted, and that special consideration was granted under this requirement."

"8.4.3 An Emergency Release Coupler (ERC)/Emergency Release System (ERS) or equivalent means shall be provided, unless installed on the bunkering supply side of the bunkering line, and said means shall be in accordance with a standard equivalent to those acceptable to the Organization;[2] it shall enable a quick physical disconnection "dry break-away" of the bunker system in an emergency event."

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1 Refer to the recommendations by the International Organization for Standardization, in particular publication: ISO 21593:2019, Ships and marine technology — Technical requirements for dry-disconnect/connect couplings for bunkering liquefied natural gas.

2 Refer to the recommendations by the International Organization for Standardization, in particular publication: ISO 20519:~~2017~~2021 - Ships and Marine Technology - Specification for Bunkering of Liquefied Natural Gas Fuelled Vessels.

13 The existing paragraph 9.3.1 is amended as follows:

"9.3.1 For ships constructed on or after 1 January 2026, ~~F~~for single fuel installations the fuel supply system shall be arranged with ~~full~~ redundancy and segregation ~~all the way from the fuel tanks to the consumer~~, so that a leakage in one system, or failure of one of the fuel supply essential auxiliaries, does not lead to an unacceptable loss of power. In the event of a leakage or failure, and in accordance with SOLAS regulation II-1/26.3, the Administration, having regard to overall safety considerations, may accept a partial reduction in propulsion capability from normal operation."

14 The existing paragraph 9.4.7 is amended as follows:

"9.4.7 For ships constructed on or after 1 January 2026, ~~I~~in cases where the master gas fuel valve is automatically shut down when the safety system as required in 15.2.2 is activated, the complete gas supply ~~branch downstream of the double block and bleed valve shall be automatically ventilated assuming reverse flow from the engine to the pipe.~~ pipe between this master gas fuel valve and the double block and bleed valves and between the double block and bleed valves and the consumer shall be automatically vented."

15 The existing paragraph 9.4.8 is amended as follows:

"9.4.8 For ships constructed on or after 1 January 2026, ~~T~~there shall be one manually operated shutdown valve in the gas supply line to each ~~engine~~ gas consumer upstream of the double block and bleed valves to assure safe isolation during maintenance on the ~~engine~~ gas consumer."

16 The existing paragraph 9.6 is amended as follows:

"9.6 Gas fuel piping in gas-safe machinery spaces shall be completely enclosed by a double pipe or duct fulfilling one of the following conditions:

.1 the gas fuel piping shall be a double wall piping system with the gas fuel contained in the inner pipe. The space between the concentric pipes shall be pressurized with inert gas at a pressure greater than the gas fuel pressure. Suitable alarms shall be provided to indicate a loss of inert gas pressure between the pipes. ~~When the inner pipe contains high pressure gas, the system shall be so arranged that the pipe between the master gas valve and the engine is automatically purged with inert gas when the master gas valve is closed;~~ or"

17 The existing paragraph 9.8.1 is amended as follows:

"9.8.1 For ships constructed on or after 1 January 2026, ~~T~~the design pressure of the outer pipe or duct of fuel systems shall not be less than the maximum working pressure of the inner pipe. Alternatively ~~for fuel piping systems with a working pressure greater than 1.0 MPa~~, the design pressure of the outer pipe or duct may be calculated in accordance with 9.8.2. ~~shall not be less than the maximum built-up pressure arising in the annular space considering the local instantaneous peak pressure in way of any rupture and the ventilation arrangements.~~"

18 The existing paragraph 9.8.2 is amended as follows:

"9.8.2 ~~For high-pressure fuel piping~~ For ships constructed on or after 1 January 2026, alternatively to 9.8.1, the design pressure of the ducting shall be taken as the higher of the following:(…)"

19 The existing paragraph 9.8.4 is amended as follows:

"9.8.4 ~~For low pressure fuel piping the duct shall be dimensioned for a design pressure not less than the maximum working pressure of the fuel pipes.~~ For ships constructed on or after 1 January 2026, ~~T~~the duct shall be pressure tested to show that it can withstand the expected maximum pressure at fuel pipe rupture."

20 The existing paragraph 11.3.1 is amended as follows:

"11.3.1 For ships constructed on or after 1 January 2026, fuel preparation rooms ~~Any space containing equipment such as pumps, compressors, heat exchangers, vaporizers and pressure vessels~~ shall, for the purpose of the application of SOLAS regulation II-2/9, be regarded as a machinery space of category A ~~for fire protection purposes~~."

21 The existing paragraph 11.6.2 is amended as follows:

"11.6.2 In addition to any other portable fire extinguishers that may be required elsewhere in IMO instruments, one portable dry powder extinguisher of at least 5 kg capacity shall be located near the bunkering station and in the fuel preparation room."

22 The existing paragraph 12.5.1 is amended as follows:

"12.5.1 Hazardous area zone 0

For ships constructed on or after 1 January 2026, ~~T~~this zone includes, but is not limited to, the interiors of fuel tanks, any pipework for pressure-relief or other venting systems for fuel tanks, pipes and equipment containing fuel, and interbarrier spaces as defined by paragraph 2.2.15.2."

23 The existing paragraph 12.5.2 is amended as follows:

"12.5.2 Hazardous area zone 1

12.5.2.1 for ships constructed on or after 1 January 2026, tank connection spaces, and fuel storage hold spaces;[2] ~~;and interbarrier spaces~~ …

[2] Fuel storage hold spaces for type C tanks are normally not considered as zone 1.

24 The existing paragraph 15.4.1.3 is amended as follows:

"15.4.1.3 For ships constructed on or after 1 January 2026, ~~L~~liquefied gas fuel tank liquid level gauges may be of the following types:

.1 indirect devices, which determine the amount of fuel by means such as weighing or in-line flow metering; ~~or~~

.2 closed devices, which do not penetrate the liquefied gas fuel tank, such as devices using radioisotopes or ultrasonic devices; or

.3 closed devices which penetrate the liquefied gas fuel tank, but which form part of a closed system and keep the gas fuel from being released. Such devices shall be considered as tank connections. If the closed gauging device is not mounted directly onto the tank, it shall be provided with a shutoff valve located as close as possible to the tank."

25 The existing paragraph 16.3.5.1 is amended as follows:

"16.3.5.1 For all fuel tanks and process pressure vessels except membrane tanks, production weld tests shall generally be performed for approximately each 50 m of butt-weld joints and shall be representative of each welding position. For secondary barriers, the same type production tests as required for primary barriers ~~tanks~~ shall be performed, except that the number of tests may be reduced subject to agreement with the Administration. Tests, other than those specified in 16.3.5.2 to 16.3.5.5 may be required for fuel tanks or secondary barriers."

26 The existing paragraph 18.4.1.1 is amended as follows:

"18.4.1.1 Before any bunkering operation commences, the master of the receiving ship or his or her representative and the representative of the bunkering source (Persons In Charge, PIC) shall:

.1 agree in writing the transfer procedure, including cooling down and if necessary, gassing up; the maximum transfer rate at all stages, minimum and maximum limiting transfer pressure and temperature, bunkering line PRVs settings, and volume to be transferred;"

APPENDIX

CHECK/MONITORING SHEET FOR THE PROCESS OF AMENDING THE CONVENTION AND RELATED MANDATORY INSTRUMENTS (PROPOSAL/DEVELOPMENT)

Part III – Process monitoring to be completed during the work process at the Sub-Committee and checked as part of the final approval process by the Committee (refer to paragraph 3.2.1.3)**

1	The Sub-Committee, at an initial engagement, has allocated sufficient time for technical research and discussion before the target completion date, especially on issues needing to be addressed by more than one Sub- Committee and for which the timing of relevant sub-committees meetings and exchanges of the result of consideration needed to be carefully examined.	Yes
2	The scope of application agreed at the proposal stage was not changed without the approval of the Committee.	Yes
3	The technical base document/draft amendment addresses the proposal's issue(s) through the suggested instrument(s); where it does not, the Sub-Committee offers the Committee an alternative method of addressing the problem raised by the proposal.	Yes
4	Due attention is to be paid to the *Interim guidelines for the systematic application of the grandfather clause* (MSC/Circ.765).	Yes
5	All references have been examined against the text that will be valid if the proposed amendment enters into force.	Yes
6	The location of the insertion or modified text is correct for the text that will be valid when the proposed text enters into force on a four-year cycle of entry into force, as other relevant amendments adopted might enter into force on the same date.	Yes
7	There are no inconsistencies in respect of scope of application between the technical regulation and the application statement contained in regulation 1 or 2 of the relevant chapter, and application is specifically addressed for existing and/or new ships, as necessary.	Yes
8	Where a new term has been introduced into a regulation and a clear definition is necessary, the definition is given in the article of the Convention or at the beginning of the chapter.	Yes
9	Where any of the terms "fitted", "provided", "installed" or "installation" are used, consideration has been given to clarifying the intended meaning of the term.	Yes
10	All necessary related and consequential amendments to other existing instruments, including non-mandatory instruments, in particular to the forms of certificates and records of equipment required in the instrument being amended, have been examined and included as part of the proposed amendment(s).	Yes

11	The forms of certificates and records of equipment have been harmonized, where appropriate, between the Convention and its Protocols.	n/a
12	It is confirmed that the amendment is being made to a currently valid text and that no other bodies are concurrently proposing changes to the same text.	Yes
13	All entry-into-force criteria (building contract, keel laying and delivery) have been considered and addressed.	Yes
14	Other impacts of the implementation of the proposed/approved amendment have been fully analysed, including consequential amendments to the "application" and "definition" regulations of the chapter.	Yes
15	The amendments presented for adoption clearly indicate changes made with respect to the original text, so as to facilitate their consideration.	Yes
16	For amendments to mandatory instruments, the relationship between the Convention and the related instrument has been observed and addressed, as appropriate.	n/a
17	The related record format has been completed or updated, as appropriate.	n/a

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ANNEX 19

DRAFT AMENDMENTS TO THE INTERNATIONAL CODE FOR THE SAFE CARRIAGE OF GRAIN IN BULK (RESOLUTION MSC.23(59))

PART A – Specific requirements

2 Definitions

1 Add the following definition at the end of the section:

"2.8 The term "specially suitable compartment, partly filled in way of the hatch opening, with ends untrimmed" refers to a specially suitable compartment which is not filled to the maximum extent possible in way of the hatch opening but is filled to a level equal with or above the bottom edge of the hatch end beams and has not been trimmed outside the periphery of the hatch opening by the provisions of A 10.4."

10 Stowage of bulk grain

2 Amend the existing subparagraph 10.3.1 to refer to B 7 instead of B 6.

3 Add a new paragraph following the existing paragraph 10.3:

"10.4 In any "specially suitable compartment, partly filled in way of the hatch opening, with ends untrimmed", the bulk grain shall be filled to a level equal with or above the bottom edge of the hatch end beams but may be at its natural angle of repose outside the periphery of the hatch opening. A compartment may qualify for this classification if it is "specially suitable" as defined in A 2.7, in which case dispensation may be granted from trimming the ends of that compartment."

4 Renumber existing paragraphs 10.4 to 10.9.

5 Amend renumbered paragraph 10.7 (existing 10.6) as follows:

"10.7 After loading, all free grain surfaces in partly filled compartments shall be level unless the compartment is partly filled in accordance with the provisions of A 10.4, in which case the free grain surface in way of the hatch opening only shall be level."

6 Amend the renumbered subparagraph 10.10.3 (existing 10.9.3) to refer to B 6.2 instead of B 5.2.

12 Divisions loaded on both sides

7 Amend the existing subparagraph 12.3.3 to refer to A 12.1.2 instead of A 12.1.3.[1]

14 Saucers

8 Amend the existing paragraph 14.1 to refer to A 10.10 instead of A 10.9.

[1] This editorial modification only applies to the authentic text, but not the publication.

PART B - Calculation of assumed heeling moments and general assumptions

1 General assumptions

9 Add new paragraph 1.1.5:

".5 In a "specially suitable compartment, partly filled in way of the hatch opening, with ends untrimmed" which is exempted from trimming under the provisions of A 10.4, it shall be assumed that the surface of the grain after loading will slope in all directions away from the filling area at an angle of 30° from the lower edge of the hatch end beam. However, if feeding holes are provided in the hatch end beams in accordance with table B 1-2 and the free grain surface in way of the hatch opening is above the level of the feeding holes, then the surface of the grain after loading shall be assumed to slope in all directions, at an angle of 30° from a line on the hatch end beam which is the mean of the peaks and valleys of the actual grain surface as shown in figure B-1."

10 Amend paragraph 1.2 to refer to B 6 instead of B 5.

11 Amend paragraph 1.5 as follows:

"1.5 In "partly filled compartments" and "specially suitable compartments, partly filled in way of the hatch opening, with ends untrimmed", the adverse effect of the vertical shift of grain surfaces shall be taken into account as follows:

Total heeling moment = 1.12 x calculated transverse heeling moment."

2 Assumed volumetric heeling moment of a filled compartment, trimmed

12 Amend the existing paragraph 2.6 to refer to A 10.10 instead of A 10.9.

13 Amend the existing paragraph 2.8, Notes on figure B 2-1, (2) to refer to A 10.10 instead of A 10.9.

14 Amend the existing paragraph 2.9, Notes on figure B 2-3, (3) to refer to A 10.10 instead of A 10.9.

3 Assumed volumetric heeling moment of a filled compartment, untrimmed

15 Amend the existing paragraph 3.1 to replace the word "provision" with "provisions".

16 Add new section 4 following the existing section 3 (Assumed Volumetric Heeling Moment of a Filled Compartment, Untrimmed):

"**4 Assumed volumetric heeling moment of a specially suitable compartment, partly filled in way of the hatch opening, with ends untrimmed**

4.1 All the provisions for "filled compartments, trimmed" set forth in B 2 shall also apply to "specially suitable compartments, partly filled in way of the hatch opening, with ends untrimmed" except as noted below.

4.2 In a "specially suitable compartment, partly filled in way of the hatch opening, with ends untrimmed" which is exempted from trimming under the provisions of A 10.4, the resulting grain surface in way of the hatch opening and the resulting grain surface in the ends, forward and aft of the hatchway, after shifting shall be assumed to be at an angle of 25° to the horizontal."

17 Renumber existing section 4 (Assumed Volumetric Heeling Moments in Trunks) as 5.

18 Amend the renumbered section 5 (Assumed Volumetric Heeling Moments in Trunks) to refer to figure B 5 instead of figure B 4.

19 Renumber existing figure B 4 as figure B 5.

20 Renumber existing sections 5 (Assumed Volumetric Heeling Moment of a Partly Filled Compartment) and 6 (Other Assumptions) as sections 6 and 7, respectively.

APPENDIX

CHECK/MONITORING SHEET FOR THE PROCESS OF AMENDING THE CONVENTION AND RELATED MANDATORY INSTRUMENTS (PROPOSAL/DEVELOPMENT)

Part I – Submitter of proposal (refer to paragraph 3.2.1.1)

1 Submitted by Canada and the United States
2 Meeting session: MSC 101
3 Date: 5 to 14 June 2019

Part II – Details of proposed amendment(s) or new mandatory instrument (refer to paragraphs 3.2.1.1 and 3.2.1.2)*

1 Strategic direction
7.25
2 Title of the output
Amendments to the *International Code for the Safe Carriage of Grain in Bulk* (resolution MSC.23(59)) to introduce a new class of loading conditions for special compartments
3 Recommended type of amendments (MSC.1/Circ.1481) (delete as appropriate)
Exceptional circumstance (Ad hoc midterm amendment cycle, MSC 104/18, paragraph 3.16.1)
4 Instruments intended for amendment (SOLAS, LSA Code, etc.) or developed (new code, new version of a code, etc.)
International Grain Code adopted by resolution MSC.23(59)
5 Intended application (scope, size, type, tonnage/length restriction, service (International/non-international), activity, etc.)
All ships to which International Grain Code applies
6 Application to new/existing ships
New and existing ships
7 Proposed coordinating Sub-Committee
CCC Sub-Committee
8 Anticipated supporting Sub-Committees
-
9 Time scale for completion
One session
10 Expected date(s) for entry into force and implementation/application
1 January 2026
11 Any relevant decision taken or instruction given by the Committee
N/A

Part III – Process monitoring to be completed during the work process at the Sub-Committee and checked as part of the final approval process by the Committee (refer to paragraph 3.2.1.3)

1	The Sub-Committee, at an initial engagement, has allocated sufficient time for technical research and discussion before the target completion date, especially on issues needing to be addressed by more than one Sub-Committee and for which the timing of relevant Sub-Committee meetings and exchanges of the result of consideration needed to be carefully examined.	Yes
2	The scope of application agreed at the proposal stage was not changed without the approval of the Committee.	Yes
3	The technical base document/draft amendment addresses the proposal's issue(s) through the suggested instrument(s); where it does not, the Sub-Committee offers the Committee an alternative method of addressing the problem raised by the proposal.	N/A
4	Due attention has been paid to the *Interim guidelines for the systematic application of the grandfather clauses* (MSC/Circ.765-MEPC/Circ.315).	Yes
5	All references have been examined against the text that will be valid if the proposed amendment enters into force.	Yes
6	The location of the insertion or modified text is correct for the text that will be valid when the proposed text enters into force on a four-year cycle of entry into force, as other relevant amendments adopted might enter into force on the same date.	Yes
7	There are no inconsistencies in respect of scope of application between the technical regulation and the application statement contained in regulation 1 or 2 of the relevant chapter, and application is specifically addressed for existing and/or new ships, as necessary.	Yes
8	Where a new term has been introduced into a regulation and a clear definition is necessary, the definition is given in the article of the Convention or at the beginning of the chapter.	Yes
9	Where any of the terms "fitted", "provided", "installed" or "installation" are used, consideration has been given to clarifying the intended meaning of the term.	N/A
10	All necessary related and consequential amendments to other existing instruments, including non-mandatory instruments, in particular to the forms of certificates and records of equipment required in the instrument being amended, have been examined and included as part of the proposed amendment(s).	N/A
11	The forms of certificates and records of equipment have been harmonized, where appropriate, between the Convention and its Protocols.	N/A
12	It is confirmed that the amendment is being made to a currently valid text and that no other bodies are concurrently proposing changes to the same text.	Yes
13	All entry-into-force criteria (building contract, keel laying and delivery) have been considered and addressed.	Yes

14	Other impacts of the implementation of the proposed/approved amendment have been fully analysed, including consequential amendments to the "application" and "definition" regulations of the chapter.	Yes
15	The amendments presented for adoption clearly indicate changes made with respect to the original text, so as to facilitate their consideration.	Yes
16	For amendments to mandatory instruments, the relationship between the Convention and the related instrument has been observed and addressed, as appropriate.	Yes
17	The related record format has been completed or updated, as appropriate.	Yes

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ANNEX 20

DRAFT AMENDMENTS TO SOLAS CHAPTER V

Regulation 31
Danger messages

1 The following new paragraphs are inserted after paragraph 1, together with the associated footnote:

"2.1 The master of every ship involved in the loss of freight container(s), shall communicate the particulars of such an incident by appropriate means without delay and to the fullest extent possible to ships in the vicinity, to the nearest coastal State, and also to the flag State.

2.2 In the event of the ship referred to in paragraph 2.1 being abandoned, or in the event of a report from such a ship being incomplete or unobtainable, the company, as defined in regulation IX/1.2, shall, to the fullest extent possible, assume the obligations placed upon the master by this regulation.

2.3 The flag State, once informed in accordance with paragraph 2.1, shall report to the Organization on the loss of freight container(s).*

* Refer to *Notification and circulation through the Global Integrated Shipping Information System (GISIS)* (resolution A.1074(28)).

2.4 The master of every ship that observes freight container(s) drifting at sea, shall communicate the particulars of such an observation by appropriate means without delay and to the fullest extent possible to ships in the vicinity and to the nearest coastal State."

2 Existing paragraphs 2, 3 and 4 are renumbered as paragraphs 3, 4 and 5, respectively.

Regulation 32
Information required in danger messages

3 The following new paragraph is inserted after existing paragraph 2 (Tropical cyclones(storms)):

"3 Loss or observation of freight container(s)

A) Loss of freight container(s) from a ship

It is recognized that at the time of the initial reporting, not all of the information elements may be available. Any subsequent and/or additional information shall be reported by the master at the earliest opportunity after the initial reporting. The report shall include:

.1 General information

- Type of report: Loss of freight container(s) from a ship

- Time (Universal Coordinated Time) and date

- Ship's identity (IMO Number/Name/Call Sign/MMSI Number)

- From: Master of the ship, or contact details of their representative reporting on Master's behalf

- To: Nearest Coastal State where the incident occurred and flag State

- The message number:
In chronological order if other freight container loss messages are sent following the first one.

At the earliest, safe and practicable opportunity, a thorough inspection shall be conducted. The number or estimated number of lost freight container(s) shall be verified. A message containing this verified number shall be marked as "final" and sent to the same recipients.

.2 Position reporting*

Position in latitude and longitude, or true bearing and distance in nautical miles from a clearly identified landmark (where possible)

- Position of the ship when freight container(s) were lost; or

- If the position of the ship when the freight container(s) were lost, is not known, the estimated position of the ship when the freight container(s) were lost; or

- If an estimated position of the ship when the freight container(s) were lost, is not known or cannot be determined, the position of the ship upon discovery of the loss.

* Where available, a system of mechanical, electronic and/or visual aids can be used, allowing near real time reporting of the drop point of the freight container(s).

.3 Total number or estimated number of freight container(s) lost, as appropriate:

.4 Type of goods in freight container(s):

- Dangerous goods: Yes/No

- UN Number (if known)

.5 Description of freight container(s) lost as far as available and practicable:

.1 Dimension of freight container(s) (e.g. 20 foot);

.2 Type(s) of freight container(s) (e.g. reefer); and

.3 Number or estimated number of empty freight container(s).

.6 The Master may provide additional information, if available and practicable, for example but not limited to:

- Cargo description according to the dangerous goods manifest (if applicable)
- Description of any cargo spill
- Wind direction and speed
- Sea current direction and speed
- Estimated drift direction and speed of lost freight container(s)
- Sea state and wave height

B) Observation of freight container(s) drifting at sea

.1 General information

- Type of report: Observation of freight container(s) drifting at sea
- Time (Universal Coordinated Time) and date
- Ship's identity (IMO Number/Name/Call Sign/MMSI Number)
- From: Master of the ship
-To: Nearest Coastal State to the position of observation

.2 Position reporting

Time (Universal Coordinated Time), date and position of the observed freight container(s) in latitude and longitude, or true bearing and distance in nautical miles from a clearly identified landmark (where possible)

.3 Total number of freight container(s) observed

.4 The Master may provide additional information, if available and practicable, for example but not limited to:

- Dimension of freight container(s) (e.g. 20 foot)
- Type(s) of freight container(s) (e.g. reefer)
- Description of any cargo spill
- Wind direction and speed
- Sea current direction and speed
- Estimated drift direction and speed of observed freight container(s)
- Sea state and wave height "

4 Existing paragraphs 3, 4 and 5 are re-numbered as paragraphs 4, 5 and 6, respectively.

APPENDIX

CHECK/MONITORING SHEET FOR THE PROCESS OF AMENDING THE (SOLAS) CONVENTION AND RELATED MANDATORY INSTRUMENTS*

1	The Sub-Committee, at an initial engagement, has allocated sufficient time for technical research and discussion before the target completion date, especially on issues needing to be addressed by more than one Sub-Committee and for which the timing of relevant sub-committees' meetings and exchanges of the result of consideration needed to be carefully examined.	YES
2	The scope of application agreed at the proposal stage was not changed without the approval of the Committee.	YES
3	The technical base document/draft amendment addresses the proposal's issue(s) through the suggested instrument(s); where it does not, the Sub-Committee offers the Committee an alternative method of addressing the problem raised by the proposal.	YES
4	Due attention has been paid to the *Interim guidelines for the systematic application of the grandfather clauses* (MSC/Circ.765-MEPC/Circ.315).	N/A
5	All references have been examined against the text that will be valid if the proposed amendment enters into force.	YES
6	The location of the insertion or modified text is correct for the text that will be valid when the proposed text enters into force on a four-year cycle of entry into force, as other relevant amendments adopted might enter into force on the same date.	YES
7	There are no inconsistencies in respect of scope of application between the technical regulation and the application statement contained in regulation 1 or 2 of the relevant chapter, and application is specifically addressed for existing and/or new ships, as necessary.	YES
8	Where a new term has been introduced into a regulation and a clear definition is necessary, the definition is given in the article of the Convention or at the beginning of the chapter.	N/A
9	Where any of the terms "fitted", "provided", "installed" or "installation" are used, consideration has been given to clarifying the intended meaning of the term.	N/A
10	All necessary related and consequential amendments to other existing instruments, including non-mandatory instruments, in particular to the forms of certificates and records of equipment required in the instrument being amended, have been examined and included as part of the proposed amendment(s).	N/A
11	The forms of certificates and records of equipment have been harmonized, where appropriate, between the Convention and its Protocols.	N/A
12	It is confirmed that the amendment is being made to a currently valid text and that no other bodies are concurrently proposing changes to the same text.	YES
13	All entry-into-force criteria (building contract, keel laying and delivery) have been considered and addressed.	N/A
14	Other impacts of the implementation of the proposed/approved amendment have been fully analysed, including consequential amendments to the "application" and "definition" regulations of the chapter.	N/A
15	The amendments presented for adoption clearly indicate changes made with respect to the original text, so as to facilitate their consideration.	YES
16	For amendments to mandatory instruments, the relationship between the Convention and the related instrument has been observed and addressed, as appropriate.	YES
17	The related record format has been completed or updated, as appropriate.	YES

* This appendix is reproduced in English only.

RECORD FORMAT

The following records should be created and kept updated for each regulatory development.

The records can be completed by providing references to paragraphs of related documents containing the relevant information, proposals, discussions and decisions.

1	**Title (number and title of regulation(s))**
SOLAS regulations V/31 (Danger messages) and V/32 (Information required in danger messages)	
2	**Origin of the requirement (original proposal document)**
MSC 102/21/13 (Vanuatu) and MSC 102/21/19 (Austria et al.) commenting	
3	**Main reason for the development (extract from the proposal document)**
The purpose of this output is to simplify the processing of container lost reports in order to comply with regulatory obligations, provide for a reporting requirement from the flag State to IMO, increase navigation safety and prevent pollution.	
4	**Related output**
Development of measures regarding the detection and mandatory reporting of containers lost at sea that may enhance the positioning, tracking and recovery of such containers (4.4)	
5	**History of the discussion (approval of work programmes, sessions of sub-committees, including CG/DG/WG arrangements)**
MSC 103 agreed to include in its post-biennial agenda an output on "Development of measures regarding the detection and mandatory reporting of containers lost at sea that may enhance the positioning, tracking and recovery of such containers", with two sessions needed to complete the item, assigning the CCC Sub-Committee as the coordinating organ, in association with the NCSR Sub-Committee as and when requested by the CCC Sub-Committee (MSC 103/21, paragraph 18.34). **CCC 7** included the new output on the in the provisional agenda of CCC 8. **CCC 8** finalized the draft amendments to SOLAS chapter V for approval by MSC 107 and adoption by MSC 108.	
6	**Impact on other instruments (codes, performance standards, guidance circulars, certificates/records format, etc.)**
MARPOL	
7	**Technical background**
7.1	***Scope and objective (to cross check with items 4 and 5 in part II of the checklist)***
The output will provide clarification on reporting procedures, detection, positioning, tracking and recovery of containers lost at sea. The proposal aims to enhance safety and reduce environmental consequences of container losses.	
7.2	***Technical/operational background and rationale (e.g. summary of FSA study, if available, or engineering challenge posed)***
Not applicable	
7.3	***Source/derivation of requirement (non-mandatory instrument, industry standard, national/regional requirement)***
Not applicable	
7.4	***Short summary of requirement (what is the new requirement – in short and lay terms)***
Mandatory reporting of lost/observed freight containers from 1 January 2026.	
7.5	***Points of discussions (controversial points and conclusion)***
Not applicable	

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ANNEX 21

DRAFT AMENDMENTS TO THE INTERNATIONAL CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF BULK CARRIERS AND OIL TANKERS, 2011 (2011 ESP CODE)

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution A.1049(27), by which the Assembly adopted the International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011 ("the 2011 ESP Code"), which has become mandatory under chapter XI-1 of the International Convention for the Safety of Life at Sea, 1974 ("the Convention"),

NOTING ALSO article VIII(b) and regulation XI-1/2 of the Convention concerning the procedure for amending the 2011 ESP Code,

HAVING CONSIDERED, at its 107th session, amendments to the 2011 ESP Code, proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1 ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the 2011 ESP Code the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the said amendments shall be deemed to have been accepted on [1 July 2025], unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet have notified their objections to the amendments;

3 INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on [1 January 2026] upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention;

5 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

AMENDMENTS TO THE INTERNATIONAL CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF BULK CARRIERS AND OIL TANKERS, 2011 (2011 ESP CODE)

Annex A, part A (annex 5), in Annex A, part B (annex 5), in Annex B, part A (annex 8) and in Annex B, part B (annex 7) on *Procedures for approval and certification of a firm engaged in thickness measurement of hull structures*, are amended as follows:

"**2 Procedures for approval and certification**

Submission of documents

2.1 The following documents shall be submitted to ~~an organization recognized by~~ the Administration for approval: […]

Auditing of the firm

2.2 Upon reviewing of the documents submitted with satisfactory results, the firm shall be audited by the Administration in order to ascertain that the firm is duly organized and managed in accordance with the documents submitted and is capable of conducting thickness measurement of the hull structure of ships."

***

ANNEX 22

RESOLUTION MSC.545(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE CODE FOR THE CONSTRUCTION AND EQUIPMENT OF MOBILE OFFSHORE DRILLING UNITS, 1979 (1979 MODU CODE)

THE MARITIME SAFETY COMMITTEE,

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

NOTING that mobile offshore drilling units continue to be moved and operated internationally,

RECALLING that the Assembly, when adopting the Code for the Construction and Equipment of Mobile Offshore Drilling Units in 1979 by resolution A.414(XI), authorized the Committee to amend the Code as necessary after due consultations with appropriate organizations,

RECALLING ALSO that, in accordance with regulation II-1/3-5 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, new installation of materials which contain asbestos is prohibited on all ships, which do not include MODUs,

RECOGNIZING that the 1979 MODU Code does not contain any requirements for materials containing asbestos,

HAVING CONSIDERED, at its 107th session, recommendations made by the Sub-Committee on Ship Design and Construction, at its ninth session (23 to 27 January 2022),

1 ADOPTS amendments to the 1979 Code the text of which is set out in the annex to the present resolution;

2 INVITES all Governments concerned to take appropriate steps to give effect to the annexed amendments to the 1979 MODU Code by 1 January 2024.

ANNEX

AMENDMENTS TO THE CODE FOR THE CONSTRUCTION AND EQUIPMENT OF MOBILE OFFSHORE DRILLING UNITS (1979 MODU CODE)
(Resolution A.414(XI))

CHAPTER 2 – CONSTRUCTION, STRENGTH AND MATERIALS

1 Section 2.7 is replaced by the following:

"**2.7 Materials**

2.7.1 Units should be constructed from steel or other suitable material having properties acceptable to the Administration.

2.7.2 For all MODUs, new installation of materials which contain asbestos should be prohibited. * "

***

* Refer to the *Unified interpretation on implementation of regulation 2.10.3 of the 2009 MODU Code, regulation 2.8.2 of the 1989 MODU Code and regulation 2.7.2 of the 1979 MODU Code* (MSC.1/ Circ.1671).

ANNEX 23

RESOLUTION MSC.546(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE CODE FOR THE CONSTRUCTION AND EQUIPMENT OF MOBILE OFFSHORE DRILLING UNITS, 1989 (1989 MODU CODE)

THE MARITIME SAFETY COMMITTEE,

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

NOTING that mobile offshore drilling units continue to be moved and operated internationally,

RECALLING that the Assembly, when adopting the Code for the Construction and Equipment of Mobile Offshore Drilling Units in 1989 by resolution A.649(16), authorized the Committee to amend the Code when appropriate, taking into consideration the developing design and safety features after due consultation with appropriate organizations,

RECALLING ALSO that, in accordance with regulation II-1/3-5 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, new installation of materials which contain asbestos is prohibited on all ships, which do not include MODUs,

RECOGNIZING that the 1989 MODU Code does not contain any requirements for materials containing asbestos,

HAVING CONSIDERED, at its 107th session, recommendations made by the Sub-Committee on Ship Design and Construction, at its ninth session (23 to 27 January 2022),

1 ADOPTS amendments to the 1989 Code the text of which is set out in the annex to the present resolution;

2 INVITES all Governments concerned to take appropriate steps to give effect to the annexed amendments to the 1989 MODU Code by 1 January 2024.

ANNEX

AMENDMENTS TO THE CODE FOR THE CONSTRUCTION AND EQUIPMENT OF MOBILE OFFSHORE DRILLING UNITS, 1989 (1989 MODU CODE) (Resolution A.649(16))

CHAPTER 2 – CONSTRUCTION, STRENGTH AND MATERIALS

1 Section 2.8 is replaced by the following:

"**2.8 Materials**

2.8.1 Units should be constructed from steel or other suitable material having properties acceptable to the Administration.

2.8.2 For all MODUs, new installation of materials which contain asbestos should be prohibited.* "

***

* Refer to the *Unified interpretation on implementation of regulation 2.10.3 of the 2009 MODU Code, regulation 2.8.2 of the 1989 MODU Code and regulation 2.7.2 of the 1979 MODU Code* (MSC.1/Circ.1671).

ANNEX 24

RESOLUTION MSC.547(107)
(adopted on 8 June 2023)

AMENDMENTS TO THE CODE FOR THE CONSTRUCTION AND EQUIPMENT OF MOBILE OFFSHORE DRILLING UNITS, 2009 (2009 MODU CODE)

THE MARITIME SAFETY COMMITTEE,

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

NOTING that mobile offshore drilling units continue to be moved and operated internationally,

RECALLING that the Assembly, when adopting the Code for the Construction and Equipment of Mobile Offshore Drilling Units in 2009 by resolution A.1023(26), authorized the Committee to amend the Code as appropriate, taking into consideration developments in design and technology, in consultation with appropriate organizations,

RECALLING ALSO that, in accordance with regulation II-1/3-5 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, new installation of materials which contain asbestos is prohibited on all ships, which do not include MODUs,

RECOGNIZING that regulation 2.10.3 of the 2009 MODU Code covers the prohibition of materials containing asbestos that is applicable to new units at the time of construction, but does not cover new installation of materials on existing MODUs,

HAVING CONSIDERED, at its 107th session, recommendations made by the Sub-Committee on Ship Design and Construction, at its ninth session (23 to 27 January 2022),

1 ADOPTS amendments to the 2009 MODU Code the text of which is set out in the annex to the present resolution;

2 INVITES all Governments concerned to take appropriate steps to give effect to the annexed amendments to the 2009 MODU Code by 1 January 2024.

ANNEX

AMENDMENTS TO THE CODE FOR THE CONSTRUCTION AND EQUIPMENT OF MOBILE OFFSHORE DRILLING UNITS, 2009 (2009 MODU CODE) (Resolution A.1023(26))

CHAPTER 2 – CONSTRUCTION, STRENGTH AND MATERIALS

1 Section 2.10 is replaced by the following:

"**2.10 Materials**

2.10.1 Units should be constructed from steel or other suitable material having properties acceptable to the Administration taking into consideration the temperature extremes in the areas in which the unit is intended to operate.

2.10.2 Consideration should be given to the minimization of hazardous substances used in the design and construction of the unit and should facilitate recycling and removal of hazardous materials.[1]

2.10.3 For all MODUs, new installation of materials which contain asbestos should be prohibited.[2] "

***

[1] Refer to the *Guidelines on ship recycling*, adopted by the Organization by resolution A.962(23), as amended (refer to A.980(24)).

[2] Refer to the *Unified interpretation on implementation of regulation 2.10.3 of the 2009 MODU Code, regulation 2.8.2 of the 1989 MODU Code and regulation 2.7.2 of the 1979 MODU Code* (MSC.1/Circ.1671).

ANNEX 25

DRAFT AMENDMENTS TO SOLAS REGULATION II-1/3-4

CHAPTER II-1

CONSTRUCTION – STRUCTURE, SUBDIVISION AND STABILITY, MACHINERY AND ELECTRICAL INSTALLATIONS

PART A-1
STRUCTURE OF SHIPS

Regulation II-1/3-4 – Emergency towing arrangements and procedures

1 The following new section 2 is added after existing section 1:

"**2 Emergency towing arrangements on ships other than tankers**

2.1 Emergency towing arrangements shall be fitted on ships other than tankers of not less than 20,000 gross tonnage, constructed on or after [entry-into-force date].

2.2 For ships other than tankers constructed on or after [entry-into-force date]:

.1 the arrangements shall, at all times, be capable of rapid deployment in the absence of main power on the ship to be towed and easy connection to the towing ship; and

.2 emergency towing arrangements shall be of adequate strength taking into account the size of the ship, and the expected forces during bad weather conditions. The design and construction and prototype testing of emergency towing arrangements shall be approved by the Administration, based on the Guidelines developed by the Organization.*

* Refer to Guidelines on emergency towing arrangements for ships other than tankers ([to be developed]).**"**

2 Renumber subsequent paragraphs in the existing section 2 under renumbered section 3.

CHECK/MONITORING SHEET FOR THE PROCESS OF AMENDING THE CONVENTION AND RELATED MANDATORY INSTRUMENTS (PROPOSAL/DEVELOPMENT)

Part III – Process monitoring to be completed during the work process at the sub-committee and checked as part of the final approval process by the Committee (refer to paragraph 3.2.1.3)

1	The sub-committee, at an initial engagement, has allocated sufficient time for technical research and discussion before the target completion date, especially on issues needing to be addressed by more than one sub-committee and for which the timing of relevant sub-committees meetings and exchanges of the result of consideration needed to be carefully examined.	Yes
2	The scope of application agreed at the proposal stage was not changed without the approval of the Committee.	Yes
3	The technical base document/draft amendment addresses the proposal's issue(s) through the suggested instrument(s); where it does not, the sub-committee offers the Committee an alternative method of addressing the problem raised by the proposal.	Yes
4	Due attention has been paid to the *Interim guidelines for the systematic application of the grandfather clauses* (MSC/Circ.765-MEPC/Circ.315).	N/A
5	All references have been examined against the text that will be valid if the proposed amendment enters into force.	Yes
6	The location of the insertion or modified text is correct for the text that will be valid when the proposed text enters into force on a four-year cycle of entry into force, as other relevant amendments adopted might enter into force on the same date.	Yes
7	There are no inconsistencies in respect of scope of application between the technical regulation and the application statement contained in regulation 1 or 2 of the relevant chapter, and application is specifically addressed for existing and/or new ships, as necessary.	Yes
8	Where a new term has been introduced into a regulation and a clear definition is necessary, the definition is given in the article of the Convention or at the beginning of the chapter.	N/A
9	Where any of the terms "fitted", "provided", "installed" or "installation" are used, consideration has been given to clarifying the intended meaning of the term.	Yes
10	All necessary related and consequential amendments to other existing instruments, including non-mandatory instruments, in particular to the forms of certificates and records of equipment required in the instrument being amended, have been examined and included as part of the proposed amendment(s).	No (to be completed)
11	The forms of certificates and records of equipment have been harmonized, where appropriate, between the Convention and its Protocols.	N/A

12	It is confirmed that the amendment is being made to a currently valid text and that no other bodies are concurrently proposing changes to the same text.	Yes
13	All entry-into-force criteria (building contract, keel laying and delivery) have been considered and addressed.	Yes
14	Other impacts of the implementation of the proposed/approved amendment have been fully analysed, including consequential amendments to the "application" and "definition" regulations of the chapter.	No (to be completed)
15	The amendments presented for adoption clearly indicate changes made with respect to the original text, so as to facilitate their consideration.	Yes
16	For amendments to mandatory instruments, the relationship between the Convention and the related instrument has been observed and addressed, as appropriate.	Yes
17	The related record format has been completed or updated, as appropriate.	Yes

RECORD FORMAT

1	**Title (number and title of regulation(s))**
SOLAS regulation II-1/3-4	
2	**Origin of the requirement (original proposal document)**
MSC 102/21/5 and Corr.1 (France et al.)	
3	**Main reason for the development (extract from the proposal document)**
MSC 102/21/5 and Corr.1 (France et al.) proposing an extension of the requirements for emergency towing arrangements in SOLAS regulation II-1/3-4, applicable to tankers of not less than 20,000 tonnes deadweight, to all types of large new ships.	
4	**Related output**
Development of amendments to SOLAS regulation II-1/3-4 to apply requirements for emergency towing equipment for tankers to other types of ships.	
5	**History of the discussion (approval of work programmes, sessions of sub-committees, including CG/DG/WG arrangements)**
MSC 103 agreed to include in the biennial agenda of the SDC Sub-Committee for 2022-2023 and the provisional agenda for SDC 8 an output on "Development of amendments to SOLAS regulation II-1/3-4 to apply requirements for emergency towing equipment for tankers to other types of ships", with a target completion year of 2023.	
6	**Impact on other instruments (codes, performance standards, guidance circulars, certificates/records format, etc.)**
A new set of guidelines for emergency towing arrangements on ships other than tankers to be developed as a consequence of the SOLAS amendments.	
7	**Technical background**
7.1	***Scope and objective (to cross check with items 4 and 5 in part II of the checklist)***

Amendments to SOLAS applicable to new ships other than tankers of not less than 20,000 GT (and to which SOLAS chapter I applies)
7.2 Technical/operational background and rationale (e.g. summary of FSA study, if available, or engineering challenge posed)
Application of similar requirements to all kind of ships other than tankers meets challenges in developing new requirements and associated guidelines, for which an extension of output is requested.
7.3 Source/derivation of requirement (non-mandatory instrument, industry standard, national/regional requirement)
Experiences gained and feedback received
7.4 Short summary of requirement (what is the new requirement – in short and lay terms)
Extension of requirement for emergency towing arrangements to new ships of not less than 20,000 GT
7.5 Points of discussions (controversial points and conclusion)
New design and operational requirements for ships other than tankers should be carefully considered taking into account differences in ship design and operational profiles. Need for further consideration of associated guidelines.

***

ANNEX 26

RESOLUTION MSC.188(79)/Rev.2
(adopted on 8 June 2023)

REVISED PERFORMANCE STANDARDS FOR WATER LEVEL DETECTORS ON SHIPS SUBJECT TO SOLAS REGULATIONS II-1/25, II-1/25-1 AND XII/12

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO resolution MSC.134(76), by which it, at its seventy-sixth session, adopted amendments to chapter XII of the International Convention for the Safety of Life at Sea (SOLAS), 1974, inter alia introducing new regulation 12 requiring the installation of water level detectors for hold, ballast and dry spaces,

RECALLING FURTHER resolution MSC.194(80), by which it, at its eightieth session, adopted amendments to chapter II-1 of the 1974 SOLAS Convention, introducing new regulation 23-3 requiring the installation of water level detectors on single hold cargo ships other than bulk carriers,

RECALLING resolution MSC.482(103), by which it, at its 103rd session, adopted amendments to chapter II-1 of the 1974 SOLAS Convention, introducing new regulation 25-1 requiring the installation of water level detectors on multiple hold cargo ships other than bulk carriers and tankers, which is expected to enter into force on 1 January 2024,

RECOGNIZING that performance standards against which the operation and efficiency of water level detectors can be measured should be made available in good time before the above entry-into-force date,

RECOGNIZING ALSO the need to ensure that the required water level detectors operate reliably and that, to that extent, they are appropriately tested and installed,

HAVING CONSIDERED, at its 105th session, the recommendations made by the Sub-Committee on Ship Design and Construction, at its eighth session,

HAVING ALSO CONSIDERED, at its 107th session, the recommendations made by the Sub-Committee on Ship Design and Construction, at its ninth session,

1 ADOPTS the Revised performance standards for water level detectors on ships subject to SOLAS regulations II-1/25, II-1/25-1 and XII/12 and the appended *Guidelines on installation and testing of water level detection systems for ships subject to SOLAS regulations II-1/25, II-1/25-1 and XII/12*, as set out in the annex to the present resolution;

2 URGES Governments to ensure that the annexed Revised performance standards and appended Guidelines are applied when water level detectors are installed on ships flying their flags, in compliance with SOLAS regulations II-1/25, II-1/25-1 and XII/12, as appropriate;

3 RECOMMENDS Governments to ensure that water level detectors:

.1 conform to performance standards not inferior to those specified in the annex to the present resolution if the detectors are installed on:

(a) new ships for which the building contract is placed on or after 1 January 2024, or in the absence of the contract, the keel of which is laid or which are at a similar stage of construction on or after 1 January 2024; or

(b) ships other than those ships prescribed in (a), with a contractual delivery date for the equipment to the ship on or after 1 January 2024, or in the absence of a contractual delivery date to the ship, actually delivered to the ship on or after 1 January 2024; or

.2 conform to performance standards not inferior to those specified in the annex to resolution MSC.188(79) if the detectors are installed on ships other than those prescribed in .1 above.

4 DETERMINES that the present resolution revokes resolution MSC.188(79)/Rev.1.

ANNEX

PERFORMANCE STANDARDS FOR WATER LEVEL DETECTORS ON SHIPS SUBJECT TO SOLAS REGULATIONS II-1/25, II-1/25-1 AND XII/12

1 PURPOSE

1.1 These standards provide technical functional requirements for water level detection and alarm arrangements installed in:

.1 bulk carriers for compliance with SOLAS regulation XII/12;

.2 single hold cargo ships other than bulk carriers for compliance with SOLAS regulation II-1/25; and

.3 multiple hold cargo ships other than bulk carriers and tankers for compliance with SOLAS regulation II-1/25-1.

1.2 They also provide technical functional requirements for bilge alarms used as water level detectors in multiple hold cargo ships for compliance with SOLAS regulation II-1/25-1.

2 DEFINITIONS

2.1 *Water level detector* means a system comprising sensors and alarms that detect and warn of water ingress in cargo holds and other spaces as required in SOLAS regulations II-1/25, II-1/25-1 or XII/12.1.

2.2 *Sensor* means a unit fitted at the location being monitored that activates a signal to identify the presence of water at the location.

2.3 *Pre-alarm level* means the lower level at which the sensor(s) in the cargo hold space will operate.

2.4 *Main alarm level* means the higher level at which the sensor(s) in the cargo hold space will operate or the sole level in spaces other than cargo holds.

2.5 *Visual indication* means indication by activation of a light or other device that is visible to the human eye in all levels of light or dark at the location where it is situated.

2.6 *Audible indication* means an audible signal that is detectable at the location where it is signalled.

3 FUNCTIONAL REQUIREMENTS

3.1 Means of detecting the water level

3.1.1 The method of detecting the water level may be by direct or indirect means as defined below:

.1 A direct means of detection determines the presence of water by physical contact of the water with the detection device.

.2 Indirect means of detection include devices without physical contact with the water.

3.1.2 The sensors should be capable of being located in the aft part of the hold or above its lowest point in such ships having an inner bottom not parallel to the designed waterline, or, in the case of bulk carriers complying with SOLAS regulation XII/12, in the aft part of each cargo hold or in the lowest part of the spaces other than cargo holds to which that regulation applies.

3.1.3 The systems of detecting the water level should be capable of continuous operation while the ship is at sea.

3.2 Detector system requirements

3.2.1 Detector systems should provide a reliable indication of water reaching a preset level.

3.2.2 The system should be capable of the following:

For cargo holds:

.1 An alarm, both visual and audible, activated when the depth of water reaches the pre-alarm level in the space being monitored. The indication should identify the space.

.2 An alarm, both visual and audible, activated when the depth of water reaches the main alarm level, indicating increasing water level in a cargo hold. The indication should identify the space and the visual and audible alarm should not be the same as that for the pre-alarm level.

For compartments other than cargo holds:

.3 An alarm, both visual and audible, indicating the presence of water in a compartment other than a cargo hold when the level of water in the space being monitored reaches the sensor. The visual and audible characteristics of the alarm indication should be the same as those for the main alarm level in a hold space.

3.2.3 Detection equipment should be suitably corrosion resistant for all intended cargoes.

3.2.4 The detector indicating the water level should be capable of activating to an accuracy of ±100 mm.

3.2.5 Detection equipment should be of certified safe type appropriate for the intended cargoes. The part of the system which has circuitry in the cargo area should be intrinsically safe or explosion proof with appropriate apparatus group and temperature class which is to be determined depending on the cargo carried.

3.3 Alarm system requirements

3.3.1 The visual and audible alarms should be suitable for location on the navigation bridge.[*]

3.3.2 Visual and audible alarms should conform to the Code on Alerts and Indicators, 2009, as may be amended, as applicable to a primary alarm for the preservation or safety of the ship.

[*] Reference is made to the requirements of SOLAS regulations V/17 and V/18.

3.3.3 The visual and audible alarms should be capable of the following:

.1 Visual indication using a light of a distinct colour, or digital display that is clearly visible in all expected light levels, which does not seriously interfere with other activities necessary for the safe operation of the ship. The visual indication should be capable of remaining visible until the condition activating it has returned below the level of the relevant sensor. The visual indication should not be capable of being extinguished by the operator.

.2 In conjunction with the visual indication for the same sensor, the system should be capable of providing audible indication and alarms in the space in which the indicator is situated. The audible indication should be capable of being muted by the operator.

3.3.4 Time delays may be incorporated into the alarm system to prevent spurious alarms due to sloshing effects associated with ship motions.

3.3.5 An alarm overriding device may be installed for water level detectors in cargo holds or tanks which can be used for water ballast (SOLAS regulations II-1/25-1 and XII/12.1). An override visual indication capability should be provided throughout deactivation of the water level detector for such holds or tanks. Where such an override capability is provided, cancellation of the override condition and reactivation of the alarm should automatically occur after the hold or tank has been de-ballasted to a level below the lowest alarm indicator level.

3.3.6 Requirements for malfunctions, alarms and indications should include a facility for continuous monitoring of the system which, on detecting a fault, activates a visual and audible alarm. The audible alarm should be capable of being muted, but the visual indication should remain active until the malfunction is cleared.

3.3.7 The water level detector system should be capable of being supplied with electrical power from two independent electrical supplies. Failure of any of the two electrical power supplies should be indicated by an alarm.

3.4 Testing

3.4.1 Water level detector systems should be type tested to demonstrate their robustness and suitability under the appropriate internationally recognized conditions and for their continued functioning under the expected service temperature.*

3.4.2 Detectors serving a cargo hold should be capable of being functionally tested, in situ, when the hold is empty using either direct or indirect methods.

3.5 Manuals

Documented operating and maintenance procedures for the water level detection system should be kept on board and be readily accessible.

4 INSTALLATION AND TESTING

Guidelines on installation and testing of water level detection systems for ships subject to SOLAS regulations II-1/25, II-1/25-1 and XII/12 are set out in the appendix.

* With regard to testing, reference is made to IEC 60092-504 and IEC 60529. Electrical components installed in cargo holds, ballast tanks and dry spaces should satisfy the requirements of IP68 in accordance with IEC 60529.

5 BILGE ALARMS USED AS WATER LEVEL DETECTORS

5.1 Bilge alarms may be used as water level detectors provided that they meet the functional requirements and installation and testing requirements set out in sections 3 and 4.

5.2 Some cargoes require the bilge pumping system to be protected to prevent the spread of contaminated or potentially dangerous fluids.

5.3 Where the cargo hold bilge well will be completely sealed when specific cargoes are carried, and the bilge well therefore cannot be used for the entry of ingress water to the detector(s), a suitable alternative detection point or points are to be provided.

5.4 If the bilge well is used for when specific cargoes are carried, the bilge well is not to be completely sealed in order to allow water ingress for activating the detectors.

6 PERIODIC TESTING

Water level detectors should be periodically tested on board to the same extent as specified in section 3.3 of the appendix and records of the periodic testing should be retained on board.

APPENDIX

GUIDELINES ON INSTALLATION AND TESTING OF WATER LEVEL DETECTION SYSTEMS ON SHIPS SUBJECT TO SOLAS REGULATIONS II-1/25, II-1/25-1 AND XII/12

1 PURPOSE

1.1 These Guidelines provide procedures for installation and testing of water level detection and alarm systems installed in:

.1 bulk carriers for compliance with SOLAS regulation XII/12;

.2 single hold cargo ships other than bulk carriers for compliance with SOLAS regulation II-1/25; and

.3 multiple hold cargo ships other than bulk carriers and tankers for compliance with SOLAS regulation II-1/25-1.

1.2 They also provide procedures for installation and testing of bilge alarms used as water level detectors in multiple hold cargo ships other than bulk carriers and tankers for compliance with SOLAS regulation II-1/25-1.

2 EQUIPMENT

2.1 Detector equipment type test requirements

2.1.1 Detector equipment should provide a reliable indication of water reaching a preset level and should be type tested to demonstrate their robustness and suitability under the appropriate conditions of IEC 60092-504 and the following:

.1 Protection of the enclosures of electrical components installed in the cargo holds, ballast tanks and dry spaces should satisfy the requirements of IP68 in accordance with IEC 60529. The water pressure testing of the enclosure should be based on a pressure head held for a period depending on the application. For detectors to be fitted in holds intended for the carriage of water ballast or ballast tanks the application head should be the hold or tank depth and the hold period should be 20 days. For detectors to be fitted in spaces intended to be dry the application head should be the depth of the space and the hold period should be 24 h.

.2 Operation in cargo/water mixture for a selected range of cargo groups such as iron ore dust, coal dust, grains and oils using seawater with a suspension of representative fine material for each cargo group. For type test purposes an agitated suspension of representative fine materials in seawater, with a concentration of 50% by weight, should be used with the complete detector assembly including any filtration fitted. The functioning of the detection assembly with any filtration arrangements should be verified in the cargo/water mixture with immersion repeated 10 times without cleaning any filtration arrangements.

2.1.2 Protection of the enclosures of electrical equipment located on the deck above ballast and cargo spaces should satisfy the requirements of IP56 in accordance with IEC 60529.

2.1.3 Equipment which is to be used in refrigerated cargo spaces should satisfy the requirements of a suitable industry standard covering the relevant service temperatures.

2.2 Detector equipment installation requirements

2.2.1 The sensors should be located in a protected position that is in communication with the specified part of the cargo hold (usually the aft part) such that the position of the sensor detects the level that is representative of the levels in the actual hold space. These sensors should be located:

.1 either as close to the centreline as practicable, or

.2 at both the port and starboard sides of the cargo hold.

2.2.2 The sensors should be located at the height specified in the regulations. These heights are to be measured from the upper surface of the inner bottom.

2.2.2.1 For bilge level sensors in SOLAS regulation II-1/25-1.3, if the bottom of the bilge well is below the upper surface of the inner bottom, the heights of those sensors are to be measured from the bottom of the bilge well.

2.2.3 When a lining or insulation is fitted, if the lining or insulation is not constructed to a watertight standard, then the height is to be measured from the upper surface of the inner bottom. If the lining or insulation is tested as watertight, then the heights may be measured from the upper surface of the lining/insulation.

2.2.4 The detector installation should not inhibit the use of any sounding pipe or other water level gauging device for cargo holds or other spaces.

2.2.5 Detectors and equipment should be installed where they are accessible for survey, maintenance and repair.

2.2.6 Any filter element fitted to detectors should be capable of being cleaned before loading.

2.2.7 Sensors, electrical cables and any associated equipment installed in cargo holds should be protected from damage by cargoes or mechanical handling equipment associated with bulk carrier operations, such as in tubes of robust construction or in similar protected locations.

2.2.8 Any changes/modifications to the ship's structure, electrical systems or piping systems that involves cutting and/or welding should be approved by the classification society before work is carried out.

3 SYSTEMS

3.1 Alarm system requirements

3.1.1 Alarm systems should be type tested in accordance with IEC 60092-504, as appropriate.

3.1.2 A switch for testing audible and visual alarms should be provided at the alarm panel and the switch should return to the off position when not operated.

3.2 Alarm system testing requirements

The visual and audible alarms should be tested to demonstrate the following:

.1 the visual indication may not be extinguished by the operator;

.2 they should be set at a level that alerts operators but does not interfere with the safe operation of the ship; and

.3 they should be distinguishable from other alarms.

3.3 System test requirements

3.3.1 After installation, a functionality test should be carried out. The test should represent the presence of water at the detectors for every level monitored. Simulation methods may be used where the direct use of water is impracticable.

3.3.2 Each detector alarm should be tested to verify that the pre-alarm and main alarm levels operate for every space where they are installed and indicate correctly. Also, the fault monitoring arrangements should be tested as far as practicable.

3.3.3 Records of testing of alarm systems should be retained on board.

4 MANUALS

4.1 Manuals should be provided on board and should contain the following information and operational instructions:

.1 a description of the equipment for detection and alarm arrangements together with a listing of procedures for checking that, as far as practicable, each item of equipment is working properly during any stage of ship operation;

.2 evidence that the equipment has been type tested to the requirements of 2.1 above;

.3 line diagrams of the detection and alarm system showing the positions of equipment;

.4 installation instructions for orientation, setting, securing, protecting and testing;

.5 list of cargo groups for which the detector is suitable for operating in a 50% seawater slurry mixture (see 2.1.1.2);

.6 temperature range for which the equipment is suitable;

.7 procedures to be followed in the event of equipment not functioning correctly; and

.8 maintenance requirements for equipment and system.

4.2 Manuals for bilge alarm systems used as water level detection systems are to contain the following information in addition to that in 4.1 (see paragraph 5.3 of these performance standards):

.1 procedure for switching to the alternative arrangements provided for occasions when the bilge alarm system cannot be used as a water level detection system; and

.2 list of cargoes for which alternative provisions are to be used.

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ANNEX 27[5]

DRAFT AMENDMENTS TO PART A OF THE SEAFARERS' TRAINING, CERTIFICATION AND WATCHKEEPING (STCW) CODE

CHAPTER VI
STANDARDS REGARDING EMERGENCY, OCCUPATIONAL SAFETY, SECURITY, MEDICAL CARE AND SURVIVAL FUNCTIONS

Section A-VI/1
Mandatory minimum requirements for safety familiarization, basic training and instruction for all seafarers

1 The existing table A-VI/1-4 (Specification of minimum standard of competence in personal safety and social responsibilities) is amended to read as follows:

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Comply with emergency procedures	Types of emergency which may occur, such as collision, fire, foundering Knowledge of shipboard contingency plans for response to emergencies Emergency signals and specific duties allocated to crew members in the muster list; muster stations; correct use of personal safety equipment Action to take on discovering potential emergency, including fire, collision, foundering and ingress of water into the ship Action to take on hearing emergency alarm signals Value of training and drills	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Initial action on becoming aware of an emergency conforms to established emergency response procedures Information given on raising alarm is prompt, accurate, complete and clear

[5] Tracked changes are created using "strikethrough" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text.

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Knowledge of escape routes and internal communication and alarm systems		
Take precautions to prevent pollution of the marine environment	Basic knowledge of the impact of shipping on the marine environment and the effects of operational or accidental pollution on it Basic environmental protection procedures Basic knowledge of complexity and diversity of the marine environment	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Organizational procedures designed to safeguard the marine environment are observed at all times
Observe safe working practices	Importance of adhering to safe working practices at all times Safety and protective devices available to protect against potential hazards aboard ship Precautions to be taken prior to entering enclosed spaces Familiarization with international measures concerning accident prevention and occupational health[6]	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times
Contribute to effective communications on board ship	Understand the principles of, and barriers to, effective communication between individuals and teams within the ship	Assessment of evidence obtained from approved instruction or during attendance	Communications are clear and effective at all times

[6] 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.

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Ability to establish and maintain effective communications	at an approved course	
Contribute to effective human relationships on board ship	Importance of maintaining good human and working relationships aboard ship Basic teamworking principles and practice, including conflict resolution Social responsibilities; employment conditions; individual rights and obligations; dangers of drug and alcohol abuse	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Expected standards of work and behaviour are observed at all times
Contribute to the prevention of and response to bullying and harassment, including sexual assault and sexual harassment	Prevention of bullying and harassment: Basic knowledge of bullying and harassment, including sexual assault and sexual harassment, and the continuum of harm Basic knowledge of the consequences of bullying and harassment, including sexual assault and sexual harassment on victims, perpetrators, bystanders, stakeholders, and its effects on safety Understand that power dynamics, drugs or alcohol may be used to create coercive situations that contribute to bullying, harassment, including sexual assault and sexual harassment	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Acceptable practices and procedures designed for the prevention of bullying and harassment, including sexual assault and sexual harassment are observed at all times Able to identify bullying and harassment, including sexual assault and sexual harassment and the continuum of harm and its effects

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Responding to bullying and harassment: Ability to identify bullying and harassment, including sexual assault and sexual harassment Basic knowledge of the action to take to intervene in and report bullying, harassment, including sexual assault and sexual harassment Understand the basic principles of trauma-informed response and how to provide appropriate support to a victim, bystanders and self		Acceptable practices and procedures designed for the intervention in and reporting of bullying and harassment, including sexual assault and sexual harassment are observed at all times
Understand and take necessary actions to control fatigue	Importance of obtaining the necessary rest Effects of sleep, schedules and the circadian rhythm on fatigue Effects of physical stressors on seafarers Effects of environmental stressors in and outside the ship and their impact on seafarers Effects of schedule changes on seafarer fatigue	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Fatigue management practices are observed and appropriate actions are used at all times

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ANNEX 28*

DRAFT REVISED INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL (STCW-F), 1995

CHAPTER I
General provisions

Regulation I/1
Definitions

1 For the purpose of this annex, the following definitions apply.

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

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

.3 *Skipper* means the person having command of a fishing vessel.

.4 *Officer* means a member of the crew, other than the skipper, designated as such by national law or regulations or, in the absence of such designation, by collective agreement or custom.

.5 *Officer in charge of a navigational watch* means an officer qualified in accordance with the provisions of regulation II/2 or II/4 of this Convention.

.6 *Engineer officer* means an officer qualified in accordance with the provisions of regulation II/5-1-1, II/5-1-2 or II/5-2 of this Convention.

.7 *Chief engineer officer* means the senior engineer officer responsible for the mechanical propulsion and operation and maintenance of mechanical and electrical installations of the vessel.

.8 *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 vessel will fall in the event of the incapacity of the chief engineer officer.

.9 *Radio operator* means a person holding an appropriate certificate issued or recognized by an Administration under the provisions of the Radio Regulations.

.10 *Radio Regulations* means the Radio Regulations ~~annexed to, or regarded as being annexed to, the most recent International Telecommunication Convention which may be in force at any time~~ complementing the Constitution and Convention of the International Telecommunication Union which is in force at any given time.

* Tracked changes are created using "strikeout" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text.

.11 *1978 STCW Convention* means the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978.

.12 *1993 Torremolinos Protocol* means the Torremolinos Protocol of 1993 relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977.

.13 *2012 Cape Town Agreement* means the Cape Town Agreement of 2012 on the Implementation of the Provisions of the 1993 Torremolinos Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977.

.14 *Month* means a calendar month or 30 days made up of periods of less than one month.

.15 *Seagoing service* means service on board a vessel relevant to the issue or revalidation of a certificate or other qualification.

.~~13~~16 *Propulsion power* means the total maximum continuous rated output power, in kilowatts, of all the vessel's main propulsion machinery which appears on the vessel's certificate of registry or other official document.

.~~14~~17 *Limited waters* means those waters in the vicinity of a Party as defined by its Administration within which a degree of safety is considered to exist which enables the standards of qualification and certification for ~~skippers and officers of~~ all fishing vessel~~s~~ personnel to be set at a lower level than for service outside the defined limits. In determining the extent of limited waters, the Administration shall take into consideration the guidelines developed by the Organization.[2]

.~~15~~18 *Unlimited waters* mean waters beyond limited waters.

.~~16~~19 *Length (L)* shall be taken as 96% of the total length on a waterline at 85% of the least moulded depth measured from the keel line, or as the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater. In vessels designed with rake of keel the waterline on which this length is measured shall be parallel to the designed waterline.

.~~17~~20 *Moulded depth* is the vertical distance measured from the keel line to the top of the working deck beam at side.

.21 *STCW-F Code* means the Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F) Code as adopted by MSC resolution […], as may be amended by the Organization.

.22 *Owner* means the owner of the fishing vessel or any other organization or person, such as the manager, agent, operator, company, authorized representative or bareboat charterer, who has assumed the responsibility for the operation of the vessel from the owner and who, on assuming such responsibility, has agreed to take over the duties and responsibilities imposed on fishing vessel owners in accordance with the Convention,

[2] Reference is made to annex 1 to resolution A.539(13) on *Certification of skippers and officers in charge of a navigational watch on fishing vessels of 24 metres in length and over*, adopted by the Organization.

regardless of whether any other organization or person fulfils certain of the duties or responsibilities on behalf of the fishing vessel owner.

.23 *Fishing vessel personnel* means every person employed or engaged in any capacity or carrying out an occupation on board any fishing vessel, including persons working on board who are paid on the basis of a share of the catch but excluding pilots, naval personnel, other persons in the permanent service of a government, shore-based persons carrying out work aboard a fishing vessel and fisheries observers.

.24 *Function* means a group of tasks, duties and responsibilities, as specified in the STCW-F Code, necessary for fishing vessel operation, safety of life at sea or protection of the marine environment.

.25 *Fishing training vessel* means a dedicated training vessel, designed for catching and storing fish, which provides a training opportunity for demonstration and assessment of the competences required by the provisions of chapter II.

.26 *GMDSS radio operator* means a person who is qualified in accordance with the provisions of regulation II/6 of the Convention.

.27 *Certificate of competency* means a certificate issued and endorsed for skippers, officers and GMDSS radio operators in accordance with the provisions of chapter II 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.

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

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

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

.2 in applying these regulations, the related guidance and explanatory material contained in part B of the STCW-F 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 amendments to part A of the STCW-F Code shall be adopted, brought into force and take effect in accordance with the provisions of article 10 of the Convention concerning the amendment procedure applicable to the annex; and

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

Regulation I/2
Application

1 The Administration of a Party, if it considers it unreasonable or impracticable to apply the full requirements of regulations II/3, II/4 and II/5-1-1, II/5-1-2 or II/5-2 and the requirement of the use of the English language to personnel serving on board a fishing vessel of less than 45 metres in length operating exclusively from its ports and fishing within its limited waters, may determine which of these regulations should not apply, wholly or in part, to such personnel, without derogation from the principles of safety in the Convention. In such a case, the Administration concerned shall report to the Secretary-General on the details of the measures it has taken with respect to the training and certification of such personnel.

2 For the purpose of this Convention, the Administration may decide to use the following gross tonnage in place of length (L) as the basis for measurement for all chapters:

.1 a gross tonnage of 300 shall be considered equivalent to a length (L) of 24 m; and

.2 a gross tonnage of 950 shall be considered equivalent to a length (L) of 45 m.

Regulation I/3
Certificates and endorsements

1 Certificates of competency for fishing vessel personnel shall only be issued by the Administration if the requirements for service, age, medical fitness, training, qualification and examinations are met in accordance with these regulations.

2 A certificate of competency issued by a Party in compliance with paragraph 1 shall be endorsed by that Party attesting the issue of that certificate in the form as prescribed in ~~appendix 1 or appendix 2~~ format 1 or 2 of section A-I/3 of the STCW-F Code.

3 Certificates and endorsements shall be issued 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 In respect of radio operators, Parties may:

.1 include the additional knowledge required by regulation II/6 in the examination for the issue of a certificate complying with the Radio Regulations; or

.2 issue a separate certificate indicating that the holder has the additional knowledge required by regulation II/6.

5 The Administration which has recognized a certificate issued by or under the authority of another Party in compliance with regulation I/7 shall issue an endorsement attesting the recognition of that certificate in the form prescribed in ~~appendix 3~~ format 3 of section A-I/3 of the STCW-F Code.

6 The endorsement 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 the date of issue.

7 ~~Any~~ aAppropriate certificates of competency issued under the provisions of the 1978 STCW Convention for the holder to serve as a chief ~~e~~engineer officer, an ~~e~~engineer officer or GMDSS radio operator shall be deemed to be a corresponding certificate for the purposes of paragraph 1 with regard to fishing vessels.

8 Medical certificates issued in accordance with the provisions of regulation I/9 of the 1978 STCW Convention shall be accepted as valid for the personnel of fishing vessels.

~~8~~9 Subject to the variations permitted under ~~appendices~~ formats 1, 2 and 3 of section A-I/3 of the STCW-F Code, Administrations may use a format different from the format given in ~~those appendices~~ the section provided that such format contains, as a minimum, the required information and that the particulars are inserted in Roman characters and I/ app Arabic figures.

Regulation I/4
Control procedures

1 Control exercised by a duly authorized officer under article 8 shall be limited to the following:

.1 verification that all fishing vessel personnel serving on board who are required to be certificated by this Convention are so certificated or hold the required dispensation. Such certificates shall be accepted unless there are clear grounds for believing that a certificate has been fraudulently obtained or that the holder of a certificate is not the person to whom that certificate was originally issued; and

.2 assessment of the ability of the fishing vessel personnel to maintain watchkeeping standards as required by the Convention if there are clear grounds for believing that such standards are not being maintained, because the following have occurred:

~~.2~~.1 the vessel has been involved in a collision, grounding or stranding; or

~~.2~~.2 there has been a discharge of substances from the vessel when under way, at anchor or at berth which is illegal under international conventions; or

~~.2~~.3 the vessel has been manoeuvred in an erratic or unsafe manner, whereby routeing measures adopted by the Organization, or safe navigation practices and procedures, have not been followed; or

~~.2~~.4 the vessel is otherwise being operated in such a manner as to pose a danger to persons, property or the environment.

2 In the event that deficiencies are found under paragraph 1, the officer carrying out the control shall forthwith inform, in writing, the skipper of the vessel and the Administration, so that appropriate action may be taken. Such notification shall specify the details of the deficiencies found and the grounds on which the Party determines that these deficiencies pose a danger to persons, property or the environment.

3 Deficiencies which may be deemed to pose a danger to persons, property or the environment include the following:

.1 failure of persons, required to hold a certificate, to have an appropriate certificate or dispensation;

.2 failure of navigational or engineering watch arrangements to conform to the requirements specified for the vessel by the Administration;

.3 absence in a watch of a person qualified to operate equipment essential to safe navigation, safety radio communications or the prevention of pollution; or

.4 inability to provide rested persons for the first watch at the commencement of a voyage, and for subsequent relieving watches.

Regulation I/5
Communication of information

1 The Secretary-General shall, on request, provide Parties with any information communicated to him under article 4.

2 A Party which fails to communicate information required by article 4 within ~~twenty-four~~ 24 months after the date of entry into force of the Convention for a Party shall not be entitled to claim the privileges of this Convention until such time as the information has been received by the Secretary-General.

Regulation I/6
Administration of certification arrangements

1 Each Party undertakes to establish and maintain a means of ensuring that programmes incorporating such instruction and practical training as is necessary to achieve the competency standards are regularly monitored to ensure their effectiveness.

2 Each Party undertakes, to the extent practicable, to maintain a register or registers of all certificates and endorsements specified in regulations I/3 and II/1 to II/6 which are issued, have expired, or have been revalidated, reported lost, suspended or cancelled, and of dispensations issued, and provide information on the status of such certificates, endorsements and dispensations when so requested by another Party.

Regulation I/7
Recognition of certificates

1 Each Administration shall ensure, in order to recognize, by endorsement in accordance with regulation I/3, a certificate issued by or under the authority of another Party, that the requirements for standards of competence, as well as the issue and endorsement of certificates by that Party, are fully complied with.

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

3 Notwithstanding the requirement of paragraph 1 of this regulation and paragraph 5 of regulation I/3, an Administration may, if circumstances require, allow a person to serve for a period not exceeding three months on board a vessel entitled to fly its flag while holding an appropriate and valid certificate issued by another Party without it being endorsed as required

by paragraph 5 of regulation I/3 provided that documented proof is made available that application for an endorsement has been submitted to the Administration.

Regulation I/8
Transitional provisions

1 A certificate of competency or of service in a capacity for which this Convention requires a certificate and which before entry into force of the Convention for a Party is issued in accordance with the laws of that Party or the Radio Regulations, shall be recognized as valid for service after entry into force of the Convention for that Party.

2 After the entry into force of the Convention for a Party, it may continue to issue certificates of competency in accordance with its previous practices for a period not exceeding five years. Such certificates shall be recognized as valid for the purpose of the Convention. During this transitional period such certificates shall be issued only to persons who had commenced their sea service before entry into force of the Convention for that Party within the specific ship department to which those certificates relate. The Party shall ensure that all other candidates for certification shall be examined and certificated in accordance with the Convention.

3 A Party may, within two years after entry into force of the Convention for that Party, issue a certificate of service to fishing vessel personnel who hold neither an appropriate certificate under the Convention nor a certificate of competency issued under its laws before entry into force of the Convention for that Party but who have:

.1 served in the capacity for which they seek a certificate of service for not less than three years at sea within the last seven years preceding entry into force of the Convention for that Party;

.2 produced evidence that they have performed that service satisfactorily; and

.3 satisfied the Party as to medical fitness, including eyesight and hearing, taking into account their age at the time of application.

For the purpose of the Convention, a certificate of service issued under this paragraph shall be regarded as the equivalent of a certificate issued under the Convention.

Regulation I/9
Dispensation

1 In circumstances of exceptional necessity, an Administration, if in its opinion this will not cause danger to persons, property or the environment, may issue a dispensation permitting a person to serve in a specified fishing vessel for a specified period not exceeding six months in a capacity, other than that of the radio operator, except as provided by the relevant Radio Regulations, for which the person does not hold the appropriate certificate, provided that the person to whom the dispensation is issued shall be adequately qualified to fill the vacant post in a safe manner, to the satisfaction of the Administration.

2 Any dispensation granted for a post shall be granted only to a person properly certificated to fill the post immediately below it. Where certification of the post below is not required by the Convention, a dispensation may be issued to a person whose competence and experience are, in the opinion of the Administration, clearly equivalent to the requirements for the post to be filled, provided that, if such a person holds no appropriate certificate, the person shall be required to pass a test accepted by the Administration as demonstrating that such a dispensation may safely be issued. In addition, the Administration shall ensure that the post in question is filled by the holder of an appropriate certificate as soon as possible.

3 Each Party shall as soon as possible after 1 January each year send a report to the Secretary-General giving information of the total number of dispensations in respect of each capacity for which a certificate is required, including nil returns.

Regulation I/10
Equivalents

1 The Convention shall not prevent a Party from retaining or adopting other educational and training arrangements, including those involving seagoing service and shipboard organization especially adapted to technical developments and to special types of vessels, provided that the level of seagoing service, knowledge and efficiency as regards navigational and technical handling of vessels ensures a degree of safety at sea and has a preventive effect as regards pollution at least equivalent to the requirements of the Convention.

2 Details of such arrangements shall be included in the report under article 4.

Regulation I/11
Use of simulators

1 The performance standards and other provisions set forth in section A-I/11 and such other requirements as are prescribed in part A of the STCW-F Code for any certificate concerned shall be complied with in respect of:

.1 all simulator-based training;

.2 any assessment of competency required by part A of the STCW-F Code which is carried out by means of a simulator; and

.3 any demonstration, by means of a simulator, of continued proficiency required by part A of the STCW-F Code.

Regulation I/12
Medical standards

1 Each Party shall establish standards of medical fitness for fishing vessel personnel and procedures for the issue of a medical certificate in accordance with the provisions of this regulation and of section A-I/12 of the STCW-F Code.

2 Each Party shall ensure that those responsible for assessing the medical fitness of fishing vessel personnel are medical practitioners recognized by the Party for the purpose of fishing vessel personnel medical examinations, in accordance with the provisions of section A-I/12 of the STCW-F Code.

3 Every crew member 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/12 of the STCW-F Code.

4 Every candidate for certification shall:

.1 be not less than 16 years of age; or

.2 be not less than 15 years of age provided that the candidate is authorized by the competent authority in accordance with national laws and practice; [3]

.3 provide satisfactory proof of his or her identity; and

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

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

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 In urgent cases the Administration may permit a crew member 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 the period of permission does not exceed three months; and

.2 the crew member concerned is in possession of an expired medical certificate of recent date.

CHAPTER II
Certification of skippers, officers, engineer officers and radio operators

Regulation II/1
Mandatory minimum requirements for certification of skippers on fishing vessels of 24 metres in length and over operating in unlimited waters

1 Every skipper on a fishing vessel of 24 metres in length and over operating in unlimited waters shall hold ~~an appropriate~~ a certificate of competency.

2 Every candidate for certification shall:

"~~.1 satisfy the Party as to medical fitness, particularly regarding eyesight and hearing;~~"

.~~2~~1 meet the requirements for certification as an officer in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters, and have approved seagoing service of not less than 12 months as an officer in charge of a navigational watch or skipper on fishing vessels of not less than 12 metres in length. However, the Party may allow, the substitution of a period not exceeding six months of approved seagoing service, as an officer in charge of a navigational watch on seagoing ~~ships~~ vessels covered by the 1978 STCW Convention; and

[3] Reference is made to article 9 of the ILO Work in Fishing Convention, 2007 (No.188).

.~~3~~2 ~~have passed an appropriate examination or examinations for assessment of competence to the satisfaction of the Party. Such examination or examinations shall include the material set out in the appendix to this regulation. A candidate for examination who holds a valid certificate of competency issued in accordance with the provisions of the 1978 STCW Convention need not be re-examined in those subjects listed in the appendix which were passed at a higher or equivalent level for issue of the Convention certificate~~ meet the standard of competence specified in section A-II/1 of the STCW-F Code.

3 A candidate who holds a valid certificate of competency issued in accordance with the provisions of the 1978 STCW Convention need not be reassessed in those standards of competence listed in section A-II/1 of the STCW-F Code that were required at a higher or equivalent level for the issuance of the corresponding 1978 STCW Convention certificate.

~~Appendix to regulation 1~~

~~Minimum knowledge required for certification of skippers on fishing vessels of 24 metres in length and over operating in unlimited waters~~

(appendix to regulation 1 is deleted as a whole)

Regulation II/2
Mandatory minimum requirements for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters

1 Every officer in charge of a navigational watch on a fishing vessel of 24 metres in length and over operating in unlimited waters shall hold ~~an appropriate~~ a certificate of competency.

2 Every candidate for certification shall:

.1 be not less than 18 years of age;

.2 have approved seagoing service of not less than:

.1 12 months on fishing vessels or fishing training vessels of not less than 12 metres in length as part of an approved training programme which includes onboard training that meets the requirements of section A-II/2 of the STCW-F Code and is documented in an approved training record book; or

.~~3~~2 two years in the deck department on fishing vessels of not less than 12 metres in length. However, the Administration may allow the substitution of the seagoing service by a period of special training not exceeding one year, provided that the period of the special training programme shall be at least equivalent in value to the period of the required seagoing service it substitutes or by a period of approved seagoing service evidenced by an approved record book covered by the 1978 STCW Convention;

.3 ~~have passed an appropriate examination or examinations for the assessment of competency to the satisfaction of the Party. Such examination or examinations shall include the material set out in the appendix to this~~

~~regulation. A candidate for examination who holds a valid certificate of competency issued in accordance with the provisions of the 1978 STCW Convention need not be re-examined in those subjects listed in the appendix which were passed at a higher or equivalent level for issue of the Convention certificate;~~ meet the standard of competence specified in section A-II/2 of the STCW-F Code; and

.~~5~~4 meet the applicable requirements of regulation II/6, as appropriate for performing designated radio duties in accordance with the Radio Regulations.

3 A candidate who holds a valid certificate of competency issued in accordance with the provisions of the 1978 STCW Convention need not be reassessed in those standards of competence listed in section A-II/2 of the STCW-F Code that were required at a higher or equivalent level for the issuance of the corresponding 1978 STCW Convention certificate.

~~**Appendix to regulation 2**~~

~~*Minimum knowledge required for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters*~~

(appendix to regulation 2 is deleted as a whole)

Regulation II/3
Mandatory minimum requirements for certification of skippers on fishing vessels of 24 metres in length and over operating in limited waters

1 Every skipper on a fishing vessel of 24 metres in length and over operating in limited waters shall, unless they hold certificates issued in compliance with regulation II/1, hold ~~an appropriate~~ a certificate of competency issued in compliance with at least the provisions of this regulation.

2 Every candidate for certification shall:

.~~2~~1 meet the requirements for certification as an officer in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited or unlimited waters, and have approved seagoing service of not less than 12 months as an officer in charge of a navigational watch or skipper on fishing vessels of not less than 12 metres in length. However, a Party may allow the substitution of a period not exceeding six months of approved seagoing service as officer in charge of a navigational watch on ~~merchant ships~~ seagoing vessels covered by the 1978 STCW Convention; and

.~~3~~2 ~~have passed an appropriate examination or examinations for the assessment of competency to the satisfaction of the Party. Such examination or examinations shall include the material set out in the appendix to this regulation~~ meet the standard of competence specified in section A-II/3 of the STCW-F Code.

3 The Party, bearing in mind the effect on the safety of all ~~ships~~ vessels and structures which may be operating in the same limited waters, should consider the limited waters it has defined in accordance with the definition given in regulation I/1 and determine any additional material that should be included in the ~~examination or examinations~~ standard of competence.

4 A candidate ~~for examination~~ who holds a valid certificate of competency issued in accordance with the provisions of the 1978 STCW Convention need not be ~~re-examined~~ reassessed in those ~~subjects~~ standards of competence listed in ~~the appendix which were passed~~ section A-II/3 of the STCW-F Code that were required at a higher or equivalent level for the ~~issue of the~~ issuance of the corresponding 1978 STCW Convention certificate.

~~**Appendix to regulation 3**~~

~~*Minimum knowledge required for certification of skippers on fishing vessels of 24 metres in length and over operating in limited waters*~~

(appendix to regulation 3 is deleted as a whole)

Regulation II/4
Mandatory minimum requirements for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters

1 Every officer in charge of a navigational watch on a fishing vessel of 24 metres in length and over operating in limited waters shall either hold a certificate issued in compliance with regulation II/2 or hold ~~an appropriate~~ a certificate of competency issued in compliance with at least the provisions of this regulation.

2 Every candidate for certification shall:

.1 be not less than 18 years of age;

.2 have approved seagoing service of not less than:

.1 12 months on fishing vessels or fishing training vessels of not less than 12 metres in length as part of an approved training programme which includes onboard training that meets the requirements of section A-II/4 of the STCW-F Code and is documented in an approved training record book; or

.~~3~~2 ~~have approved seagoing service of not less than~~ two years in the deck department on fishing vessels of not less than 12 metres in length. However, the Administration may allow the substitution of the seagoing service by a period of special training not exceeding one year, provided that the period of the special training programme shall be at least equivalent in value to the period of the required seagoing service it substitutes or by a period of approved seagoing service evidenced by an approved record book covered by the 1978 STCW Convention~~.~~;

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

.4 meet the appropriate requirements for performing designated radio duties in accordance with the Radio Regulations;

~~.4 have passed an appropriate examination or examinations for assessment of competency to the satisfaction of the Party. Such examination or examinations shall include the material set out in the appendix to this~~

~~regulation. A candidate for examination who holds a valid certificate of competency issued in accordance with the provisions of the 1978 STCW Convention need not be re-examined in those subjects listed in the appendix which were passed at a higher or equivalent level for issue of the Convention certificate; and~~

~~.5 meet the applicable requirements of regulation 6, as appropriate for performing designated radio duties in accordance with the Radio Regulations.~~

3 A candidate who holds a valid certificate of competency issued in accordance with the provisions of the 1978 STCW Convention need not be reassessed in those standards of competence listed in section A-II/4 of the STCW-F Code, which were required at a higher or equivalent level for the issuance of the corresponding 1978 STCW Convention certificate.

~~Appendix to regulation 4~~

~~Minimum knowledge required for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters~~

(appendix to regulation 4 is deleted as a whole)

~~Regulation 5~~
~~Mandatory minimum requirements for certification of chief engineer officers and second engineer officers of fishing vessels powered by main propulsion machinery of 750 kW propulsion power or more~~

~~1 Every chief engineer officer and second engineer officer serving on a seagoing fishing vessel powered by main propulsion machinery of 750 kW propulsion power or more shall hold an appropriate certificate.~~

~~2 Every candidate for certification shall:~~

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

~~.2 satisfy the Party as to medical fitness, including eyesight and hearing;~~

~~.3 for certification as second engineer officer, have not less than 12 months approved seagoing service in the engine-room; however, this period may be reduced to not less than 6 months if the Party requires special training which it considers to be equivalent to the approved seagoing service it replaces;~~

~~.4 for certification as chief engineer officer, have not less than 24 months approved seagoing service, of which not less than 12 months shall be served while qualified to serve as second engineer officer;~~

~~.5 have participated in an approved practical fire-fighting course; and~~

~~.6 have passed an appropriate examination for the assessment of competency to the satisfaction of the Party. Such examination shall include the material set out in the appendix to this regulation, except that the Party may vary the requirements for examination and seagoing service for officers of fishing vessels engaged in voyages in limited waters bearing in mind the power of the propulsion machinery and the effect on the safety of all fishing vessels which may be operating in the same waters.~~

~~3 Training to achieve the necessary theoretical knowledge and practical experience shall take into account relevant international regulations and recommendations.~~

~~4 The level of knowledge required under the different paragraphs of the appendix may be varied according to whether the certificate is being issued at chief engineer officer or second engineer officer level.~~

~~Appendix to regulation 5~~

~~Minimum knowledge required for certification of chief engineer officers and second engineer officers of fishing vessels powered by main propulsion machinery of 750 kW propulsion power or more~~

(appendix to regulation 5 is deleted as a whole)

Regulation II/5-1-1
Mandatory minimum requirements for certification of chief engineer officers and second engineer officers on fishing vessels powered by main propulsion machinery of 3,000 kW propulsion power or more

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

2 Every candidate for certification shall:

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

.1.1 for certification as second engineer officer, have not less than 12 months as qualified engineer officer, and

.1.2 for certification as chief engineer officer, have 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 have completed approved education and training and meet the standard of competence specified in section A-II/5-1-1 of the STCW-F Code.

Regulation II/5-1-2
Mandatory minimum requirements for certification of chief engineer officers and second engineer officers on fishing vessels powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power

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

2 Every candidate for certification shall:

.1 meet the requirements for certification as an officer in charge of an engineering watch on fishing vessels powered by main propulsion machinery of 750 kW propulsion power or more and:

.1 for certification as second engineer officer, have not less than 12 months of approved seagoing service as assistant engineer officer or engineer office; and

.1 for certification as a chief engineer officer, 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 have completed approved education and training and meet the standard of competence specified in section A-II/5-1-2 of the STCW-F Code.

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

Regulation II/5-2
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 on fishing vessels powered by main propulsion machinery of 750 kW propulsion power or more

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 serving on a seagoing fishing vessel powered by main propulsion machinery of 750 kW propulsion power or more shall hold a certificate of competency.

2 Every candidate for certification shall:

.1 be not less than 18 years of age;

.2 have completed 12 months of combined workshop skills training and approved seagoing service of which not less than 6 months must be served on board fishing vessels or fishing training vessels as part of an approved training programme which includes onboard training that meets the requirements of section A-II/5-2 of the STCW-F Code and is documented in an approved training record book; or

.3 have completed 12 months of combined workshop skills training and approved seagoing service of which not less than 6 months must be served on ships or training ships being operated in accordance with the 1978 STCW Convention as part of an approved training programme which includes onboard training that meets the requirements of section A-II/5-2 of the STCW-F Code and is documented in an approved training record book; or

.4 have approved seagoing service of not less than 12 months in the engine-room. However, the Administration may allow, as deemed necessary, the substitution of up to six months of the seagoing service by a period of special

training such as workshop skills training, provided that the special training programme is equivalent in value to the period of the required seagoing service it substitutes; and

.5 meet the standard of competence specified in section A-II/5-2 of the STCW-F Code.

3 The Party may vary the requirements for standard of competence and seagoing service for officers of fishing vessels engaged in voyages in limited waters bearing in mind the power of the propulsion machinery and the effect on the safety of all fishing vessels which may be operating in the same waters.

4 Training to achieve the necessary theoretical knowledge and practical experience shall take into account relevant international regulations and recommendations.

Regulation II/6
Mandatory minimum requirements for certification of ~~personnel in charge of or performing radiocommunication duties~~ GMDSS radio operators on board fishing vessels

Explanatory note

Mandatory provisions relating to radio watchkeeping are set forth in the Radio Regulations and the 2012 Cape Town Agreement. Provisions for radio maintenance are set forth in the 2012 Cape Town Agreement.~~*~~

~~* Reference is made to the Recommendation on radio maintenance guidelines for the global maritime distress and safety system related to sea areas A3 and A4 adopted by the Organization by resolution A.702(17).~~

Application

1 Except as provided in paragraph 2, the provisions of this regulation shall apply to ~~personnel in charge of, or performing, radiocommunication duties on a vessel required by international agreement or national law to carry radio equipment using the frequencies and techniques of~~ radio operators on fishing vessels operating within the G~~g~~lobal M~~m~~aritime D~~d~~istress and S~~s~~afety S~~s~~ystem (GMDSS) as prescribed by the international conventions.

2 ~~Personnel on vessels for which carriage of radio equipment is not compulsory under international agreements or national law~~ Radio operators on fishing vessels that are not required to comply with the provisions of the GMDSS are not required to meet the provisions of this regulation, but are nevertheless required to comply with the Radio Regulations. The Administration shall ensure that the appropriate certificates ~~meeting the requirements of~~ as prescribed by the Radio Regulations are issued or recognized in respect of such ~~personnel~~ radio operators.

Mandatory ~~M~~minimum requirements for certification of GMDSS radio ~~personnel~~ operators

1 Every person in charge of~~,~~ or performing~~,~~ radiocommunication duties on a fishing vessel operating within the GMDSS shall hold an appropriate certificate ~~or certificates~~ related to the GMDSS, issued or recognized by the Administration under the provisions of the Radio Regulations.

~~2 The minimum knowledge, understanding and proficiency required for certification under this regulation shall be sufficient for radio personnel to carry out their radio duties safely and efficiently.~~

~~3~~2 In addition, ~~E~~every candidate for certification of competency under this regulation for service on a fishing vessel which is required by the 1993 Torremolinos Protocol or the 2012 Cape Town Agreement to have a radio installation, shall:

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

~~.2 satisfy the Party as to medical fitness, particularly regarding eyesight and hearing; and~~

.~~3~~2 ~~meet the requirements of the appendix to this regulation~~ have completed approved education and training and meet the standard of competence specified in section A-II/6 of the STCW-F Code.

~~4 Every candidate for certification shall be required to pass an examination or examinations to the satisfaction of the Party.~~

~~5~~3 For endorsement of all types of certificates issued under the provisions of the Radio Regulations as meeting the requirements of the Convention, the required knowledge, understanding and proficiency is given in ~~the appendix to this regulation~~ section A-II/6 of the STCW-F Code. In determining the appropriate level of knowledge and training the Party shall also take into account the relevant recommendations in section B-II/6 of the STCW-F Code ~~of the Organization~~.~~*~~

~~* Reference is made to the Recommendations on training for radio personnel (GMDSS) adopted by the Organization by resolution A.703(17).~~

~~Appendix to regulation 6~~

~~Minimum additional knowledge and training requirements for GMDSS radio personnel~~

(appendix to regulation 6 is deleted as a whole)

Regulation II/7

~~Mandatory minimum requirements to ensure the continued proficiency and updating of knowledge~~ Revalidation of certificates for skippers~~,~~ and officers ~~and engineer officers~~

1 Every skipper or officer holding a certificate issued or recognized under this chapter of the Convention 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 ~~satisfy the Administration as to~~:

.1 ~~medical fitness, particularly regarding eyesight and hearing~~ meet the standards of medical fitness prescribed in regulation I/12; and

.2 ~~seagoing service as skipper or officer of at least one year during the preceding five years; or~~ establish continued professional competence in accordance with section A-II/7 of the STCW-F Code.

~~.3 ability to perform fishing vessel operational duties relating to the duties appropriate to the grade of certificate held which are considered to be at least equivalent to the seagoing service required in paragraph 1.2, or by:~~

~~.3.1 passing an approved test; or~~

~~.3.2 successfully completing an approved course or course appropriate, for skippers and officers who are serving on fishing vessels, especially for re-entrants to seagoing service on these vessels; or~~

~~.3.3 having completed approved seagoing service as an officer for a period of not less than three months on a fishing vessel in a supernumerary capacity, immediately prior to taking up the position for which the certificate is valid.~~

~~2 The refresher and updating courses required by this regulation shall be approved by the Administration and include the text of recent changes in international regulations concerning the safety of life at sea and the protection of the marine environment.~~

2 Each Party shall compare the standards of competence which it required of candidates for certificates issued before DD/MM/YYYY (date entry into force plus five years) with those specified for the appropriate certificate in part A of the STCW-F Code, and shall determine the need for requiring the holders of such certificates to undergo appropriate refresher and updating training or assessment.

3 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-II/7 of the STCW-F Code.

~~3~~4 For the purpose of updating the knowledge of skippers and officers, each ~~The~~ Administration shall ensure that the texts of recent changes in national and international regulations concerning the safety of life at sea, and the protection of the marine environment are made available to ~~ships under its jurisdiction~~ fishing vessels entitled to fly its flag.

Regulation II/8
~~*Mandatory minimum requirements to ensure the continued proficiency and updating of knowledge*~~ *Revalidation of certificates for GMDSS radio ~~personnel~~ operators*

1 Every GMDSS radio ~~personnel~~ operator holding a certificate ~~or certificates~~ issued or recognized ~~by the Party~~ under this chapter of the Convention 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 ~~satisfy the Party as to the following~~:

.1 ~~medical fitness, particularly regarding eyesight and hearing, at regular intervals not exceeding five years~~ meet the standards of medical fitness prescribed in regulation I/12; and

~~.2 professional competence:~~

~~.2.1 by approved seagoing service involving radiocommunication duties for a period of at least one year in total during the preceding five years; or~~

.2.2 by virtue of having performed functions relating to the duties appropriate to the grade of certificate held which are considered to be at least equivalent to the seagoing service required in paragraph 1.2.1; or

.2.3 by passing an approved test or successfully completing an approved training course or courses at sea or ashore which shall include those elements which are of direct relevance to the safety of life at sea, and which are applicable for the certificate that the person is holding, in accordance with the requirements of the 1993 Torremolinos Protocol.

.2 establish continued professional competence in accordance with section A-II/8 of the STCW-F Code.

2 When new modes, equipment or practices are to become mandatory aboard vessels entitled to fly the flag of a Party, the Party may require GMDSS radio personnel to pass an approved test or successfully complete an appropriate training course or courses, at sea or ashore, with particular reference to safety duties.

2 Each Party shall compare the standards of competence which it required of candidates for certificates issued before DD/MM/YYYY (date entry into force plus five years) with those specified for the appropriate certificate in part A of the STCW-F Code, and shall determine the need for requiring the holders of such certificates to undergo appropriate refresher and updating training or assessment.

3 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-II/8 of the STCW-F Code.

34 For the purpose of updating the knowledge of GMDSS radio operators, each The Administration shall ensure that the texts of recent changes in national and international regulations relating to concerning radiocommunications and relevant to the safety of life at sea are made available to ships entitled to fly its flag.

CHAPTER III
Basic safety training and onboard safety familiarization for all fishing vessel personnel

Regulation III/1
Mandatory minimum requirements for Bbasic safety training and onboard safety familiarization for all fishing vessel personnel

1 Fishing vessel personnel shall, before being assigned to any shipboard duties, receive basic training approved by the Administration:

.1 personal survival techniques, including donning of lifejackets and, as appropriate, immersion suits receive basic training approved by the Administration and onboard safety familiarization; and

.2 fire prevention and fire fighting; meet the appropriate standard of competence,

.3 emergency procedures;

~~.4 elementary first aid;~~

~~.5 prevention of marine pollution; and~~

~~.6 prevention of shipboard accidents.~~

in accordance with section A-III/1.

~~2 In implementing the provisions of paragraph 1, the Administration shall determine whether and, if so to what extent, these provisions shall apply to personnel of small fishing vessel or personnel already employed on fishing vessels.~~

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 successfully completed the course in basic training.

3 A candidate who holds a valid certificate of proficiency issued in accordance with the provisions of the 1978 STCW Convention need not be reassessed in those standards of competence listed in sections A-III/1-1, A-III/1-2, A-III/1-3 and A-III/1-4 of the STCW-F Code that were required at a higher or equivalent level for the issuance of the corresponding 1978 STCW Convention certificate.

CHAPTER IV
Watchkeeping

Regulation IV/1
Fitness for duty

The watch system shall be such that the efficiency of watchkeeping personnel is not impaired by fatigue. Duties shall be so organized that the first watch at the commencement of a voyage and the subsequent relieving watches are sufficiently rested and otherwise fit for duty.

Regulation IV/~~1~~2
Basic watchkeeping principles to be observed ~~in keeping a navigational watch~~ on board fishing vessels

1 Administrations shall direct the attention of owners and operators of fishing vessels, skippers, chief engineer officers and all watchkeeping personnel to the ~~following~~ requirements, principles and guidance set out in the STCW-F Code which shall be observed to ensure that a safe ~~navigational~~ watch is maintained at all times.

2 The skipper of every fishing vessel shall ensure that watchkeeping arrangements are adequate for maintaining a safe ~~navigational~~ watch~~. Under~~ or watches, taking into account the prevailing circumstances and conditions and that, under the skipper's general direction:~~, the officers of the watch are responsible for navigating the fishing vessel safely during their periods of duty, when they will be particularly concerned with avoiding collision and stranding.~~

.1 officers in charge of the navigational watch are responsible for navigating the fishing vessel 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 radio operators are responsible for maintaining a continuous radio watch on appropriate frequencies during their periods of duty;

.3 officers in charge of an engineering watch, as defined in the STCW-F 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; and

.4 an appropriate and effective watch or watches are maintained for the purpose of safety at all times.

3 The basic watchkeeping principles, including but not limited to ~~the following~~ those set out in the STCW-F Code, shall be taken into account on all fishing vessels. However, a Party may exclude very small fishing vessels operating in limited waters from fully observing the basic principles.

~~**4 En route to or from fishing grounds**~~

~~*4.1 Arrangements of the navigational watch*~~

~~4.1.1 The composition of the watch shall at all times be adequate and appropriate to the prevailing circumstances and conditions, and shall take into account the need for maintaining a proper lookout.~~
~~4.1.2 When deciding the composition of the watch the following factors, inter alia, shall be taken into account:~~

~~.1 at no time shall the wheelhouse be left unattended;~~

~~.2 weather conditions, visibility and whether there is daylight or darkness;~~

~~.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 use and operational condition of navigational aids such as radar or electronic position-indicating devices and of any other equipment affecting the safe navigation of the vessel;~~

~~.5 whether the vessel is fitted with automatic steering; and~~

~~.6 any unusual demands on the navigational watch that may arise as a result of special operational circumstances.~~

~~*4.2 Fitness for duty*~~

~~The watch system shall be such that the efficiency of watchkeeping personnel is not impaired by fatigue. Duties shall be so organized that the first watch at the commencement of a voyage and the subsequent relieving watches are sufficiently rested and otherwise fit for duty.~~

~~*4.3 Navigation*~~

~~4.3.1 The intended voyage shall, as far as practicable, be planned in advance taking into consideration all pertinent information, and any course laid down shall be checked before the voyage commences.~~

4.3.2 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 vessel follows the planned course.

4.3.3 The officer in charge of the watch shall have full knowledge of the location and operation of all safety and navigational equipment on board the vessel, and shall be aware and take account of the operating limitations of such equipment.

4.3.4 The officer in charge of a navigational watch shall not be assigned or undertake any duties which would interfere with the safe navigation of the vessel.

4.4 Navigational equipment

4.4.1 The officers in charge of the watch shall make the most effective use of all navigational equipment at their disposal.

4.4.2 When using radar the officer in charge of the watch shall bear in mind the necessity to comply at all times with the provisions on the use of radar contained in the applicable regulations for preventing collisions at sea.

4.4.3 In cases of need the officer of the watch shall not hesitate to use the helm, engines, and sound and light signalling apparatus.

4.5 Navigational duties and responsibilities

4.5.1 The officer in charge of the watch shall:

.1 keep watch in the wheelhouse;

.2 in no circumstances leave the wheelhouse until properly relieved;

.3 continue to be responsible for the safe navigation of the vessel despite the presence of the skipper in the wheelhouse until informed specifically that the skipper has assumed that responsibility and this is mutually understood;

.4 notify the skipper when in any doubt as to what action to take in the interest of safety; and

.5 not hand over the watch to a 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 skipper shall be notified.

4.5.2 On taking over the watch the relieving officer shall confirm and be satisfied as to the vessel's estimated or true position and confirm its intended track, course and speed, and shall note any dangers to navigation expected to be encountered during the watch.

4.5.3 Whenever practicable a proper record shall be kept of the movements and activities during the watch relating to the navigation of the vessel.

4.6 Lookout

4.6.1 Proper lookout shall be maintained in compliance with rule 5 of the International Regulations for Preventing Collisions at Sea, 1972. It shall serve the purpose of:

.1 maintaining a continuous state of vigilance by sight and hearing as well as by all other available means, with regard to any significant changes in the operating environment;

.2 fully appraising the situation and the risk of collision, stranding and other dangers to navigation; and

.3 detecting vessels or aircraft in distress, shipwrecked persons, wrecks and debris.

4.6.2 In determining that the composition of the navigational watch is adequate to ensure that a proper lookout can continuously be maintained, the skipper shall take into account all relevant factors, including those described under paragraph 4.1 of this regulation, as well as the following factors:

.1 visibility, state of weather and sea;

.2 traffic density, and other activities occurring in the area in which the vessel is navigating;

.3 the attention necessary when navigating in or near traffic separation schemes and other routeing measures;

.4 the additional workload caused by the nature of the vessel's functions, immediate operating requirements and anticipated manoeuvres;

.5 rudder and propeller control and vessel manoeuvring characteristics;

.6 the fitness for duty of any crew members on call who may be assigned as members of the watch;

.7 knowledge of and confidence in the professional competence of the vessel's officers and crew;

.8 the experience of the officer of the navigational watch and the familiarity of that officer with the vessel's equipment, procedures, and manoeuvring capability;

.9 activities taking place on board the vessel at any particular time, and the availability of assistance to be summoned immediately to the wheelhouse when necessary;

.10 the operational status of instrumentation in the wheelhouse and controls, including alarm systems;

.11 the size of the vessel and the field of vision available from the conning position;

.12 the configuration of the wheelhouse, to the extent such configuration might inhibit a member of the watch from detecting by sight or hearing any external developments; and

.13 any relevant standards, procedures and guidelines relating to watchkeeping arrangements and fitness for duty which have been adopted by the Organization.

4.7 Protection of the marine environment

The skipper and the officer in charge of the watch 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.

4.8 Weather conditions

The officer in charge of the watch shall take relevant measures and notify the skipper when adverse changes in weather could affect the safety of the vessel, including conditions leading to ice accretion.

5 Navigation with pilot embarked

The presence of a pilot on board does not relieve the skipper or officer in charge of the watch from their duties and obligations for the safety of the vessel. The skipper and the pilot shall exchange information regarding navigation procedures, local conditions and the vessel's characteristics. The skipper and the officer in charge of the watch shall cooperate closely with the pilot and maintain an accurate check of the vessel's position and movement.

6 Vessels engaged in fishing or searching for fish

6.1 In addition to the principles enumerated in paragraph 4, the following factors shall be considered and properly acted upon by the officer in charge of the watch:

.1 other vessels engaged in fishing and their gear, own vessel's manoeuvring characteristics, particularly its stopping distance and the diameter of turning circle at sailing speed and with the fishing gear overboard;

.2 safety of the crew on deck;

.3 stability and freeboard caused by exceptional forces resulting from fishing operations, catch handling and stowage, and unusual sea and weather conditions;

.4 the proximity of offshore structures, with special regard to the safety zones; and

.5 wrecks and other underwater obstacles which could be hazardous for fishing gear.

6.2 When stowing the catch, attention shall be given to the essential requirements for adequate freeboard, adequate stability and watertight integrity at all times during the voyage to the landing port, taking into consideration consumption of fuel and stores, risk of adverse weather conditions and, especially in winter, risk of ice accretion on or above exposed decks in areas where ice accretion is likely to occur.

7 Anchor watch

~~The skipper shall ensure, with a view to the safety of the vessel and the crew, that a proper watch is maintained at all times from the wheelhouse or deck on fishing vessels at anchor.~~

~~8 Radio watchkeeping~~

~~The skipper shall ensure that an adequate radio watch is maintained while the vessel is at sea, on appropriate frequencies, taking into account the requirements of the Radio Regulations.~~

***

ANNEX 29

DRAFT STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL (STCW-F) CODE

Part A
Mandatory standards regarding provisions of the STCW-F Convention and its annex

Introduction

1 This part of the STCW-F 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 Fishing Vessel Personnel, 1995, hereinafter referred to as the STCW-F Convention. These requirements provide the minimum standards required to be maintained by Parties in order to give full and complete effect to the Convention.

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-F Convention. The abilities specified in the standards of competence are grouped, as appropriate, under the following seven functions: *

.1-F Navigation
.2-F Catch handling and stowage
.3-F Controlling the operation of the vessel and care for persons on board
.4-F Marine engineering
.5-F Electrical, electronic and control engineering
.6-F Maintenance and repair
.7-F Radiocommunications

at the following levels of responsibility:

.1 Management level
.2 Operational level
.3 Support level

Functions and levels of responsibility are identified by the subtitle in the tables of standards of competence given in chapter II 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 The numbering of the sections of this part corresponds with the numbering of the regulations contained in the annex to the STCW-F Convention. The text of the sections may be divided into numbered parts and paragraphs, but such numbering is unique to that text alone.

* The suffix "-F" is aimed at making a distinction between the functions stipulated in the STCW Code and those in the STCW-F Code.

CHAPTER I
Standards regarding general provisions

Section A-I/1
Definitions

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

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

.1 serving as skipper, chief engineer officer or second engineer officer on board a fishing vessel; and

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

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

.1 serving as officer in charge of a navigational or engineer watch or as radio operator on board a fishing vessel; and

.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 *Support level* means the level of responsibility associated with performing assigned tasks, duties or responsibilities on board a fishing vessel under the direction of an individual serving in the operational or management level.

.5 *Evaluation criteria* are the entries appearing in column 4 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.

Section A-I/2
Application

(No provisions)

Section A-I/3
Certificates and endorsements

1 When provided in regulation I/3, paragraph 2, the certificate shall be issued in the format 1-3, as shown below.

Format 1

The format used to attest the issue of a certificate shall be as shown below, 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 are omitted where the certificate is required to be replaced upon its expiry.

(Official seal)

(COUNTRY)

CERTIFICATE ISSUED UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL, 1995

The Government of . . . . . certifies that the holder of this certificate has been found duly qualified in accordance with the provisions of regulation . . . . . of the above Convention and has been found competent to serve as specified below, 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.
The lawful holder of this certificate may serve in the following capacity or capacities:

CAPACITY	LIMITATIONS APPLYING (IF ANY)

Certificate No. . . . . issued on . . . . . .

(Official seal)

. . . . . .

Signature of duly authorized official

. . . . . .
Name of duly authorized official

Date of birth of the holder of the certificate . . . . . .

Signature of the holder of the certificate . . . . . .

Photograph of the holder of the certificate

The validity of this certificate is hereby extended until . . . . . . *(Official seal)* . . . . . . *Signature of duly authorized official* Date of revalidation . . . . *Name of duly authorized official*
The validity of this certificate is hereby extended until . . . . . . *(Official seal)* . . . . . . *Signature of duly authorized official* Date of revalidation . . . . *Name of duly authorized official*

Format 2

The form used to attest the issue of a certificate shall be as shown below, 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 are omitted where the endorsement is required to be replaced upon its expiry.

(Official seal)

(COUNTRY)

ENDORSEMENT ATTESTING THE ISSUE OF A CERTIFICATE UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL, 1995

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 and has been found competent to serve as specified below, 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.
The lawful holder of this endorsement may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration:

CAPACITY	LIMITATIONS APPLYING (IF ANY)

Endorsement No. . . . . issued on . . . . . .

(Official seal)

. . . . . .
Signature of duly authorized official

. . . . . .
Name of duly authorized official

Date of birth of the holder of the certificate . . . . . .

Signature of the holder of the certificate . . . . . .

Photograph of the holder of the certificate

The validity of this endorsement is hereby extended until . . . . . . *(Official seal)* . . . . . . *Signature of duly authorized official* Date of revalidation . . . . *Name of duly authorized official*
The validity of this endorsement is hereby extended until . . . . . . *(Official seal)* . . . . . . *Signature of duly authorized official* Date of revalidation . . . . *Name of duly authorized official*

Format 3

The form used to attest the recognition of a certificate shall be as shown below, 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.

(Official Seal)

(COUNTRY)

ENDORSEMENT ATTESTING THE RECOGNITION OF A CERTIFICATE UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL, 1995

The Government of . . . . . certifies that Certificate No. . . . . issued to . . . . . by or on behalf of the Government of . . . . . is duly recognized in accordance with the provisions of regulation I/7 of the above Convention, and the lawful holder is authorized to serve as specified below, 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.
The lawful holder of this endorsement may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration:

CAPACITY	LIMITATIONS APPLYING (IF ANY)

Endorsement No. . . . . issued on . . . . . .
(Official Seal)
. . . . . .
Signature of duly authorized official

. . . . . .
Name of duly authorized official

Date of birth of the holder of the certificate . . . . . .

Signature of the holder of the certificate . . . . . .

Photograph of the holder of the certificate

The validity of this endorsement is hereby extended until . . . . . .

(Official seal)

. . . . . . *Signature of duly authorized official* Date of revalidation . . . . *Name of duly authorized official*
The validity of this endorsement is hereby extended until . . . . . . *(Official seal)* . . . . . . *Signature of duly authorized official* Date of revalidation . . . . *Name of duly authorized official*

Section A-I/4
Control procedures

(No provisions)

Section A-I/5
Communication of information

(No provisions)

Section A-I/6
Administration of certification arrangements

(No provisions)

Section A-I/7
Recognition of certificates

(No provisions)

Section A-I/8
Transitional provisions

(No provisions)

Section A-I/9
Dispensation

(No provisions)

Section A-I/10
Equivalents

(No provisions)

Section A-I/11
Use of simulators

General performance standards for simulators used in training

1 Each Party shall ensure that any simulator used for simulator-based training shall:

.1 be suitable for the selected objectives and training tasks;

.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 have sufficient behavioural realism to allow a trainee to acquire the skills appropriate to the training objectives;

.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 provide an interface through which a trainee can interact with the equipment, the simulated environment and, as appropriate, the instructor; and

.6 permit an instructor to control, monitor and record exercises for the effective debriefing of the trainees.

General performance standards for simulators used in assessment of competence

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 be capable of satisfying the specified assessment objectives;

.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 have sufficient behavioural realism to allow a candidate to exhibit the skills appropriate to the assessment objectives;

.4 provide an interface through which a candidate can interact with the equipment and simulated environment;

.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 permit an assessor to control, monitor and record exercises for the effective assessment of the performance of candidates.

Additional performance standards

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 below in accordance with their specific type.

Radar simulation

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 operate in the stabilized relative-motion mode and sea- and ground-stabilized true-motion modes;

.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 create a real-time operating environment incorporating at least two own-vessel stations with ability to change the own vessel's course and speed, and include parameters for at least 20 target vessels and appropriate communication facilities.

Simulator training objectives

5 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.

Training procedures

6 In conducting simulator-based training, instructors shall ensure that:

.1 trainees are adequately briefed beforehand on the exercise objectives and tasks and are given sufficient planning time before the exercise starts;

.2 trainees have adequate familiarization time on the simulator and with its equipment before any training or assessment exercise commences;

.3 guidance given and exercise stimuli are appropriate to the selected exercise objectives and tasks and to the level of trainee experience;

.4 exercises are effectively monitored, supported as appropriate by audio and visual observation of trainee activity and pre- and post-exercise evaluation reports;

.5 trainees are effectively debriefed to ensure that training objectives have been met and that operational skills demonstrated are of an acceptable standard;

.6 the use of peer assessment during debriefing is encouraged; and

.7 simulator exercises are designed and tested so as to ensure their suitability for the specified training objectives.

Assessment procedures

7 Where simulators are used to assess the ability of candidates to demonstrate levels of competency, assessors shall ensure that:

.1 performance criteria are identified clearly and explicitly and are valid and available to the candidates;

.2 assessment criteria are established clearly and are explicit to ensure reliability and uniformity of assessment and to optimize objective minimum;

.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 assessment of performance takes into account normal operating procedures and any behavioural interaction with other candidates on the simulator or with simulator staff;

.5 scoring or grading methods to assess performance are used with caution until they have been validated; and

.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.

Section A-I/12
Medical standards

1 Parties, when establishing standards of medical fitness for fishing vessel personnel as required by regulation I/12, shall adhere to the minimum in-service eyesight standards set out in table A-I/12 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/12 of this Code and [joint ILO/IMO Guidelines on the medical examination of fishing vessel personnel].

These standards may, to the extent determined by the Party without prejudice to the safety of the fishing vessel personnel or the fishing vessel, differentiate between those persons seeking to start a career at sea and those fishing vessel personnel already serving at sea and between different functions on board, bearing in mind the different duties of fishing vessel personnel. They shall also take into account any impairment or disease that will limit the ability of the fishing vessel personnel to effectively perform their duties during the validity period of the medical certificate.

2 The standards of physical and medical fitness established by the Party shall ensure that fishing vessel personnel satisfy the following criteria:

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

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

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

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

.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 and emergency duties on board.

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

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 fishing vessel personnel on request.

5 Each Party shall provide guidance for the conduct of medical fitness examinations and issuing of medical certificates the guidance given in section B-I/12 of this Code and [joint ILO/IMO guidelines on the medical examination of fishing vessel personnel]. 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 fishing vessel personnel, 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/12 for fishing vessel personnel in the deck department required to undertake lookout duties. A Party may allow discretion on the application of these standards with regard to fishing vessel personnel in the engine department, on the condition that fishing vessel personnel's combined vision fulfils the requirements set out in table A-I/12.

6 Each Party shall establish processes and procedures to enable fishing vessel personnel 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 operation area, to have their case reviewed in line with that Party's provisions for appeal.

7 The medical certificate provided for in regulation I/12, paragraph 3, shall include the following information at a minimum:

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

.2 Fishing vessel personnel information

.1 Name: (last, first, middle)

.2 Date of birth: (day/month/year)

.3 Gender: (Male/Female)

.4 Nationality

.3 Declaration of the recognized medical practitioner

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

.2 Hearing meets the standards in section A-I/12? Y/N

.3 Unaided hearing satisfactory? Y/N

.4 Visual acuity meets standards in section A-I/12? Y/N

.5 Colour vision* meets standards in section A-I/12? Y/N

.1 Date of last colour vision test

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

.6 Fit for lookout duties? Y/N

.7 No limitations or restrictions on fitness? Y/N

If "N", specify limitations or restrictions

.8 Are the fishing vessel personnel free from any medical condition likely to be aggravated by service at sea or to render the fishing vessel personnel unfit for such service or to endanger the health of other persons on board?: Y/N

.9 Date of examination: (day/month/year)

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

.4 Details of the issuing authority

.1 Official stamp (including name) of the issuing authority

.2 Signature of the authorized person

.5 Fishing vessel personnel's signature – confirming that the fishing vessel personnel have been informed of the content of the certificate and of the right to a review in accordance with paragraph 6 of section A-I/12

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.

Table A-I/12

Minimum in-service eyesight standards for fishing vessel personnel

STCW-F Convention regulation	Category of fishing vessel personnel	Distance vision aided[1]		Near/immediate vision	Colour Vision[3]	Visual Fields[4]	Night Blindness[4]	Diplopia (double vision)[4]
		One eye	Other eye	Both eyes together, aided or unaided				
II/1 II/2 II/3 II/4 II/7	Skippers, deck officers and fishing vessel personnel forming part of a navigational watch	0.5[2]	0.5	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)	See Note 6	Normal Visual fields	Vision required to perform all necessary functions in darkness without compromise	No significant condition evident
II/5 II/5-1 II/5-2 II/7	All engineer officers and other fishing vessel personnel forming part of an engine-room watch	0.4	0.4 (see Note 5)	Vision required to read instruments in close proximity, to operate equipment, and to identify systems/ components as necessary	See Note 7	Sufficient visual fields	Vision required to perform all necessary functions in darkness without compromise	No significant condition evident
II/6 II/8	GMDSS radio operators	0.4	0.4	Vision required to read instruments in close proximity, to operate equipment and to identify systems/ components as necessary	See Note 7	Sufficient visual fields	Vision required to perform all necessary functions in darkness without compromise	No significant condition evident

Notes:

[1] Values given in Snellen decimal notation.

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

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

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

[6] CIE colour vision standard 1 or 2. Other equivalent confirmatory test methods currently recognized by the Administration may continue to be used.

[7] CIE colour vision standard 1, 2 or 3. Other equivalent confirmatory test methods currently recognized by the Administration may continue to be used.

CHAPTER II
Standards regarding certification of skippers, officers, engineers and radio operators

Section A-II/1
Mandatory minimum requirements for certification of skippers on fishing vessels of 24 metres in length and over operating in unlimited waters

Standard of competence

1 Every candidate for certification as skippers on fishing vessels of 24 metres in length and over operating in unlimited waters shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/1.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/1. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-II/2 for officers in charge of a navigational watch.

3 The level of knowledge of the subjects listed in column 2 of table A-II/1 shall be sufficient to enable the candidate to serve in the capacity of skipper.

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 criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/1.

Table A-II/1

Specification of minimum standard of competence for skippers on fishing vessels of 24 metres in length and over operating in unlimited waters

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Navigation at the management level			
Plan a voyage and conduct navigation	*Navigation* Voyage planning and navigation for all conditions: .1 by acceptable methods of determining ocean tracks .2 within restricted waters .3 where applicable, in ice .4 in restricted visibility .5 where applicable, in traffic separation schemes .6 in areas affected by tides or currents .7 in all meteorological conditions	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: chart catalogues, charts, nautical publications and ship particulars	The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment All potential navigational hazards are accurately identified
Determine position and the accuracy of resultant position fix by any means	Position determination: .1 by celestial observations .2 by terrestrial observations, including the ability to use bearings from landmarks and aids to navigation such	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience	The primary method chosen for fixing the vessel's position is the most appropriate to the prevailing circumstances and conditions The fix obtained by celestial observations is within accepted accuracy levels

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	as lighthouses, beacons and buoys in conjunction with appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting position fix .3 by using, to the satisfaction of the Party, electronic navigational aids as provided in fishing vessels, with specific reference to knowledge of their operating principles, limitations, sources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing	.3 approved simulator training, where appropriate .4 approved laboratory equipment training using: (a) charts, nautical almanac, plotting sheets, chronometer, sextant and a calculator (b) charts, nautical publications and navigational instruments (azimuth mirror, sextant, log, sounding equipment, compass) and manufactures manuals (c) radar, terrestrial electronic position-fixing systems, satellite navigation systems and appropriate nautical charts and publications	The fix obtained by terrestrial observations is within accepted accuracy levels The accuracy of the resulting fix is properly assessed 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

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Determine and allow for compass errors	*Compasses* Ability to use terrestrial and celestial means to determine and apply the errors of the compasses	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: celestial observations, terrestrial bearings and comparison between magnetic and gyro-compasses	The method and frequency of checks for errors of compasses ensures accuracy of information
Coordinate search and rescue operations	*Search and rescue* Thorough knowledge of and ability to apply the procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using:	The plan for coordinating search and rescue operations is in accordance with international guidelines and standards Radiocommunications are established and correct communication procedures are followed at all stages of the search and rescue operations

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
		relevant publications, charts, meteorological data, particulars of vessels involved, radiocommunication equipment and other available facilities	
Establish watchkeeping arrangements and procedures	*Watchkeeping* .1 thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, specially annexes II and IV concerned with safe navigation .2 demonstrate knowledge of basic principles to be observed in keeping a navigational watch as prescribed in chapter IV	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate	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 vessel and persons on board
Forecast weather and oceanographic conditions	*Meteorology and oceanography* .1 knowledge of meteorological instruments and their application .2 ability to apply meteorological information available .3 knowledge of characteristics of various weather systems, including,	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved laboratory equipment training	The likely weather conditions predicted for a determined period are based on all available information Actions taken to maintain safety of navigation minimize any risk to safety of the vessel Reasons for intended action are backed by statistical data and

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	at the discretion of the Party, tropical revolving storms and avoidance of storm centres and the dangerous quadrants .4 knowledge of weather conditions, such as fog, icebergs, ice accretion and freezing spray liable to endanger the vessel .5 ability to use appropriate navigational publications on tides and currents .6 ability to calculate times and heights of high and low water and estimate the direction and rate of tidal streams		observations of the actual weather conditions
Respond to navigational emergencies	*Emergency procedures* .1 precautions when beaching a vessel .2 action to be taken prior to, and after, grounding .3 action to be taken when the gear becomes fast to the ground or other obstruction .4 floating a grounded vessel,	Assessment of evidence obtained from examination or practical instruction, in-service experience and practical drills in emergency procedures	The type and scale of any problem is promptly identified and decisions and actions minimize the effects of any malfunction of the vessel's systems Communications are effective and comply with established procedures Decisions and actions maximize safety of persons on board

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	with and without assistance .5 action to be taken following a collision .6 temporary plugging of leaks .7 measures for the protection and safety of crew in emergencies .8 limiting damage and salving the vessel following a fire or explosion .9 abandoning ship .10 emergency steering, rigging, and use of jury steering and the means of rigging a jury rudder, where practicable .11 rescuing persons from a ship in distress or from a wreck .12 man overboard procedures .13 towing and being towed		
Fishing vessel manoeuvring and handling	*Fishing vessel manoeuvring and handling* Manoeuvring and handling of a fishing vessel in all conditions including:	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience	All decisions concerning berthing and anchoring are based on a proper assessment of the vessel's manoeuvring and engine characteristics and the forces to be expected while

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.1 berthing, unberthing and anchor work under various conditions of wind and tide .2 manoeuvring in shallow water .3 management and handling of fishing vessels in heavy weather, including appropriate speed, particularly in following and quartering seas, assisting a vessel or aircraft in distress, means of keeping an unmanageable vessel out of a sea trough and lessening drift .4 manoeuvring the vessel during fishing operations, with special regard to factors which could adversely affect the vessel's safety during such operations .5 precautions in manoeuvring for launching rescue boats or survival craft in bad weather .6 methods of taking on board survivors from rescue boats or survival craft .7 where applicable, practical measures to be	.2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved manned scale ship model, where appropriate	berthed alongside or lying at anchor While under way, a full assessment is made of possible effects of shallow and restricted waters, ice, banks, tidal conditions, passing vessels and own vessel's bow and stern wave so that the vessel can be safely manoeuvred under various conditions of loading and weather

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	taken when navigating in ice, icebergs or conditions of ice accretion on board the vessel .8 the use of, and manoeuvring in, traffic separation schemes .9 the importance of navigating at reduced speed to avoid damage caused by own vessel's bow or stern wave .10 transhipment at sea of catch and other supplies to factory ships and other vessels .11 refuelling at sea		
Fishing vessel power plants	*Fishing vessel power plants* .1 operating principles of marine power plants in fishing vessels .2 vessel's auxiliary machinery .3 general knowledge of marine engineering terms	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision-making Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on vessels not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned	An appreciation of system errors and thorough understanding of the operational aspects of navigational systems Blind pilotage planning 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 vessel The interrelationship and optimum use of all navigational data available for conducting navigation	Examination and assessment of evidence obtained from approved ARPA simulator and one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate .3 approved laboratory equipment training	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 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
Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision-making Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on vessels not fitted with ECDIS. This limitation shall be reflected in the endorsement issued	Management of operational procedures, system files and data, including: .1 manage procurement, licensing and updating of chart data and system software to conform to established procedures .2 system and information updating, including the ability to update ECDIS system	Assessment of evidence obtained from one of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved ECDIS simulator training	Operational procedures for using ECDIS are established, applied and monitored Actions taken to minimize risk to safety of navigation

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
to the fishing vessel personnel concerned	version in accordance with vendor's product development .3 create and maintain system configuration and backup files .4 create and maintain log files in accordance with established procedures .5 create and maintain route plan files in accordance with established procedures .6 use ECDIS logbook and track history functions for inspection of system functions, alarm settings and user responses Use ECDIS playback functionality for passage review, route planning and review of system functions		
Maritime communication for safe navigation	*English language* Adequate knowledge of the English language enabling the skipper to use charts and other nautical publications, to understand meteorological information and measures	Assessment of evidence obtained from examination or practical instruction	English language navigational publications and messages relevant to the safety of the vessel are correctly interpreted or drafted Communications are clear and understood

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	concerning the vessel's safety and operation, and to communicate with other vessels or coast stations. Ability to understand and use the IMO Standard Marine Communication Phrases		
Transmit and receive information by visual signalling	*Visual signalling* 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, 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	Assessment of evidence obtained from examination or practical instruction and/or simulation	Communications within the operator's area of responsibility are consistently successful
Function: Catch handling and stowage at the management level			
Catch handling and stowage	*Catch handling and stowage* .1 the stowage and securing of the catch on board vessels, including fishing gear .2 loading and discharging operations, with special regard to heeling moments from gear and catch	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience	The stowage and securing of the catch ensure that stability conditions remain within safe limits at all times during the voyage

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
		.3 approved simulator training, where appropriate	
Function: Controlling the operation of the vessel and care for persons on board at the management level			
Control trim and stability	*Fishing vessel construction and stability* .1 general knowledge of principal structural members of a vessel and the proper names of the various parts .2 knowledge of the theories and factors affecting trim and stability and measures necessary to preserve safe trim and stability .3 demonstrate the application of stability data, stability and trim tables and precalculated operating conditions, and the use of the vessel's stability booklet .4 knowledge of effects of free surfaces and ice accretion, where applicable .5 knowledge of effects of water on deck	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate Using: stability and trim tables, diagrams	Stability conditions are maintained within safe limits at all times Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.6 knowledge of the significance of weathertight and watertight integrity .7 knowledge of internationally recognized stability criteria and conditions		
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	*Maritime law* A knowledge of international maritime law as embodied in the international agreements and conventions as they affect the specific obligations and responsibilities of the skipper, particularly those concerning safety and the protection of the marine environment Particular regard shall be paid to the following subjects: .1 certificates and other documents required to be carried on board fishing vessels by international conventions, how they may be obtained and the period of their legal validity .2 responsibilities under a relevant international convention related to the safety of fishing vessels	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Procedures for monitoring operations and maintenance comply with legislative requirements Potential non-compliance is promptly and fully identified Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.3 responsibilities under the relevant requirements of chapter V of the International Convention for the Safety of Life at Sea, 1974 .4 responsibilities under the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 thereto .5 maritime declarations of health and the requirements of the international health regulations .6 responsibilities under the Convention on International Regulations for Preventing Collisions at Sea, 1972 .7 responsibilities under other international instruments affecting the safety of the vessel and crew The extent of knowledge of national maritime legislation is left to the discretion of the Party, but shall include national		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	arrangements for implementing applicable international agreements and conventions .8 knowledge of relevant international instruments on safety and health of personnel on board fishing vessels .9 the principles and international standards applicable to the responsible conservation, management and development of living aquatic resources .10 knowledge of key international instruments and tools related to the fight against illegal, unreported and unregulated (IUU) fishing		
Maintain safety of the vessel's crew and the operational condition of life-saving and fire-fighting appliances	*Fire prevention and fire-fighting appliances* .1 organization of fire drills .2 classes and chemistry of fire .3 fire-fighting systems .4 understanding of action to be taken in the event of fire,	Assessment of evidence obtained from examination or approved training	Procedures for monitoring fire detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	includes fire involving oil systems .5 knowledge of provisions concerning fire-fighting equipment .6 knowledge of fire prevention measures *Life-saving* .1 thorough knowledge of life-saving appliances provided on fishing vessels. .2 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, EPIRBs, SARTs, immersion suits and thermal protective aids .3 actions to be taken to protect and safeguard all persons on board in emergencies .4 actions to limit damage and salve the vessel following a fire, explosion,		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	collision or grounding *Maintenance* .1 maintenance of operational condition of life-saving, fire-fighting and other safety systems		
Organize and manage the provision of medical care on board	*Medical care* .1 knowledge of medical first aid procedures .2 knowledge of relevant procedures to provide adequate medical care on board .3 knowledge of procedures for obtaining medical advice by radio Thorough knowledge of the use of the following publications: .1 International Medical Guide for Ships or equivalent national publications .2 medical section of the International Code of Signals	Assessment of evidence obtained from approved training	Action taken and procedures following correctly apply and make full use of advice available

Section A-II/2
Mandatory minimum requirements for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters

Standard of competence

1 Every candidate for certification as officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/2.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/2.

3 The level of knowledge of the subjects listed in column 2 of table A-II/2 shall be sufficient for officers of the watch to carry out their watchkeeping duties.

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-II/2.

Onboard training

5 Every candidate for certification as officer in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters whose seagoing service, in accordance with paragraph 2.2 of regulation II/2, forms part of a training programme approved as meeting the requirements of this section shall follow an approved programme of onboard training which:

.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;

.2 is closely supervised and monitored by qualified officers aboard the vessels in which the approved seagoing service is performed; and

.3 is adequately documented in a training record book or a similar document.

Table A-II/2

Specification of minimum standard of competence for officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Navigation at the operational level			
Plan and conduct a passage and determine position	*Celestial navigation* Ability to use a celestial body to determine compass errors *Terrestrial and coastal navigation* Ability to determine the vessel position by the use of: .1 landmarks .2 aids to navigation, including lighthouses, beacons and buoys .3 dead reckoning, taking into account winds, tides, currents, speed by propeller revolutions per minute and by log Thorough knowledge of and ability to use navigational charts and publications such as sailing directions, tide tables, notices to mariners and radio navigational warnings Electronic systems of position fixing and navigation Ability to determine the vessel's position by the use of electronic navigational	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: chart catalogues, charts, nautical publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo sounding equipment, compass	The information obtained from nautical charts and publications is relevant, interpreted correctly and properly applied. All potential navigational hazards are accurately identified The primary method of fixing the vessel's position is the most appropriate to the prevailing circumstances and conditions The position is determined within the limits of acceptable instrument/system errors The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals Calculations and measurements of navigational information are accurate The charts selected are the largest scale suitable for the area of navigation and charts and publications are corrected in

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	aids to the satisfaction of the Party *Magnetic and gyro-compasses* Care and use of compasses and associated equipment *Meteorology* .1 knowledge of shipborne meteorological instruments and their application .2 knowledge of the characteristics of the various weather systems		accordance with the latest information available Performance checks and tests to navigation systems comply with manufacturer's recommendations and good navigational practice Errors in magnetic and gyro-compasses are determined and correctly applied to courses and bearings Measurements and observations of weather conditions are accurate and appropriate to the passage

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Maintain a safe navigational watch	*Watchkeeping* Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, specially annexes II and IV concerned with safe navigation Demonstrate knowledge of the content of the basic principles to be observed in keeping a navigational watch as prescribed in chapter IV	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The conduct, handover and relief of the watch conforms with accepted principles and procedures A proper lookout 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, and are correctly recognized The frequency and extent of monitoring of traffic, the vessel and the environment conform with accepted principles and procedures A proper record is maintained of the movements and activities relating to the navigation of the vessel 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

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Use of radar to maintain safety of navigation	*Radar navigation* Knowledge of the fundamentals of radar and ability in the operation and use of radar, and in the interpretation and analysis of information obtained from the equipment* including the following: .1 factors affecting performance and accuracy .2 setting up and maintaining displays .3 detection of misrepresentation of information, false echoes, sea return .4 range and bearing .5 identification of critical echoes .6 detection of course and speed of other ships .7 time and distance of closest approach of crossing, meeting or overtaking vessels .8 effect of changes in own vessel's course or speed or both .9 use of manoeuvring board .10 application of the International	Assessment of evidence obtained from examination or approved radar simulator training plus in-service experience	Information obtained from radar is correctly interpreted and analysed taking into account the limitations of the equipment and prevailing circumstances and conditions 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 Decisions to amend course and/or speed are both timely and in accordance with accepted navigation practice Adjustments made to the vessel's course and speed maintain safety of navigation Communication is clear, concise and acknowledged at all times in a seamanlike manner Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea, 1972

* Reference is made to resolution 2 of the 1995 STCW-F Conference.

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Regulations for Preventing Collisions at Sea, 1972		
Respond to a distress signal at sea	*Search and rescue* Adequate knowledge of search and rescue procedures based on the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	Assessment of evidence obtained from examination or practical instruction and/or simulation	The distress or emergency signal is immediately recognized Contingency plans and instructions in standing orders are implemented and complied with
Use the IMO Standard Maritime Communication Phrases and use English in written and oral forum	*English language* Adequate knowledge of the English language enabling the officer to use charts and other nautical publications, to understand meteorological information and messages concerning a vessel's safety and operation. Ability to understand and use the IMO Standard Marine Communication Phrases	Assessment of evidence obtained from examination or practical instruction	English language navigational publications and messages relevant to the safety of the vessel are correctly interpreted or drafted Communications are clear and understood
Fishing vessel manoeuvring and handling	*Fishing vessel manoeuvring and handling* Basic knowledge of manoeuvring and handling a fishing vessel, including the following: .1 berthing, unberthing, anchoring and manoeuvring	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience	Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres Adjustments made to the vessel's course and speed maintain safety of navigation

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	alongside other vessels at sea .2 manoeuvring during fishing operations with special regard to factors which could adversely affect the vessel's safety during such operations .3 effects of wind, tide and current on ship handling .4 manoeuvring in shallow water .5 management of fishing vessels in heavy weather .6 rescuing persons and assisting a vessel or aircraft in distress .7 towing and being towed .8 man overboard procedure .9 where applicable, practical measures to be taken when navigating in ice or in conditions of ice accretion on board the vessel	.3 approved simulator training, where appropriate .4 approved training on a manned scale ship model where appropriate	
Use of radar and ARPA to maintain safety of navigation Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on vessels not fitted	*Radar navigation* Knowledge of the fundamentals of radar and automatic radar plotting aids (ARPA) Ability to operate and to interpret and analyse information	Assessment of evidence obtained from approved radar simulator and ARPA simulator plus in-service experience	Information obtained from radar and ARPA is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
with ARPA. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned	obtained from radar, including the following: Performance, including: .1 factors affecting performance and accuracy .2 setting up and maintaining displays .3 detection of misrepresentation of information, false echoes, sea return, etc., racons and SARTs Use, including: .1 range and bearing; course and speed of other vessels; time and distance of closest approach of crossing, meeting overtaking vessels .2 identification of critical echoes; detecting course and speed changes of other vessels; effect of changes in own vessel's course or speed or both .3 application of the International Regulations for Preventing Collisions at Sea, 1972 .4 plotting techniques and relative- and true-motion concepts		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 Decisions to amend course and/or speed are both timely and in accordance with accepted navigation practice Adjustments made to the vessel's course and speed maintain safety of navigation Communication is clear, concise and acknowledged at all times in a seamanlike manner Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea, 1972

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.5 parallel indexing Principal types of ARPA, their display characteristics, performance standards and the dangers of over-reliance on ARPA Ability to operate and to interpret and analyse information obtained from ARPA, including: .1 system performance and accuracy, tracking capabilities and limitations, and processing delays .2 use of operational warnings and system tests .3 methods of target acquisition and their limitations .4 true and relative vectors, graphic representation of target information and danger areas .5 deriving and analysing information, critical echoes, exclusion areas and trial manoeuvres		
Use of ECDIS to maintain the safety of navigation Note: Training and assessment in the use of ECDIS is not required for those	*Navigation using ECDIS* Knowledge of the capability and limitations of ECDIS operations, including:	Examination and assessment of evidence obtained from one or more of the following:	Monitors information on ECDIS in a manner that contributes to safe navigation Information obtained from ECDIS

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
who serve exclusively on vessels not fitted with ECDIS. This limitation shall be reflected in the endorsements issued to the fishing vessel personnel concerned	.1 thorough understanding of Electronic Navigational Chart (ENC) data, data accuracy, presentation rules, display options and other chart data formats .2 the dangers of over-reliance .3 familiarity with the functions of ECDIS required by performance standards in force Proficiency in operation, interpretation, and analysis of information obtained from ECDIS, including: .1 use of functions that are integrated with other navigation systems in various installations, including proper functioning and adjustment to desired settings .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)	.1 approved training vessel experience .2 approved ECDIS simulator training	(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 Safety of navigation is maintained through Adjustments made to the vessel's course and speed through ECDIS-controlled track-keeping functions (when fitted) Communication is clear, concise and acknowledged at all times in a seamanlike manner

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.3 confirmation of vessel position by alternative means .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 .5 adjustment of settings and values to suit the present conditions .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		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Catch handling and stowage at operational level			
Catch handling and stowage	*Catch handling and stowage* Knowledge of safe handling and stowage of catch and the effect of these factors on the safety of the vessel	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Handling and stowage of catch are carried out in accordance with safety rules/regulations, equipment operating instructions and shipboard stowage limitation
Function: Controlling the operation of the vessel and care for persons on board at the operational level			
Ensure compliance with pollution prevention requirements and the protection of the marine environment	*Prevention of pollution of the marine environment* Knowledge of the precautions to be observed to prevent pollution of the marine environment Knowledge of the impacts of fishing on the environment including pollution related to abandoned, lost or otherwise discarded fishing gear in the context of annex V to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 thereto	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Procedures for monitoring shipboard operations and ensuring compliance with the requirements of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 thereto

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Understanding the importance of proactive measures to protect the marine environment		
Maintain seaworthiness of the ship	*Vessel stability* Ability to use stability data, stability and trim tables and precalculated operating conditions Knowledge of: .1 the effects of suspended weight on stability .2 the effects of fishing gear operations on stability .3 the risks of following and quartering seas *Fishing vessel construction* General knowledge of the principal structural members of a vessel Understanding of the fundamentals of watertight integrity	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The stability conditions comply with the IMO intact stability criteria under all conditions of loading Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice
Prevent, control and fight fires on board	*Fire prevention and fire-fighting appliances* .1 knowledge of classes and chemistry of fire .2 knowledge of action to be taken in the event of fire	Assessment of evidence obtained from approved fire-fighting training and experience	The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the vessel Evacuation, emergency shutdown

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.3 knowledge of fire prevention measures		and isolation procedures are appropriate to the nature of the emergency and are implemented promptly 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
Operate life-saving appliances	*Life-saving* Ability to direct abandon ship drills and knowledge of the operation of life-saving appliances and their equipment, including the two-way radio-telephone apparatus. Survival at sea techniques including participation in an approved survival at sea course	Assessment of evidence obtained from examination or approved training	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
Medical aid	*Medical aid* Knowledge of first aid procedures. Practical application of medical guides and advice by radio	Assessment of evidence obtained from approved training	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions and other relevant international instruments concerning safety of	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	life at sea and protection of the marine environment Basic working knowledge of relevant international instruments concerning the responsible conservation, fishing management, responsible fisheries and development of living aquatic resources as well as key international instruments related to the fight against illegal, unreported and unregulated (IUU) fishing Understanding of the requirements which crews shall comply with Understanding the importance of sustainable development of the fishing industry		

Section A-II/3
Mandatory minimum requirements for certification of skippers on fishing vessels of 24 metres in length and over operating in limited waters

Standard of competence

1 Every candidate for certification as skipper on fishing vessels of 24 metres in length and over operating in limited waters shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/3.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/3. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-II/4 for officers in charge of a navigational watch.

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 skipper.

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 criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/3.

Table A-II/3

Specification of minimum standard of competence for skippers on fishing vessels of 24 metres in length and over operating in limited waters

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Navigation at the management level			
Plan a voyage and conduct navigation	*Navigation* Voyage planning and navigation for all conditions: .1 by acceptable methods of determining ocean tracks .2 within restricted waters .3 where applicable, in ice .4 in restricted visibility .5 where applicable, in traffic separation schemes .6 in areas affected by tides or currents .7 in all meteorological conditions	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: chart catalogues, charts, nautical publications and ship particulars	The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment All potential navigational hazards are accurately identified
Determine position and the accuracy of resultant position fix by any means	Position determination: .1 by terrestrial observations, including the ability to use bearings from landmarks and aids to navigation such as lighthouses, beacons and buoys in conjunction with appropriate charts, notices to mariners	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience	The primary method chosen for fixing the vessel's position is the most appropriate to the prevailing circumstances and conditions The fix obtained by terrestrial observations is within accepted accuracy levels

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	and other publications to assess the accuracy of the resulting position fix .2 by using, to the satisfaction of the Party, modern ship electronic navigational aids as provided in fishing vessels concerned	.3 approved simulator training, where appropriate .4 approved laboratory equipment training using: (a) charts, nautical publications and navigational instruments (log, sounding equipment, compass) and manufactures manuals (b) radar, terrestrial electronic position-fixing systems, satellite navigation systems and appropriate nautical charts and publications	The accuracy of the resulting fix is properly assessed 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
Determine and allow for compass errors	*Compasses* Ability to use terrestrial means to determine and apply the errors of the compasses	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using:	The method and frequency of checks for errors of magnetic and gyro-compasses ensures accuracy of information

Column 1 **Competence**	Column 2 **Knowledge, understanding and proficiency**	Column 3 **Methods for demonstrating competence**	Column 4 **Criteria for evaluating competence**
		terrestrial bearings and comparison between magnetic and gyro-compasses	
Coordinate search and rescue operations	*Search and rescue* Knowledge of search and rescue procedures	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: relevant publications, charts, meteorological data, particulars of vessels involved, radiocommunication equipment and other available facilities	The plan for coordinating search and rescue operations is in accordance with international guidelines and standards Radiocommunications are established and correct communication procedures are followed at all stages of the search and rescue operations
Establish watchkeeping arrangements and procedures	*Watchkeeping* .1 thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, specially annexes II and IV concerned with safe navigation	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate	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 vessel and persons on board

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.2 demonstrate knowledge of the content, application and intent of the principles to be observed in keeping a navigational watch as prescribed in chapter IV .3 use of reporting in accordance with the general principles for ships reporting systems and with VTS procedures, where deemed appropriate by the Party		
Forecast weather and oceanographic conditions	*Meteorology and oceanography* .1 knowledge of meteorological instruments and their application .2 ability to apply meteorological information available .3 knowledge of characteristics of various weather systems affecting the limited waters concerned liable to endanger the vessel, at the discretion of the Party .4 knowledge of weather conditions affecting the limited waters concerned liable to endanger the vessel, at the discretion of the Party	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved laboratory equipment training	The likely weather conditions predicted for a determined period are based on all available information Actions taken to maintain safety of navigation minimize any risk to safety of the vessel Reasons for intended action are backed by statistical data and observations of the actual weather conditions Calculate times and heights of tides and estimate the direction and rate of tidal streams

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.5 ability to calculate tidal conditions using appropriate navigational publications		
Respond to navigational emergencies	*Emergency procedures* .1 precautions when beaching a vessel .2 action to be taken prior to, and after, grounding .3 action to be taken when the gear becomes fast to the ground or other obstruction .4 floating a grounded vessel, with and without assistance .5 action to be taken following a collision .6 temporary plugging of leaks .7 measures for the protection and safety of crew in emergencies .8 limiting damage and salving the vessel following a fire or explosion .9 abandoning ship .10 emergency steering	Assessment of evidence obtained from examination or practical instruction, in-service experience and practical drills in emergency procedures	The type and scale of any problem is promptly identified and decisions and actions minimize the effects of any malfunction of the vessel's systems Communications are effective and comply with established procedures Decisions and actions maximize safety of persons on board

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.11 rescuing persons from a vessel in distress or from a wreck .12 man overboard procedures .13 towing and being towed		
Fishing vessel manoeuvring and handling	*Fishing vessel manoeuvring and handling* Manoeuvring and handling of a fishing vessel in all conditions including: .1 berthing, unberthing and anchor work under various conditions of wind and tide .2 manoeuvring in shallow water .3 management and handling of fishing vessels in heavy weather, including appropriate speed, particularly in following and quartering seas, assisting a vessel or aircraft in distress, means of keeping an unmanageable vessel out of a sea trough and lessening drift .4 manoeuvring the vessel during fishing operations, with special regard to factors which could	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved manned scale ship model, where appropriate	All decisions concerning berthing and anchoring are based on a proper assessment of the vessel's manoeuvring and engine characteristics and the forces to be expected while berthed alongside or lying at anchor While under way, a full assessment is made of possible effects of shallow and restricted waters, ice, banks, tidal conditions, passing vessel and own vessel's bow and stern wave so that the vessel can be safely manoeuvred under various conditions of loading and weather

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	adversely affect the vessel's safety during such operations .5 precautions in manoeuvring for launching rescue boats or survival craft in bad weather .6 methods of taking on board survivors from rescue boats or survival craft .7 where applicable, practical measures to be taken when navigating in ice, icebergs or conditions of ice accretion on board the vessel .8 the use of, and manoeuvring in, traffic separation schemes .9 the importance of navigating at reduced speed to avoid damage caused by own vessel's bow or stern wave .10 transhipment at sea of catch and other supplies to factory vessels and other vessels		
Fishing vessel power plants	*Fishing vessel power plants* .1 operating principles of marine power plants in fishing vessels	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience	Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.2 vessel's auxiliary machinery .3 general knowledge of marine engineering terms	.2 approved training vessel experience .3 approved simulator training, where appropriate	
Maritime communication for safe navigation	*The English language* Basic knowledge of the English language to enable the officer to use appropriate nautical publications, to understand meteorological information and messages concerning vessel's safety, and to communicate with other vessels	Examination and assessment of evidence obtained from practical instruction	English language nautical publications and messages relevant to the safety of the vessel are correctly interpreted or drafted Communications are clear and understood
Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision-making Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on vessels not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned	An appreciation of system errors and thorough understanding of the operational aspects of navigational systems Blind pilotage planning 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 vessel	Examination and assessment of evidence obtained from approved ARPA simulator and one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate .3 approved laboratory equipment training	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 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

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	The interrelation vessel and optimum use of all navigational data available for conducting navigation		
Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision-making Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on vessels not fitted with ECDIS. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned	Management of operational procedures, system files and data, including: .1 manage procurement, licensing and updating of chart data and system software to conform to established procedures .2 system and information updating, including the ability to update ECDIS system version in accordance with vendor's product development .3 create and maintain system configuration and backup files .4 create and maintain log files in accordance with established procedures .5 create and maintain route plan files in accordance with established procedures .6 use ECDIS logbook and track history functions for inspection of system	Assessment of evidence obtained from one of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved ECDIS simulator training	Operational procedures for using ECDIS are established, applied and monitored Actions taken to minimize risk to safety of navigation

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	functions, alarm settings and user responses Use ECDIS playback functionality for passage review, route planning and review of system functions		
Function: Catch handling and stowage at management level			
Catch handling and stowage	*Catch handling and stowage* .1 the stowage and securing of the catch on board vessels, including fishing gear .2 loading and discharging operations, with special regard to heeling moments from gear and catch	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	The stowage and securing of the catch ensure that stability conditions remain within safe limits at all times during the voyage
Function: Controlling the operation of the vessel and care for persons on board at the management level			
Control trim and stability	*Fishing vessel construction and stability* .1 general knowledge of principal structural members of a vessel and the proper names of the various parts .2 knowledge of the theories and factors affecting trim and stability and measures necessary to preserve safe trim and stability	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate Using: stability and trim tables, diagrams	Stability conditions are maintained within safe limits at all times Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.3 knowledge and ability to use stability documents or booklets, stability data, stability and trim tables and precalculation for operating conditions. .4 knowledge of effects of free surfaces and ice accretion, where applicable .5 knowledge of effects of water on deck .6 knowledge of the significance of weathertight and watertight integrity .7 knowledge of internationally recognized stability criteria and conditions		
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	*Maritime law* Taking into account the limited waters as defined by the Party, a knowledge of international maritime law as embodied in the international agreements and conventions as they affect the specific obligations and responsibilities of the skipper, particularly those concerning safety and the protection of the marine environment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Procedures for monitoring operations and maintenance comply with legislative requirements Potential non-compliance is promptly and fully identified Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	The extent of knowledge of national maritime legislation is left to the discretion of the Party, but shall include national arrangements for implementing applicable international agreements and conventions		
Maintain safety of the vessel's crew and the operational condition of life-saving and fire-fighting appliances	*Fire prevention and fire-fighting appliances* .1 organization of fire drills .2 classes and chemistry of fire .3 fire-fighting systems .4 understanding of action to be taken in the event of fire, includes fire involving oil systems .5 knowledge of provisions concerning fire-fighting equipment .6 knowledge of fire prevention measures *Life-saving* .1 thorough knowledge of life-saving appliances provided on fishing vessels. .2 ability to organize abandon ship drills and knowledge of the	Assessment of evidence obtained from examination or approved training	Procedures for monitoring fire detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, EPIRBs, SARTs, immersion suits and thermal protective aids .3 actions to be taken to protect and safeguard all persons on board in emergencies .4 actions to limit damage and salve the vessel following a fire, explosion, collision or grounding *Maintenance* .1 maintenance of operational condition of life-saving, fire fighting and other safety systems		
Organize and manage the provision of medical care on board	*Medical care* .1 knowledge of medical first aid procedures .2 knowledge of relevant procedures to provide adequate medical care on board .3 knowledge of procedures for obtaining medical advice by radio	Assessment of evidence obtained from examination or approved training	Action taken and procedures following correctly apply and make full use of advice available

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.4 practical application of medical guides and advice by radio including the ability to take effective action based on such knowledge in case of accident or illness that are likely to occur on board the vessel		

Section A-II/4
Mandatory minimum requirements for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters

Standard of competence

1 Every candidate for certification as officer in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/4.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/4.

3 The level of knowledge of the subjects listed in column 2 of table A-II/4 shall be sufficient for officers of the watch to carry out their watchkeeping duties.

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-II/4.

Onboard training

5 Every candidate for certification as officer in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters whose seagoing service, in accordance with paragraph 2.2 of regulation II/4, forms part of a training programme approved as meeting the requirements of this section shall follow an approved programme of onboard training which:

.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;

.2 is closely supervised and monitored by qualified officers aboard the vessels in which the approved seagoing service is performed; and

.3 is adequately documented in a training record book or a similar document.

Table A-II/4

Specification of minimum standard of competence for officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Navigation at the operational level			
Plan and conduct a passage and determine position	Terrestrial and coastal navigation Ability to determine the vessel position by the use of: .1 landmarks .2 aids to navigation, including lighthouses, beacons and buoys .3 dead reckoning, taking into account winds, tides, currents, speed by propeller revolutions per minute and by log Thorough knowledge of and ability to use navigational charts and publications such as sailing directions, tide tables, notices to mariners and radio navigational warnings Electronic systems of position fixing and navigation Ability to determine the vessel's position by the use of electronic navigational aids to the satisfaction of the Party *Compasses* .1 care and use of compasses and	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: chart catalogues, charts, nautical publications, radio navigational warnings, azimuth mirror, electronic navigation equipment, echo sounding equipment, compass	The information obtained from nautical charts and publications is relevant, interpreted correctly and properly applied. All potential navigational hazards are accurately identified The primary method of fixing the vessel's position is the most appropriate to the prevailing circumstances and conditions The position is determined within the limits of acceptable instrument/system errors The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals Calculations and measurements of navigational information are accurate The charts selected are the largest scale suitable for the area of navigation and charts and publications are corrected in

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	associated equipment .2 ability to determine and apply compass errors *Meteorology* .1 knowledge of shipborne meteorological instruments and their application .2 knowledge of the characteristics of the various weather systems affecting the limited waters concerned *Echo sounders* .1 ability to operate the equipment and apply the information correctly *Steering control system* .1 knowledge of steering control systems and applicable operational procedures		accordance with the latest information available Performance checks and tests to navigation systems comply with manufacturer's recommendations and good navigational practice Errors in magnetic and gyro-compasses are determined and correctly applied to courses and bearings Measurements and observations of weather conditions are accurate and appropriate to the passage
Maintain a safe navigational watch	*Watchkeeping* Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, specially annexes II	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience	The conduct, handover and relief of the watch conforms with accepted principles and procedures A proper lookout is maintained at all times and in such a

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	and IV concerned with safe navigation Demonstrate knowledge of the content of the basic principles to be observed in keeping a navigational watch as prescribed in chapter IV	.2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	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, and are correctly recognized The frequency and extent of monitoring of traffic, the vessel and the environment conform with accepted principles and procedures A proper record is maintained of the movements and activities relating to the navigation of the vessel 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
Use of radar to maintain safety of navigation	*Radar navigation* Knowledge of the fundamentals of radar and ability in the operation and use of radar, and in the interpretation and analysis of information obtained from the equipment	Assessment of evidence obtained from examination or approved radar simulator training or, when not available, manoeuvring board plus in-service experience	Information obtained from radar is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	including the following: .1 factors affecting performance and accuracy .2 setting up and maintaining displays .3 detection of misrepresentation of information, false echoes, sea return .4 range and bearing .5 identification of critical echoes .6 detection of course and speed of other vessels .7 time and distance of closest approach of crossing, meeting or overtaking vessels .8 effect of changes in own vessel's course or speed or both .9 where radar simulator training is not available, the use of manoeuvring board .10 application of the International Regulations for Preventing Collisions at Sea, 1972		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 Decisions to amend course and/or speed are both timely and in accordance with accepted navigation practice Adjustments made to the vessel's course and speed maintain safety of navigation Communication is clear, concise and acknowledged at all times in a seamanlike manner Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea, 1972
Respond to a distress signal at sea	*Search and rescue* Knowledge of search and rescue procedures	Assessment of evidence obtained from examination or practical instruction and/or simulation	The distress or emergency signal is immediately recognized

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
			Contingency plans and instructions in standing orders are implemented and complied with
Maritime communication for safe navigation	*The English language* Basic knowledge of the English language to enable the officer to use appropriate nautical publications, to understand meteorological information and messages concerning vessel's safety, and to communicate with other vessels	Examination and assessment of evidence obtained from practical instruction	English language nautical publications and messages relevant to the safety of the vessel are correctly interpreted or drafted Communications are clear and understood
Fishing vessel manoeuvring and handling	*Fishing vessel manoeuvring and handling* Basic knowledge of manoeuvring and handling a fishing vessel, including the following: .1 berthing, unberthing, anchoring and manoeuvring alongside other vessels at sea .2 manoeuvring during fishing operations with special regard to factors which could adversely affect the vessel's safety during such operations .3 effects of wind, tide and current on ship handling	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved training on a manned scale ship model where appropriate	Safe operating limits of vessel propulsion, steering and power systems are not exceeded in normal manoeuvres Adjustments made to the vessel's course and speed maintain safety of navigation

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.4 manoeuvring in shallow water .5 management of fishing vessels in heavy weather .6 rescuing persons and assisting a vessel or aircraft in distress .7 towing and being towed .8 man overboard procedure .9 where applicable, practical measures to be taken when navigating in ice or in conditions of ice accretion on board the vessel		
Use of radar and ARPA to maintain safety of navigation Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on vessels not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned.	*Radar navigation* Knowledge of the fundamentals of radar and automatic radar plotting aids (ARPA) Ability to operate and to interpret and analyse information obtained from radar, including the following: Performance, including: .1 factors affecting performance and accuracy .2 setting up and maintaining displays	Assessment of evidence obtained from approved radar simulator and ARPA simulator plus in-service experience	Information obtained from radar and ARPA is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions 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 Decisions to amend course and/or speed are both timely and in accordance with

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.3 detection of misrepresentation of information, false echoes, sea return, etc., racons and SARTs Use, including: .1 range and bearing; course and speed of other vessels; time and distance of closest approach of crossing, meeting overtaking vessels .2 identification of critical echoes; detecting course and speed changes of other vessels; effect of changes in own vessel's course or speed or both .3 application of the International Regulations for Preventing Collisions at Sea, 1972 .4 plotting techniques and relative- and true-motion concepts .5 parallel indexing Principal types of ARPA, their display characteristics, performance standards and the dangers of over-reliance on ARPA Ability to operate and to interpret and analyse information obtained from ARPA, including:		accepted navigation practice Adjustments made to the vessel's course and speed maintain safety of navigation Communication is clear, concise and acknowledged at all times in a seamanlike manner Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea, 1972

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.1 system performance and accuracy, tracking capabilities and limitations, and processing delays .2 use of operational warnings and system tests .3 methods of target acquisition and their limitations .4 true and relative vectors, graphic representation of target information and danger areas .5 deriving and analysing information, critical echoes, exclusion areas and trial manoeuvres		
Use of ECDIS to maintain the safety of navigation Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on vessels not fitted with ECDIS. This limitation shall be reflected in the endorsements issued to the fishing vessel personnel concerned	*Navigation using ECDIS* Knowledge of the capability and limitations of ECDIS operations, including: .1 thorough understanding of Electronic Navigational Chart (ENC) data, data accuracy, presentation rules, display options and other chart data formats .2 the dangers of over-reliance	Examination and assessment of evidence obtained from one or more of the following: .1 approved training vessel experience .2 approved ECDIS simulator training	Monitors information on ECDIS in a manner that contributes to safe navigation 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

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.3 familiarity with the functions of ECDIS required by performance standards in force Proficiency in operation, interpretation, and analysis of information obtained from ECDIS, including: .1 use of functions that are integrated with other navigation systems in various installations, including proper functioning and adjustment to desired settings .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) .3 confirmation of vessel position by alternative means .4 efficient use of settings to ensure conformance to operational procedures, including		prevailing circumstances and conditions Safety of navigation is maintained through adjustments made to the vessel's course and speed through ECDIS-controlled track-keeping functions (when fitted) Communication is clear, concise and acknowledged at all times in a seamanlike manner

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	alarm parameters for anti-grounding, proximity to contacts and special areas, completeness of chart data and chart update status, and backup arrangements .5 adjustment of settings and values to suit the present conditions .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		
Function: Catch handling and stowage at operational level			
Catch handling and stowage	*Catch handling and stowage* Knowledge of safe handling and stowage of catch and the effect of these factors on the safety of the vessel	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Handling and stowage of catch are carried out in accordance with safety rules/regulations, equipment operating instructions and shipboard stowage limitation
Function: Controlling the operation of the vessel and care for persons on board at the management level			
Ensure compliance with pollution prevention requirements and	*Prevention of pollution of the marine environment*	Examination and assessment of evidence obtained	Procedures for monitoring shipboard operations and ensuring compliance

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
the protection of the marine environment	Knowledge of the precautions to be observed to prevent pollution of the marine environment Knowledge of the impacts of fishing on the environment including pollution related to abandoned, lost or otherwise discarded fishing gear in the context of annex V of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 thereto Understanding the importance of proactive measures to protect the marine environment	from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	with the requirements of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 thereto
Maintain seaworthiness of the vessel	*Vessel stability* Ability to use stability data, stability and trim tables and precalculated operating conditions Knowledge of: .1 the effects of suspended weight on stability .2 the effects of fishing gear operations on stability .3 the risks of following and quartering seas	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training .5 application of vessel stability data	The stability conditions comply with the IMO intact stability criteria under all conditions of loading Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Fishing vessel construction General knowledge of the principal structural members of a vessel Understanding of the fundamentals of watertight integrity		
Prevent, control and fight fires on board	*Fire prevention and fire-fighting appliances* .1 Ability to organize fire drills .2 Knowledge of classes and chemistry of fire .3 Knowledge of fire-fighting systems .4 Knowledge of action to be taken in the event of fire, .5 Knowledge of fire prevention measures and use of fire-fighting appliances	Assessment of evidence obtained from approved fire-fighting training and experience	The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the vessel Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly 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
Operate life-saving appliances	*Life-saving* .1 knowledge of life-saving appliances provided on fishing vessels .2 organization of abandon ship drills	Assessment of evidence obtained from examination or approved training	Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	and use of the equipment .3 knowledge of survival techniques .4 knowledge of personal responsibility		safety practices and standards
Medical aid	*Medical aid* Knowledge of first aid procedures. Practical application of medical guides and advice by radio	Assessment of evidence obtained from approved training	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions and other relevant international instruments concerning safety of life at sea and protection of the marine environment Basic working knowledge of relevant international instruments concerning the responsible conservation, fishing management, responsible fisheries and development of living aquatic resources as well as key international instruments related to the fight against illegal, unreported and unregulated (IUU) fishing	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Understanding of the requirements which crews shall comply with Understanding the importance of sustainable development of the fishing industry		

Section A-II/5-1-1
Mandatory minimum requirements for certification of chief engineer officers and second engineer officers of fishing vessels powered by main propulsion machinery of 3,000 kW propulsion power or more

Standard of competence

1 Every candidate for certification as chief engineer officer and second engineer officer of fishing vessels powered by main propulsion machinery of *3,000* kW power or more shall be required to demonstrate abilities to undertake, the tasks, duties and responsibilities listed in column 1 of table A-II/5-1.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/5-1. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-II/5-2 for officers in charge of an engineering watch.

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 The level of knowledge of the subjects listed in column 2 of table A-II/5-1 shall be sufficient to enable the candidate to serve in the capacity of chief engineer officer or second engineer officer.

5 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.

6 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/5-1.

Table A-II/5-1

Specification of minimum standard of competence for chief engineer officers and second engineer officers of fishing vessels powered by main propulsion machinery of 3,000 kW propulsion power or more

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Manage the operation of propulsion plant machinery Note: the Administration may omit knowledge requirements for types of propulsion machinery other than machinery installations for which the certificate to be awarded is to be valid	Design features, and operative mechanism of the following machinery and associated auxiliaries: .1 marine diesel engine .2 marine steam turbine .3 marine gas turbine .4 marine steam boiler	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Explanation and understanding of design features and operating mechanisms are appropriate

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Plan and schedule operations Note: the Administration may omit knowledge requirements for types of propulsion machinery other than machinery installations for which the certificate to be awarded is to be valid	*Theoretical knowledge* Thermodynamics and heat transmission Mechanics and hydromechanics Propulsive characteristics of diesel engines, steam and gas turbines, including speed, output and fuel consumption Heat cycle, thermal efficiency and heat balance of the following: .1 marine diesel engine .2 marine steam turbine .3 marine gas turbine .4 marine steam boiler Refrigerators and refrigeration cycle Physical and chemical properties of fuels and lubricants Technology of materials Naval architecture and ship construction, including damage control	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The planning and preparation of operations is suited to the design parameters of the power installation and to the requirements of the voyage
Operation, surveillance, performance assessment and	*Practical knowledge* Start up and shut down main propulsion	Examination and assessment of evidence obtained from one or more of the following:	The methods of preparing for the start-up and of making available

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
maintaining safety of propulsion plant and auxiliary machinery	and auxiliary machinery, including associated systems Operating limits of propulsion plant The efficient operation, surveillance, performance assessment and maintaining safety of propulsion plant and auxiliary machinery Functions and mechanism of automatic control for main engine Functions and mechanism of automatic control for auxiliary machinery including but not limited to: .1 generator distribution systems .2 steam boilers .3 oil purifier .4 refrigeration system .5 pumping and piping systems .6 steering gear system .7 catch-handling equipment and deck machinery	.1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	fuels, lubricants, cooling water and air are the most appropriate Checks of pressures, temperatures and revolutions during the start-up and warm-up period are in accordance with technical specifications and agreed work plans Surveillance of main propulsion plant and auxiliary systems is sufficient to maintain safe operating conditions The methods of preparing the shutdown and of supervising the cooling down of the engine are the most appropriate The methods of measuring the load capacity of the engines are in accordance with technical specifications Performance is checked against bridge orders Performance levels are in accordance with technical specifications

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Manage fuel, lubrication and ballast operations	Operation and maintenance of machinery, including pumps and piping systems	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Fuel and ballast operations meet operational requirements and are carried out so as to prevent pollution of the marine environment
Manage operation of electrical and electronic control equipment	*Theoretical knowledge* Marine electrotechnology, electronics power electronics, automatic control engineering and safety devices Design features and system configurations of automatic control equipment and safety devices for the following: .1 main engine .2 generator and distribution system .3 steam boiler Design features and system configurations of operational control equipment for electrical motors Features of hydraulic and pneumatic control equipment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operation of equipment and system is in accordance with operating manuals Performance levels are in accordance with technical specifications

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Manage troubleshooting, restoration of electrical and electronic control equipment to operating condition	*Practical knowledge* Troubleshooting of electrical and electronic control equipment Function test of electrical, electronic control equipment and safety devices Troubleshooting of monitoring systems Software version control	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Maintenance activities are correctly planned in accordance with technical, legislative, safety and procedural specifications Inspection, testing and troubleshooting of equipment are appropriate
Manage safe and effective maintenance and repair procedures	*Theoretical knowledge* Marine engineering practice *Practical knowledge* Manage safe and effective maintenance and repair procedures Planning maintenance, including statutory and class verifications Planning repairs	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved workshop training	Maintenance activities are correctly planned and carried out in accordance with technical, legislative, safety and procedural specifications Appropriate plans, specifications, materials and equipment are available for maintenance and repair Action taken leads to the restoration of plant by the most suitable method
Detect and identify the cause of machinery malfunctions and correct faults	*Practical knowledge* Detection of machinery malfunction, location of faults and action to prevent damage	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience	The methods of comparing actual operating conditions are in accordance with recommended practices and procedures Actions and decisions are in

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Inspection and adjustment of equipment Non-destructive examination	.3 approved simulator training, where appropriate .4 approved laboratory equipment training	accordance with recommended operating specifications and limitations
Ensure safe working practices	*Practical knowledge* Safe working practices	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved laboratory equipment training	Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns
Control trim and stability	Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability Knowledge of the effect on trim and stability of a vessel in the event of damage to, and consequent flooding of a compartment and countermeasures to be taken Knowledge of IMO recommendations concerning ship stability	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Stability and loading conditions are maintained within safety limits at all times
Monitor and control compliance with	*Maritime law*	Examination and assessment of evidence	Procedures for monitoring operations and

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	A knowledge of international maritime law as embodied in the international agreements and conventions as they affect the specific obligations and responsibilities of the chief engineer officer, particularly those concerning safety and the protection of the marine environment Particular regard shall be paid to the following subjects: .1 certificates and other documents required to be carried on board fishing vessels by international conventions, how they may be obtained and the period of their legal validity .2 responsibilities under a relevant international convention related to the safety of fishing vessels .3 responsibilities under the relevant requirements of chapter V of the International Convention for the Safety of Life at Sea, 1974 .4 responsibilities under the International Convention for the Prevention of Pollution	obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	maintenance comply with legislative requirements Potential non-compliance is promptly and fully identified Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	from Ships, 1973, as modified by the Protocol of 1978 thereto .5 maritime declarations of health and the requirements of the international health regulations .6 responsibilities under other international instruments affecting the safety of the vessel and crew The extent of knowledge of national maritime legislation is left to the discretion of the Party, but shall include national arrangements for implementing applicable international agreements and conventions .7 knowledge of relevant international instruments on safety and health of personnel on board fishing vessels .8 the principles and international standards applicable to the responsible conservation, management and development of living aquatic resources .9 knowledge of key international instruments and tools		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	related to the fight against illegal, unreported and unregulated (IUU) fishing		
Maintain safety of the vessel's crew and the operational condition of life-saving and fire-fighting appliances	*Fire prevention and fire-fighting appliances* .1 organization of fire drills .2 classes and chemistry of fire .3 fire-fighting systems .4 understanding of action to be taken in the event of fire, includes fire involving oil systems .5 knowledge of provisions concerning fire-fighting equipment .6 knowledge of fire prevention measures *Life-saving* .1 thorough knowledge of life-saving appliances provided on fishing vessels. .2 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, EPIRBs, SARTs,	Assessment of evidence obtained from approved training	Procedures for monitoring fire detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	immersion suits and thermal protective aids .3 actions to be taken to protect and safeguard all persons on board in emergencies .4 actions to limit damage and salve the vessel following a fire, explosion, collision or grounding *Maintenance* .1 maintenance of operational condition of life-saving, fire-fighting and other safety systems		
Develop emergency and damage control plans and handle emergency situations	Ship construction, including damage control Methods and aids for fire prevention, detection and extinction Functions and use of life-saving appliances	Examination and assessment of evidence obtained from approved in-service training and experience	Emergency procedures are in accordance with the established plans for emergency situations

Section A-II/5-1-2
Mandatory minimum requirements for certification of chief engineer officers and second engineer officers on fishing vessels powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power

Standard of competence

1 Every candidate for certification as chief engineer officer and second engineer officer of seagoing fishing vessels 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-II/5-1.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/5-1. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-II/5-2 for officers in charge of an engineering watch.

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 The level of knowledge of the subjects listed in column 2 of table A-II/5-1 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 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take into account the relevant requirements of this part.

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 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/5-1.

Section A-II/5-2
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 of fishing vessels powered by main propulsion machinery of 750 kW propulsion power or more

Standard of competence

1 Every candidate for certification as officer in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room shall be required to demonstrate abilities to undertake, the tasks, duties and responsibilities listed in column 1 of table A-II/5-2.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/5-2.

3 The level of knowledge of the subjects listed in column 2 of table A-II/5-2 shall be sufficient to enable the candidate to serve in the capacity of engineer officer.

4 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.

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/5-2.

Onboard training

6 Every candidate for certification as officer in charge of an engineering watch of a fishing vessel powered by main propulsion machinery of 750 kW or more whose seagoing service, in accordance with paragraphs 2.2 and 2.3 of regulation II/5-2, forms part of a training programme approved as meeting the requirements of this section shall follow an approved programme of onboard training which:

.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;

.2 is closely supervised and monitored by a qualified and certificated engineer officer, or another appropriately experienced officer on board the ships in which the approved seagoing service is performed; and

.3 is adequately documented in a training record book.

Table A-II/5-2

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

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Marine Engineering at the operational level			
Maintain a safe engineering watch	Thorough knowledge of principles to be observed in keeping an engineering watch, including: .1 duties associated with taking over and accepting a watch .2 routine duties undertaken during a watch .3 maintenance of the machinery space logs and the significance of the readings taken .4 duties associated with handing over a watch Safety and emergency procedures; changeover of remote/automatic to local control of all systems 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	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The conduct, handover and relief of the watch conforms with accepted principles and procedures 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 A proper record is maintained of the movements and activities relating to the vessel's engineering systems

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Use English in written and oral form	Adequate knowledge of the English language to enable the officer to use engineering publications and to perform engineering duties	Examination and assessment of evidence obtained from practical instruction	English language publications relevant to engineering duties are correctly interpreted Communications are clear and understood
Use internal communication systems	Operation of all internal communication systems on board	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Transmission and reception of messages are consistently successful Communication records are complete, accurate and comply with statutory requirements
Operate main and auxiliary machinery and associated control systems Note: the Administration may omit knowledge requirements for types of propulsion machinery other than machinery installations for which the certificate to be awarded is to be valid	Basic construction and operation principles of machinery systems, including: .1 marine diesel engine .2 marine steam turbine .3 marine gas turbine .4 marine boiler .5 shafting installations, including propeller .6 other auxiliaries, including various pumps, air	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved laboratory equipment training	Construction and operating mechanisms can be understood and explained with drawings/instructions

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	compressor, purifier, freshwater generator, heat exchanger, refrigeration, air-conditioning and ventilation systems .7 steering gear .8 automatic control systems .9 fluid flow and characteristics of lubricating oil, fuel oil and cooling systems .10 deck machinery Safety and emergency procedures for operation of propulsion plant machinery, including control systems Preparation, operation, fault detection and necessary measures to prevent damage for the following machinery items and control systems: .1 main engine and associated auxiliaries .2 steam boiler and associated auxiliaries and steam systems .3 auxiliary prime movers and associated systems .4 other auxiliaries, including refrigeration, air-conditioning and ventilation systems	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	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 Deviations from the norm are promptly identified The output of plant and engineering systems consistently meets requirements, including bridge orders relating to changes in speed and direction

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
			The causes of machinery malfunctions are promptly identified, and actions are designed to ensure the overall safety of the vessel and the plant, having regard to the prevailing circumstances and conditions
Operate fuel, lubrication, ballast and other pumping systems and associated control systems	Operational characteristics of pumps and piping systems, including control systems Operation of pumping systems: .1 routine pumping operations .2 operation of bilge and ballast pumping systems Oily-water separators (or similar equipment) requirements and operation	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	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 Deviations from the norm are promptly identified and appropriate action is taken
Function: Electrical, electronic and control engineering at the operational level			
Operate electrical, electronic and control systems	Basic configuration and operation principles of the following electrical, electronic and control equipment: .1 electrical equipment: .1 generator and distribution systems	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience	Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations Electrical, electronic and control systems can be understood and explained with drawings/instructions

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.2 preparing, starting, paralleling and changing over generators .3 electrical motors including starting methodologies .4 high-voltage installations .5 sequential control circuits and associated system devices .2 electronic equipment: .1 characteristics of basic electronic circuit elements .2 flow chart for automatic and control systems .3 functions, characteristics and features of control systems for machinery items, including main propulsion plant operation control and steam boiler automatic controls .3 control systems: .1 various automatic control methodologies and characteristics .2 proportional-integral-derivative (PID) control	.3 approved simulator training, where appropriate .4 approved laboratory equipment training	

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	characteristics and associated system devices for process control		
Maintenance and repair of electrical and electronic equipment	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 Maintenance and repair of electrical system equipment, switchboards, electric motors, generator and DC electrical systems and equipment Detection of electric malfunction, location of faults and measures to prevent damage Construction and operation of electrical testing and measuring equipment Function and performance tests of the following equipment and their configuration: .1 monitoring systems .2 automatic control devices .3 protective devices The interpretation of electrical and simple electronic diagrams	Examination and assessment of evidence obtained from one or more of the following: .1 approved workshop skills training .2 approved practical experience and tests .3 approved in-service experience .4 approved training vessel experience	Safety measures for working are appropriate Selection and use of hand tools, measuring instruments and testing equipment are appropriate and interpretation of results is accurate Dismantling, inspecting, repairing and reassembling equipment are in accordance with manuals and good practice Reassembling and performance testing is in accordance with manuals and good practice

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Maintenance and repair at the operational level			
Appropriate use of hand tools, machine tools and measuring instruments for fabrication and repair on board	Characteristics and limitations of materials used in construction and repair of vessels and equipment Characteristics and limitations of processes used for fabrication and repair Properties and parameters considered in the fabrication and repair of systems and components Methods for carrying out safe emergency/temporary repairs Safety measures to be taken to ensure a safe working environment and for using hand tools, machine tools and measuring instruments Use of hand tools, machine tools and measuring instruments Use of various types of sealants and packings	Assessment of evidence obtained from one or more of the following: .1 approved workshop skills training .2 approved practical experience and tests .3 approved in-service experience .4 approved training vessel experience	Identification of important parameters for fabrication of typical vessel-related components is appropriate Selection of materials is appropriate Fabrication is to designated tolerances Use of equipment and hand tools, machine tools and measuring instruments is appropriate and safe

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Maintenance and repair of shipboard machinery and equipment	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 Appropriate basic mechanical knowledge and skills Maintenance and repair, such as dismantling, adjustment and reassembling of machinery and equipment The use of appropriate specialized tools and measuring instruments Design characteristics and selection of materials in construction of equipment Interpretation of machinery drawings and handbooks The interpretation of piping, hydraulic and pneumatic diagrams	Examination and assessment of evidence obtained from one or more of the following: .1 approved workshop skills training .2 approved practical experience and tests .3 approved in-service experience .4 approved training vessel experience	Safety procedures followed are appropriate Selection of tools and spare gear is appropriate Dismantling, inspecting, repairing and reassembling equipment is in accordance with manuals and good practice Recommissioning and performance testing is in accordance with manuals and good practice Selection of materials and parts is appropriate

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Controlling the operation of the vessel and care for persons on board at the operational level			
Ensure compliance with pollution-prevention requirements	*Prevention of pollution of the marine environment* Knowledge of the impacts of fishing on the environment Knowledge of the precautions to be taken to prevent pollution of the marine environment Anti-pollution procedures and all associated equipment Understanding the importance of proactive measures to protect the marine environment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved training	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed Actions to ensure that a positive environmental reputation is maintained
Maintain seaworthiness of the vessel	*Ship stability* Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment Understanding of the fundamentals of watertight integrity Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy *Ship construction* General knowledge of the principal structural members of a vessel	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The stability conditions comply with IMO intact stability criteria under all conditions of loading Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice

Column 1 **Competence**	Column 2 **Knowledge, understanding and proficiency**	Column 3 **Methods for demonstrating competence**	Column 4 **Criteria for evaluating competence**
	and the proper names for the various parts		
Prevent, control and fight fires on board	*Fire prevention and fire-fighting appliances* .1 knowledge of classes and chemistry of fire .2 knowledge of action to be taken in the event of fire .3 knowledge of fire prevention measures	Assessment of evidence obtained from approved fire-fighting training and experience	The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the vessel Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly 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
Operate life-saving appliances	*Life-saving* Ability to direct abandon ship drills and knowledge of the operation of life-saving appliances and their equipment, including the two-way radio-telephone apparatus. Survival at sea techniques including participation in an approved survival at sea course	Assessment of evidence obtained from examination or approved training	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

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Medical aid	*Medical aid* Knowledge of first aid procedures. Practical application of medical guides and advice by radio	Assessment of evidence obtained from approved training	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions and other relevant international instruments concerning safety of life at sea and protection of the marine environment Basic working knowledge of relevant international instruments concerning the responsible conservation, fishing management, responsible fisheries and development of living aquatic resources as well as key international instruments related to the fight against illegal, unreported and unregulated (IUU) fishing Understanding of the requirements which crews shall comply with Understanding the importance of sustainable development of the fishing industry	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified

Section A-II/6
Mandatory minimum requirements for certification of GMDSS radio operators on board fishing vessels

Application

(No provisions)

Standard of competence

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 abilities to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/6.

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-II/6.

3 The level of knowledge of the subjects listed in column 2 of table A-II/6 shall be sufficient for the candidate to carry out his or her duties.

4 Every candidate shall provide evidence of having achieved the required standard of competence through:

.1 demonstration of competence to perform the tasks and duties and to assume responsibilities listed in column 1 of table A-II/6, 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 examination or continuous assessment as part of an approved course of training based on the material set out in column 2 of table A-II/6.

Table A-II/6

Specification of minimum standard of competence for GMDSS radio operators

Function: Radiocommunication at the operational level

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	In addition to the requirements of the Radio Regulations, a knowledge of: .1 search and rescue radiocommunications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual .2 the means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts .3 ship reporting systems .4 radio medical services .5 use of the International Code of Signals and the IMO Standard Marine Communication Phrases .6 the English language, both written and spoken, for the communication of information relevant to safety of life at sea	Examination or assessment of evidence obtained from practical demonstration of operational procedures using: .1 approved equipment .2 GMDSS communication simulator, where appropriate .3 radiocommunications laboratory equipment	Transmission and reception of communications complies with international regulations and procedures, and are carried out efficiently and effectively English language messages relevant to the safety of the vessel and persons on board, and protection of the marine environment are correctly handled

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Note: this requirement may be reduced in the case of the Restricted Radio Operator's Certificate		
Provide radio services in emergencies	The provision of radio services in emergencies such as: .1 abandon ship .2 fire on board vessel .3 partial or full breakdown of radio installations Preventive measures for the safety of vessel and personnel in connection with hazards related to radio equipment, including electrical and non-ionizing radiation hazards	Examination or assessment of evidence obtained from practical demonstration of operational procedures using: .1 approved equipment .2 GMDSS communication simulator, where appropriate .3 radiocommunication laboratory equipment	Response is carried out efficiently and effectively

Section A-II/7
Revalidation of certificates for skippers and officers

Professional competence

1 Continued professional competence as required under regulation II/7, shall be established by:

.1 approved seagoing service, performing functions appropriate to the certificate held, for a period of at least:

.1 twelve months in total during the preceding five years; or

.2 three months in total during the preceding six months immediately prior to revalidating; or

.2 having performed functions considered to be equivalent to the seagoing service required in paragraph 1.1; or

.3 passing an approved test; or

.4 successfully completing an approved training course or courses; or

.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 The refresher and updating courses required by regulation II/7 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.

Section A-II/8
Revalidation of certificates for GMDSS radio operators

Professional competence

1 Continued professional competence, as required under regulation II/8, shall be established by:

.1 approved seagoing service performing functions appropriate to the certificate held for a period of at least:

.1 twelve months in total during the preceding five years; or

.2 three months in total during the preceding six months immediately prior to revalidating; or

.2 having performed functions considered to be equivalent to the seagoing service required in paragraph 1.1; or

.3 passing an approved test; or

.4 successfully completing an approved training course or courses; or

.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 The refresher and updating courses required by regulation II/8 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.

CHAPTER III
Standards regarding basic training and onboard safety familiarization for all fishing vessel personnel

Section A-III/1
Mandatory minimum requirements for basic training and onboard safety familiarization for all fishing vessel personnel

Basic training*

1 Fishing vessel personnel shall, before being assigned to any shipboard duties:

.1 receive appropriate approved basic training or instruction in:

.1 personal survival techniques as set out in table A-III/1-1;

.2 fire prevention and fire fighting as set out in table A-III/1-2;

.3 elementary first aid as set out in table A-III/1-3; and

.4 personal safety and social responsibilities as set out in table A-III/1-4;

.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-III/1-1, A-III/1-2, A-III/1-3 and A-III/1-4 through:

.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 examination or continuous assessment as part of an approved training programme in the subjects listed in column 2 of those tables.

2 Fishing vessel personnel qualified in accordance with paragraph 1 in basic training shall be required, every five years, to provide evidence of having maintained the required standard of competence, to undertake the tasks, duties and responsibilities listed in column 1 of tables A-III/1-1 and A-III/1-2.

3 Parties may accept onboard training and experience for maintaining the required standard of competence in the following areas:

.1 personal survival techniques as set out in table A-III/1-1:

.1 don a lifejacket;

.2 board a survival craft from the ship, while wearing a lifejacket;

.3 take initial actions on boarding a lifeboat to enhance chance of survival;
.4 stream a lifeboat drogue or sea anchor;

.5 operate survival craft equipment; and

* The relevant IMO model course(s) may assist in the preparation of training material.

.6 operate locating devices, including radio equipment;

.2 fire prevention and fire fighting as set out in table A-III/1-2:

.1 use self-contained breathing apparatus; and

.2 effect a rescue in a smoke-filled space, using an approved smoke-generating device aboard, while wearing a breathing apparatus.

Onboard safety familiarization training

4 Before being assigned to shipboard duties, all persons employed or engaged on a seagoing fishing vessel, shall receive onboard safety familiarization training or receive sufficient information and instruction, taking into account guidance given in part B, to be able to:

.1 communicate with other persons on board on elementary safety matters and understand safety information symbols, signs and alarm signals;

.2 know what to do if:

.1 a person falls overboard;

.2 fire or smoke is detected; or

.3 the fire or abandon ship alarm is sounded;

.3 identify muster and embarkation stations and emergency escape routes;

.4 locate and don lifejackets;

.5 raise the alarm and have basic knowledge of the use of portable fire extinguishers;

.6 take immediate action upon encountering an accident or other medical emergency before seeking further medical assistance on board; and

.7 close and open the fire, weathertight and watertight doors fitted in the particular fishing vessel other than those for hull opening.

Exemptions

5 The Administration may, in respect of fishing vessels of less than 24 metres in length and/or operating solely in its limited waters, if it considers that a fishing vessel'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 fishing vessel personnel on such a fishing vessel or class of fishing vessel from some of the requirements, bearing in mind the safety of people on board, the fishing vessel and property and the protection of the marine environment.

Table A-III/1-1

Specification of minimum standard of competence in personal survival techniques

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Survive at sea in the event of ship abandonment	Types of emergency situations which may occur, such as collision, fire, foundering Types of life-saving appliances normally carried on board fishing vessels Equipment in survival craft Location of personal life-saving appliances Principles concerning survival, including: .1 value of training and drills .2 personal protective clothing and equipment .3 need to be ready for any emergency .4 actions to be taken when called to survival craft stations .5 actions to be taken when required to abandon ship .6 actions to be taken when in the water .7 actions to be taken when aboard a survival craft	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: .1 don a lifejacket .2 don and use an immersion suit .3 safely jump from a height into the water .4 right an inverted liferaft while wearing a lifejacket .5 swim while wearing a lifejacket .6 keep afloat without a lifejacket .7 board a survival craft from the ship and water while wearing a lifejacket .8 take initial actions on boarding survival craft to enhance chance of survival .9 stream a drogue or sea anchor	Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures The timing and sequence of individual actions are appropriate to the prevailing circumstance and conditions and minimize potential dangers and threats to survival Method of boarding survival craft is appropriate and avoids dangers to other survivors Initial actions after leaving the ship and procedures and actions in water minimize threats to survival Description of how to assist others to board a survival craft Initial action after identifying a man overboard situation

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.8 assistance to others to board a survival craft .9 main dangers to survivors Basic knowledge of man overboard procedures and for rescuing persons from the sea	.10 operate survival craft equipment .11 operate locating devices, including radio equipment	

Table A-III/1-2

Specification of minimum standard of competence in fire prevention and fire fighting

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Minimize the risk of fire and maintain a state of readiness to respond to emergency situations involving fire	Shipboard fire-fighting organization Location of fire-fighting appliances and emergency escape routes The elements of fire and explosion (the fire triangle) Types and sources of ignition Flammable materials, fire hazards and spread of fire including but not limited to: .1 radiation .2 convection .3 conduction with emphasis on dangers associated with freezing equipment The need for constant vigilance Actions to be taken on board ship Fire and smoke detection and automatic alarm systems Classification of fire and applicable extinguishing agents	Assessment of evidence obtained from approved instruction or attendance at an approved course	Initial actions on becoming aware of an emergency conform with accepted practices and procedures Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Fight and extinguish fires	Fire-fighting equipment and its location on board Instruction in: .1 fixed installations .2 fire-fighter's outfits .3 personal equipment .4 fire-fighting appliances and equipment .5 fire-fighting methods .6 fire-fighting agents .7 fire-fighting procedures .8 use of breathing apparatus for fighting fires and effecting rescues .9 the effect of the use of the wrong agent	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: .1 use various types of portable fire extinguishers .2 use self-contained breathing apparatus .3 extinguish smaller fires, e.g. electrical fires, oil fires, propane fires .4 extinguish extensive fires with water, using jet and spray nozzles .5 extinguish fires with foam, powder or any other suitable chemical agent .6 fight fire in smoke-filled enclosed spaces wearing self-contained breathing apparatus .7 extinguish fire with water fog or any other suitable fire-fighting agent in an	Clothing and equipment are appropriate to the nature of the fire-fighting operations The timing and sequence of individual actions are appropriate to the prevailing circumstances and conditions Extinguishment of fire is achieved using appropriate procedures, techniques and fire-fighting agents Breathing apparatus procedures and techniques comply with accepted practices and procedures Explanation of the effect of using the wrong extinguishing agent is appropriate

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
		accommodation room or simulated engine-room with fire and heavy smoke .8 extinguish oil fire with fog applicator and spray nozzles, dry chemical powder or foam applicators .9 effect a rescue in a smoke-filled space wearing breathing apparatus	

Table A-III/1-3

Specification of minimum standard of competence in elementary first aid

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Take immediate action upon encountering as accident or other medical emergency	Assessment of needs of casualties and threats to own safety Appreciation of body structure and functions Understanding of immediate measures to be taken in cases of emergency, including the ability to: .1 position casualty .2 apply resuscitation techniques .3 control bleeding .4 apply appropriate measures of basic shock management .5 apply appropriate measures in event of burns and scalds, including accidents caused by electric current .6 rescue and transport a casualty .7 improvise bandages and use materials in the emergency kit	Assessment of evidence obtained from approved instruction or during attendance at an approved course	The manner and timing of raising the alarm is appropriate to the circumstances of the accident or medical emergency 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 Risk of further harm to self and casualty is minimized at all times

Table A-III/1-4

Specification of minimum standard of competence in personal safety and social responsibilities

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Comply with emergency procedures	Types of emergency which may occur, such as collision, fire, foundering Knowledge of shipboard contingency plans for response to emergencies Emergency signals and specific duties allocated to crew members in the muster list; muster stations; correct use of personal safety equipment Identification of, and action to take on discovering, potential emergencies on board fishing vessels, including fire, collision, foundering and ingress of water into the fishing vessel Action to take on hearing emergency alarm signals Value of training and drills Knowledge of escape routes and internal communication and alarm systems	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Initial action on becoming aware of an emergency conforms to established emergency response procedures Information given on raising alarm is prompt, accurate, complete and clear

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Take precautions to prevent pollution of the marine environment	Basic knowledge of the impact of fishing on the marine environment and the effects of operational or accidental pollution on it Basic knowledge of environmental protection procedures Basic knowledge of marine ecology and understanding of the complexity and diversity of the marine environment Basic knowledge of the responsibilities of fishing vessel personnel under the MARPOL Convention with regard to pollution response equipment Recognition and measures to be taken to prevent pollution by abandoned, lost or otherwise discarded fishing gear and fish packing material Basic knowledge of correct disposal of fishing gear and fish packing material Knowledge of the impacts of plastic waste on the marine environment Understanding the scale of the marine plastic litter problem and the way the	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Organizational procedures designed to safeguard the marine environment are observed at all times Legislative requirements relating to the protection of the marine environment are correctly identified

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	maritime sector contributes to the problem, including the issue of abandoned, lost or otherwise discarded fishing gear (ALDFG)		
Observe safe working practices	Importance of adhering to safe working practices at all times Safety and protective devices available to protect against potential hazards aboard ship Precautions to be taken prior to entering enclosed spaces Familiarization with international measures concerning accident prevention and occupational health* Understanding of the legal requirements that control safety in the fishing industry Understanding of health and safety hazards Awareness of risks on board fishing vessel specifically during fishing operation Basic knowledge of fishing equipment on board fishing vessels and its safe use	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Safe working practices are observed, and appropriate safety and protective equipment is correctly used at all times Correct identification of "hazards" likely to be found on a fishing vessel and methods to remove or reduce "risk"

* 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.

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Understand what is a: .1 hazard .2 risk Basic knowledge of a risk assessment process and methods to reduce risk		
Contribute to effective communications on board ship	Understand the principles of, and barriers to, effective communication between individuals and teams within the ship Ability to establish and maintain effective communications	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Communications are clear and effective at all times
Contribute to effective human relationships on board ship	Importance of maintaining good human and working relationships aboard ship Basic teamworking principles and practice, including conflict resolution Social responsibilities; conditions for employment or engagement on board; and individual rights and obligations, and applicable legislation Understanding the dangers of drug and alcohol abuse	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Expected standards of work and behaviour are observed at all times
Understand and take necessary actions to control fatigue	Importance of obtaining the necessary rest	Assessment of evidence obtained from approved instruction or during	Fatigue management practices are observed and appropriate actions are used at all times

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Effects of sleep, schedules and the circadian rhythm on fatigue Effects of physical stressors on fishing vessel personnel Effects of environmental stressors in and outside the ship and their impact on fishing vessel personnel Effects of schedule changes on fishing vessel personnel fatigue	attendance at an approved course	

CHAPTER IV
Standards regarding watchkeeping

Section A-IV/1
Fitness for duty

(No provisions)

Section A-IV/2
Basic watchkeeping principles to be observed on board fishing vessels

1.1 En route to or from fishing grounds

1.1.1 Arrangements of the navigational watch

1.1.1.1 The composition of the watch shall at all times be adequate and appropriate to the prevailing circumstances and conditions, and shall take into account the need for maintaining a proper lookout.

1.1.1.2 When deciding the composition of the watch the following factors, inter alia, shall be taken into account:

.1 at no time shall the wheelhouse be left unattended;

.2 weather conditions, visibility and whether there is daylight or darkness;

.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 use and operational condition of navigational aids such as radar or electronic position-indicating devices and of any other equipment affecting the safe navigation of the vessel;

.5 whether the vessel is fitted with automatic steering; and

.6 any unusual demands on the navigational watch that may arise as a result of special operational circumstances.

1.1.2 Navigation

1.1.2.1 The intended voyage shall, as far as practicable, be planned in advance taking into consideration all pertinent information, and any course laid down shall be checked before the voyage commences.

1.1.2.2 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 vessel follows the planned course.

1.1.2.3 The officer in charge of the watch shall have full knowledge of the location and operation of all safety and navigational equipment on board the vessel, and shall be aware and take account of the operating limitations of such equipment.

1.1.2.4 The officer in charge of a navigational watch shall not be assigned or undertake any duties which would interfere with the safe navigation of the vessel.

1.1.3 Navigational equipment

1.1.3.1 The officers in charge of the watch shall make the most effective use of all navigational equipment at their disposal.

1.1.3.2 When using radar the officer in charge of the watch shall bear in mind the necessity to comply at all times with the provisions on the use of radar contained in the applicable regulations for preventing collisions at sea.

1.1.3.3 In cases of need the officer of the watch shall not hesitate to use the helm, engines, and sound and light signalling apparatus.

1.1.4 Navigational duties and responsibilities

1.1.4.1 The officer in charge of the watch shall:

.1 keep watch in the wheelhouse;

.2 in no circumstances leave the wheelhouse until properly relieved;

.3 continue to be responsible for the safe navigation of the vessel despite the presence of the skipper in the wheelhouse until informed specifically that the skipper has assumed that responsibility and this is mutually understood;

.4 notify the skipper when in any doubt as to what action to take in the interest of safety; and

.5 not hand over the watch to a 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 skipper shall be notified.

1.1.4.2 On taking over the watch the relieving officer shall confirm and be satisfied as to the vessel's estimated or true position and confirm its intended track, course and speed, and shall note any dangers to navigation expected to be encountered during the watch.

1.1.4.3 Whenever practicable a proper record shall be kept of the movements and activities during the watch relating to the navigation of the vessel.

1.1.5 Lookout

1.1.5.1 Proper lookout shall be maintained in compliance with rule 5 of the International Regulations for Preventing Collisions at Sea, 1972. It shall serve the purpose of:

.1 maintaining a continuous state of vigilance by sight and hearing as well as by all other available means, with regard to any significant changes in the operating environment;

.2 fully appraising the situation and the risk of collision, stranding and other dangers to navigation; and

.3 detecting vessels or aircraft in distress, shipwrecked persons, wrecks and debris.

1.1.5.2 In determining that the composition of the navigational watch is adequate to ensure that a proper lookout can continuously be maintained, the skipper shall take into account all relevant factors, including those described under paragraph 4.1 of this regulation, as well as the following factors:

.1 visibility, state of weather and sea;

.2 traffic density, and other activities occurring in the area in which the vessel is navigating;

.3 the attention necessary when navigating in or near traffic separation schemes and other routeing measures;

.4 the additional workload caused by the nature of the vessel's functions, immediate operating requirements and anticipated manoeuvres;

.5 rudder and propeller control and vessel manoeuvring characteristics;

.6 the fitness for duty of any crew members on call who may be assigned as members of the watch;

.7 knowledge of and confidence in the professional competence of the vessel's officers and crew;

.8 the experience of the officer of the navigational watch and the familiarity of that officer with the vessel's equipment, procedures, and manoeuvring capability;

.9 activities taking place on board the vessel at any particular time, and the availability of assistance to be summoned immediately to the wheelhouse when necessary;

.10 the operational status of instrumentation in the wheelhouse and controls, including alarm systems;

.11 the size of the vessel and the field of vision available from the conning position;

.12 the configuration of the wheelhouse, to the extent such configuration might inhibit a member of the watch from detecting by sight or hearing any external developments; and

.13 any relevant standards, procedures and guidelines relating to watchkeeping arrangements and fitness for duty which have been adopted by the Organization.

1.1.6 Protection of the marine environment

The skipper and the officer in charge of the watch 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.

1.1.7 Weather conditions

The officer in charge of the watch shall take relevant measures and notify the skipper when adverse changes in weather could affect the safety of the vessel, including conditions leading to ice accretion.

1.2 Navigation with pilot embarked

The presence of a pilot on board does not relieve the skipper or officer in charge of the watch from their duties and obligations for the safety of the vessel. The skipper and the pilot shall exchange information regarding navigation procedures, local conditions and the vessel's characteristics. The skipper and the officer in charge of the watch shall cooperate closely with the pilot and maintain an accurate check of the vessel's position and movement.

1.3 Vessels engaged in fishing or searching for fish

1.3.1 In addition to the principles enumerated in paragraph 4, the following factors shall be considered and properly acted upon by the officer in charge of the watch:

.1 other vessels engaged in fishing and their gear, own vessel's manoeuvring characteristics, particularly its stopping distance and the diameter of turning circle at sailing speed and with the fishing gear overboard;

.2 safety of the crew on deck;

.3 stability and freeboard caused by exceptional forces resulting from fishing operations, catch handling and stowage, and unusual sea and weather conditions;

.4 the proximity of offshore structures, with special regard to the safety zones; and

.5 wrecks and other underwater obstacles which could be hazardous for fishing gear.

1.3.2 When stowing the catch, attention shall be given to the essential requirements for adequate freeboard, adequate stability and watertight integrity at all times during the voyage to the landing port, taking into consideration consumption of fuel and stores, risk of adverse weather conditions and, especially in winter, risk of ice accretion on or above exposed decks in areas where ice accretion is likely to occur.

1.4 Anchor watch

The skipper shall ensure, with a view to the safety of the vessel and the crew, that a proper watch is maintained at all times from the wheelhouse or deck on fishing vessels at anchor.

2 Engineering watch

2.1 Principles to be observed in keeping an engineering watch

Duties associated with taking/handing over and accepting a watch

2.1.1 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.

2.1.2 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.

2.1.3 Prior to taking over the engineering watch, relieving officers shall satisfy themselves regarding general and specific conditions relating to the safe operation of engine-room systems.

2.1.4 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.

Routine duties to be undertaken during a watch

2.1.5 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 such responsibility, and this is mutually understood.

2.1.6 The officer in charge of the engineering watch shall be familiar with the assigned watchkeeping duties.

2.1.7 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.

Maintenance of machinery space logs and the importance of the readings taken

2.1.8 Detailed repair maintenance involving repairs to electrical, mechanical, hydraulic, pneumatic or applicable electronic equipment throughout the ship shall be performed under the awareness of the officer in charge of the engineering watch and chief engineer officer. These repairs shall be recorded.

2.2 Safety and emergency procedures; changeover of remote/automatic to local control of all systems

Officers in charge of the engineering watch shall:

.1 in emergencies, raise the alarm when in their opinion the situation so demands, and take all possible measures to prevent damage to the vessel and persons on board;

.2 be aware of the deck officer's needs relating to the equipment required in the loading or unloading of fish catches and the additional requirements of the ballast and other vessel stability control systems;

.3 make frequent rounds of inspection to determine possible equipment malfunction or failure, and take immediate remedial action to ensure the safety of the vessel and the environment;

.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, mechanical and refrigeration systems of the vessel including appropriate changeover of remote/automatic to local control of all systems;

.5 ensure that all important events affecting the operation, adjustment or repair of the vessel's machinery are appropriately recorded; and

.6 pay attention to the techniques, methods and procedures necessary to prevent violation of pollution regulations of the local authorities.

2.3 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

2.3.1 The officer in charge of the engineering watch shall take action necessary to contain the effects of damage resulting from equipment breakdown, fire, flooding, rupture, collision, stranding, oil pollution or other cause.

2.3.2 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 endanger 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.

2.3.3 The officer in charge of the engineering watch shall notify the chief engineer officer without delay:

.1 when engine damage or a malfunction that may endanger the safe operation of the ship occurs;

.2 when any malfunction that may cause damage or breakdown of propulsion machinery, auxiliary machinery or monitoring and governing systems occurs; and

.3 in any emergency or if in any doubt as to what decision or measures to take.

3 Radio watchkeeping

The skipper shall ensure that an adequate radio watch is maintained while the vessel is at sea, on appropriate frequencies, taking into account the requirements of the Radio Regulations.

Part B
Recommended guidance regarding provisions of the STCW-F Convention and its annex

Introduction

1 This part of the STCW-F Code contains recommended guidance intended to assist Parties to the STCW-F Convention and those involved in implementing, applying or enforcing its measures to give the Convention full and complete effect in a uniform manner.

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 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 fishing vessel personnel of all nationalities and fishing vessels of all flags.

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.

Chapter I
Guidance regarding general provisions

Section B-I/1

(No provisions)

Section B-I/2

(No provisions)

Section B-I/3

(No provisions)

Section B-I/4

(No provisions)

Section B-I/5-1

(No provisions)

Section B-I/5-2

(No provisions)

Section B-I/6

(No provisions)

Section B-I/7

(No provisions)

Section B-I/8

(No provisions)

Section B-I/9

(No provisions)

Section B-I/10

(No provisions)

Section B-I/11

(No provisions)

Section B-I/12
Guidance regarding medical standards

Medical examination and certification

1 Parties, in establishing fishing vessel personnel medical fitness standards and provisions, should take into account the minimum physical abilities set out in table B-I/12 and the guidance given within this section, bearing in mind the different duties of fishing vessel personnel.

2 Parties, in establishing fishing vessel personnel medical fitness standards and provisions, should follow the guidance contained in the [*Guidelines on the medical examinations of fishing vessel personnel*], 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 Appropriate qualifications and experience for medical practitioners conducting medical fitness examinations of fishing vessel personnel may include occupational health or maritime health qualifications, experience of working as a fishing vessel's doctor or a fishing company doctor or working under the supervision of someone with the aforementioned qualifications or experience.

4 The premises where medical fitness examinations are carried out should have the facilities and equipment required to carry out medical fitness examinations of fishing vessel personnel.

5 Administrations should ensure that recognized medical practitioners enjoy full professional independence in exercising their medical judgement when undertaking medical examination procedures.

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 Each Administration has the discretionary authority to grant a variance or waiver of any of the standards set out in table B-I/12 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 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 fishing vessels. They should, in particular, specify the conditions under which fishing vessel personnel suffering from potentially life-threatening medical conditions that are controlled by medication may be allowed to continue to serve at sea.

9 The medical standards should also identify particular medical conditions, such as colour blindness, which might preclude fishing vessel personnel from holding particular positions on board fishing vessels.

10 The minimum in-service eyesight standards in each eye for unaided distance vision should be at least 0.1.[1]

[1] Value given in Snellen decimal notation.

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 fishing vessel. Any need to wear visual aids to meet the required standards should be recorded on the medical fitness certificate issued.

12 Colour vision testing should be in accordance with the International Recommendations 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.

Table B-I/12
Assessment of minimum entry level and in-service physical abilities for fishing vessel personnel [3]

Shipboard task, function, event or condition[3]	**Related physical ability**	**medical examiner should be satisfied that the candidate:**[4]
Routine movement around vessel: - on moving deck - between levels - between compartments *Note 1 applies to this row*	Maintain balance and move with agility Climb up and down vertical ladders and stairways Step over coamings Open and close watertight doors	Has no disturbance in sense of balance does not have any impairment or disease that prevents relevant movements and physical activities Is, without assistance,[5] able to: - climb vertical ladders and stairways - step over high sills - manipulate door closing systems
Routine tasks on board: - use of hand tools - movement of ship's stores - overhead work - valve operation - standing a four-hour watch - working in confined spaces - responding to alarms, warnings and instructions - verbal communication *Note 1 applies to this row*	Strength, dexterity and stamina to manipulate mechanical devices Lift, pull and carry a load (e.g. 18 kg) Reach upwards Stand, walk and remain alert for an extended period Work in constricted spaces and move through restricted openings Visually distinguish objects, shapes and signals Hear warnings and instructions Give a clear spoken description	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 Has ability to: - work with arms raised - stand and walk for an extended period - enter confined space - fulfil eyesight standards (table A-I/12) - fulfil hearing standards set by competent authority or take - account of international guidelines - hold normal conversation
Emergency duties[6] on board: - escape - fire fighting - evacuation	Don a lifejacket or immersion suit Escape from smoke-filled spaces Take part in fire-fighting duties, including use of breathing apparatus	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 Has ability to: - don lifejacket or immersion suit - crawl

Shipboard task, function, event or condition[3]	**Related physical ability**	**medical examiner should be satisfied that the candidate:**[4]
Note 2 applies to this row	Take part in vessel evacuation procedures	- feel for differences in temperature - handle fire-fighting equipment - wear breathing apparatus (where required as part of duties)

Notes:

1 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 fishing vessel personnel, other crew members and the fishing vessel; and (c) high-level criteria for use by medical practitioners assessing medical fitness, bearing in mind the different duties of fishing vessel personnel and the nature of shipboard work for which they will be employed.

2 Row 3 of the above table describes: (a) emergency shipboard tasks, functions, events and conditions; (b) the corresponding physical abilities which should be considered necessary for the safety of a fishing vessel personnel, other crew members and the fishing vessel; and (c) high-level criteria for use by medical practitioners assessing medical fitness, bearing in mind the different duties of fishing vessel personnel and the nature of shipboard work for which they will be employed.

3 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 fishing vessel personnel (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 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 The term "assistance" means the use of another person to accomplish the task.

6 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 fishing vessel personnel to secure personal survival.

Chapter II
Guidance regarding certification of skippers, officers, engineers and radio operators

Section B-II/1

(No provisions)

Section B-II/2

Guidance regarding the certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited water

1 The training regarding sustainable fisheries required in section A-II/2 should include the following theoretical and practical knowledge:

.1 recognize economic aspects of sustainable fishing, including:

.1 knowledge of economic aspects of fishing, including all costs and benefits associated with operating a fishing vessel;

.2 understanding the position of fishing vessel personnel in the supply chain (the way in which fish travel from vessel to consumers); and

.3 be able to identify ways to make fishing more economically sustainable.

.2 apply fishing management and conservation principles, including understanding:

.1 the need of fishing management for the sustainable development of the fishing industry and the international instruments to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.2 the roles of scientists and governments in fisheries management; and

.3 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.3 apply fishing management and conservation principles, including understanding:

.1 the need for sustainable management and development of the fishing industry;

.2 the international instruments on fisheries conservation and management and to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.3 the roles of scientists, Governments and competent fisheries management authorities[2] in fisheries management; and,

[2] Including regional fisheries management organizations (RFMOs) of which they are members.

.4 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.4 recognize the social aspects of sustainable fisheries, including:

.1 understanding that care for the human element (social equity) and interaction with society (societal acceptance) are part of a sustainable fishing industry;

.2 understanding the elements of fair treatment of fishing vessel personnel, including but not limited to fair wages, safe working conditions and humane treatment; and

.3 basic knowledge of relevant ILO conventions and national legislation concerning safe and humane working conditions.

Section B-II/3

(No provisions)

Section B-II/4
Guidance regarding the certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited water

1 The training regarding sustainable fisheries required in section A-II/4 should include the following theoretical and practical knowledge:

.1 recognize economic aspects of sustainable fishing, including:

.1 knowledge of economic aspects of fishing, including all costs and benefits associated with operating a fishing vessel;

.2 understanding the position of fishing vessel personnel in the supply chain (the way in which fish travel from vessel to consumers); and

.3 be able to identify ways to make fishing more economically sustainable.

.2 apply fishing management and conservation principles, including understanding:

.1 the need of fishing management for the sustainable development of the fishing industry and the international instruments to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.2 the roles of scientists and governments in fisheries management; and

.3 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.3 apply fishing management and conservation principles, including understanding:

.1 the need for sustainable management and development of the fishing industry;

.2 the international instruments on fisheries conservation and management and to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.3 the roles of scientists, Governments and competent fisheries management authorities* in fisheries management; and,

.4 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.4 recognize the social aspects of sustainable fisheries, including:

.1 understanding that care for the human element (social equity) and interaction with society (societal acceptance) are part of a sustainable fishing industry;

.2 understanding the elements of fair treatment of fishing vessel personnel, including but not limited to fair wages, safe working conditions and humane treatment; and

.3 basic knowledge of relevant ILO conventions and national legislation concerning safe and humane working conditions.

Section B-II/5-1-1

(No provisions)

Section B-II/5-1-2

(No provisions)

Section B-II/5-2
Guidance regarding the certification of officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room of fishing vessels powered by main propulsion machinery of 750 kW propulsion power or more

1 The training regarding sustainable fisheries required in section A-II/5-2 should include the following theoretical and practical knowledge:

.1 recognize economic aspects of sustainable fishing, including:

.1 knowledge of economic aspects of fishing, including all costs and benefits associated with operating a fishing vessel;

* Including regional fisheries management organizations (RFMOs) of which they are members.

.2 understanding the position of fishing vessel personnel in the supply chain (the way in which fish travel from vessel to consumers); and

.3 be able to identify ways to make fishing more economically sustainable.

.2 apply fishing management and conservation principles, including understanding:

.1 the need of fishing management for the sustainable development of the fishing industry and the international instruments to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.2 the roles of scientists and governments in fisheries management; and

.3 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.3 apply fishing management and conservation principles, including understanding:

.1 the need for sustainable management and development of the fishing industry;

.2 the international instruments on fisheries conservation and management and to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.3 the roles of scientists, Governments and competent fisheries management authorities* in fisheries management; and

.4 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.4 recognize the social aspects of sustainable fisheries, including:

.1 understanding that care for the human element (social equity) and interaction with society (societal acceptance) are part of a sustainable fishing industry;

.2 understanding the elements of fair treatment of fishing vessel personnel, including but not limited to fair wages, safe working conditions and humane treatment; and

.3 basic knowledge of relevant ILO conventions and national legislation concerning safe and humane working conditions.

* Including regional fisheries management organizations (RFMOs) of which they are members.

Section B-II/6
Guidance regarding training and certification of GMDSS radio operators on board fishing vessels

TRAINING RELATED TO THE FIRST-CLASS RADIOELECTRONIC CERTIFICATE

General

1 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

2 The training should be relevant to the provisions of the STCW-F Convention, the Radio Regulations and the 2012 Cape Town Agreement, with particular attention given to the provisions of chapter IX therein. In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 3 to 14 below.

Theory

3 Knowledge of the general principles and basic factors necessary for safe and efficient use of all subsystems and equipment required in the GMDSS, sufficient to support the practical training provisions given in paragraph 13.

4 Knowledge of the use, operation and service areas of GMDSS subsystems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

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 Theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraphy and radio-telephone 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 Knowledge of factors that affect system reliability, availability, maintenance procedures and proper use of test equipment.

8 Knowledge of microprocessors and fault diagnosis in systems using microprocessors.

9 Knowledge of control systems in the GMDSS radio equipment, including testing and analysis.

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.

Regulations and documentation

11 Knowledge of:

.1 the 2012 Cape Town Agreement and the Radio Regulations, with particular emphasis on:

.1 distress, urgency and safety radiocommunications;

.2 avoiding harmful interference, particularly with distress and safety traffic; and

.3 prevention of unauthorized transmissions;

.2 other documents relating to operational and communication procedures for distress, urgency, safety and general radiocommunications, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and

.3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

12 Knowledge of and training in:

.1 communication procedures and discipline to prevent harmful interference in GMDSS subsystems;

.2 procedures for using propagation-prediction information to establish optimum frequencies for communications;

.3 radiocommunication watchkeeping relevant to all GMDSS subsystems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;

.4 use of the international phonetic alphabet;

.5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;

.6 ship reporting systems and procedures;

.7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;

.8 radio medical systems and procedures; and

.9 causes of false distress alerts and means to avoid them.[6]*

Practical

13 Practical training, supported by appropriate laboratory work, should be given in:

.1 correct and efficient operation of all GMDSS subsystems and equipment under normal propagation conditions and under typical interference conditions;

* See resolution MSC.514(105) – *Guidelines for the avoidance of false distress alerts*.

.2 safe operation of all the GMDSS communication equipment and ancillary devices, including safety precautions;

.3 adequate and accurate keyboard skills for the satisfactory exchange of communications;

.4 operational techniques for:

.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;

.2 antenna adjustment and realignment, as appropriate;

.3 use of radio life-saving appliances; and

.4 use of emergency position-indicating radio beacons (EPIRBs);

.5 antenna rigging, repair and maintenance, as appropriate;

.6 reading and understanding pictorial, logic and circuit diagrams;

.7 use and care of those tools and test instruments necessary to carry out at-sea electronic maintenance;

.8 manual soldering and desoldering techniques, including those involving semiconductor devices and modern circuits, and the ability to distinguish whether the circuit is suitable to be manually soldered or desoldered;

.9 tracing and repair of faults to component level, where practicable, and to board/module level in other cases;

.10 recognition and correction of conditions contributing to the fault occurring;

.11 maintenance procedures, both preventive and corrective, for all GMDSS communication equipment and radionavigation equipment; and

.12 methods of alleviating electrical and electromagnetic interference such as bonding, shielding and bypassing.

Miscellaneous

14 Knowledge of and/or training in:

.1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;

.2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;

.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 fire prevention and fire fighting, with particular reference to the radio installation;

.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 first aid, including heart-respiration revival techniques; and

.7 coordinated universal time (UTC), global time zones and the international date line.

TRAINING RELATED TO THE SECOND-CLASS RADIOELECTRONIC CERTIFICATE

General

15 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

16 The training should be relevant to the provisions of the STCW-F Convention, the Radio Regulations and the 2012 Cape Town Agreement, with particular attention given to the provisions of chapter IX therein. In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 17 to 28 below.*

Theory

17 Knowledge of the general principles and basic factors necessary for safe and efficient use of all subsystems and equipment required in the GMDSS, sufficient to support the practical training provisions given in paragraph 27 below.

18 Knowledge of the use, operation and service areas of GMDSS subsystems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

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 General theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraphy and radio-telephone 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 General knowledge of factors that affect system reliability, availability, maintenance procedures and proper use of test equipment.

22 General knowledge of microprocessors and fault diagnosis in systems using microprocessors.

23 General knowledge of control systems in the GMDSS radio equipment, including testing and analysis.

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

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.

Regulations and documentation

25 Knowledge of:

.1 the 2012 Cape Town Agreement and the Radio Regulations, with particular emphasis on:

.1 distress, urgency and safety radiocommunications;

.2 avoiding harmful interference, particularly with distress and safety traffic; and

.3 the prevention of unauthorized transmissions;

.2 other documents relating to operational and communication procedures for distress, urgency, safety and general radiocommunications, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and

.3 the use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

26 Training should be given in:

.1 communication procedures and discipline to prevent harmful interference in GMDSS subsystems;

.2 procedures for using propagation-prediction information to establish optimum frequencies for communications;

.3 radiocommunication watchkeeping relevant to all GMDSS subsystems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;

.4 use of the international phonetic alphabet;

.5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;

.6 ship reporting systems and procedures;

.7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;

.8 radio medical systems and procedures; and

.9 causes of false distress alerts and means to avoid them.*

* See resolution MSC.514(105) – *Guidelines for the avoidance of false distress alerts*.

Practical

27 Practical training, supported by appropriate laboratory work, should be given in:

.1 correct and efficient operation of all GMDSS subsystems and equipment under normal propagation conditions and under typical interference conditions;

.2 safe operation of all the GMDSS communication equipment and ancillary devices, including safety precautions;

.3 adequate and accurate keyboard skills for the satisfactory exchange of communications;

.4 operational techniques for:

.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;

.2 antenna adjustment and realignment, as appropriate;

.3 use of radio life-saving appliances; and

.4 use of emergency position-indicating radio beacons (EPIRBs);

.5 antenna rigging, repair and maintenance, as appropriate;

.6 reading and understanding pictorial, logic and module interconnection diagrams;

.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 basic manual soldering and desoldering techniques and their limitations;

.9 tracing and repair of faults to board/module level;

.10 recognition and correction of conditions contributing to the fault occurring;

.11 basic maintenance procedures, both preventive and corrective, for all the GMDSS communication equipment and radionavigation equipment; and

.12 methods of alleviating electrical and electromagnetic interference, such as bonding, shielding and bypassing.

Miscellaneous

28 Knowledge of, and/or training in:

.1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;

.2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;

.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 fire prevention and fire fighting, with particular reference to the radio installation;

.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 first aid, including heart-respiration revival techniques; and

.7 coordinated universal time (UTC), global time zones and the international date line.

TRAINING RELATED TO THE GENERAL OPERATOR'S CERTIFICATE

General

29 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

30 The training should be relevant to the provisions of the STCW-F Convention, the Radio Regulations and the 2012 Cape Town Agreement, with particular attention given to the provisions of chapter IX therein. In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 31 to 36 below.*

Theory

31 Knowledge of the general principles and basic factors necessary for safe and efficient use of all subsystems and equipment required in the GMDSS sufficient to support the practical training provisions given in paragraph 35 below.

32 Knowledge of the use, operation and service areas of GMDSS subsystems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

Regulations and documentation

33 Knowledge of:

.1 the 2012 Cape Town Agreement and the Radio Regulations, with particular emphasis on:

.1 distress, urgency and safety radiocommunications;

.2 avoiding harmful interference, particularly with distress and safety traffic; and

.3 prevention of unauthorized transmissions;

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

.2 other documents relating to operational and communication procedures for distress, urgency, safety and general radiocommunications, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and

.3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

34 Training should be given in:

.1 communication procedures and discipline to prevent harmful interference in GMDSS subsystems;

.2 procedures for using propagation-prediction information to establish optimum frequencies for communications;

.3 radiocommunication watchkeeping relevant to all GMDSS subsystems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;

.4 use of the international phonetic alphabet;

.5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;

.6 ship reporting systems and procedures;

.7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;

.8 radio medical systems and procedures; and

.9 causes of false distress alerts and means to avoid them.*

Practical

35 Practical training should be given in:

.1 correct and efficient operation of all GMDSS subsystems and equipment under normal propagation conditions and under typical interference conditions;

.2 safe operation of all the GMDSS communications equipment and ancillary devices, including safety precautions;

.3 accurate and adequate keyboard skills for the satisfactory exchange of communications; and

.4 operational techniques for:

* See resolution MSC.514(105) – *Guidelines for the avoidance of false distress alerts*.

.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;

.2 antenna adjustment and realignment as appropriate;

.3 use of radio life-saving appliances; and

.4 use of emergency position-indicating radio beacons (EPIRBs).

Miscellaneous

36 Knowledge of, and/or training in:

.1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;

.2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;

.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 fire prevention and fire fighting, with particular reference to the radio installation;

.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 first aid, including heart-respiration revival techniques; and

.7 coordinated universal time (UTC), global time zones and the international date line.

TRAINING RELATED TO THE RESTRICTED OPERATOR'S CERTIFICATE

General

37 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

38 The training should be relevant to the provisions of the STCW-F Convention, the Radio Regulations and the 2012 Cape Town Agreement, with particular attention given to the provisions of chapter IX therein. In developing training guidance, account should be taken of at least the knowledge and training given in paragraphs 39 to 44 below.*

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

Theory

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 subsystems and equipment required in GMDSS sea area A1, sufficient to support the training given in paragraph 43 below.

40 Knowledge of the use, operation and service areas of GMDSS sea area A1 subsystems, e.g. navigational and meteorological warning systems and the appropriate communication circuits.

Regulations and documentation

41 Knowledge of:

.1 those parts of the 2012 Cape Town Agreement and the Radio Regulations relevant to sea area A1, with particular emphasis on:

.1 distress, urgency and safety radiocommunications;

.2 avoiding harmful interference, particularly with distress and safety traffic; and

.3 prevention of unauthorized transmissions;

.2 other documents relating to operational and communication procedures for distress, urgency, safety and general radiocommunications, including charges, navigational warnings and weather broadcasts in the Maritime Mobile Service in sea area A1; and

.3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

42 Training should be given in:

.1 communication procedures and discipline to prevent harmful interference in GMDSS subsystems used in sea area A1;

.2 VHF communication procedures for:

.1 radiocommunication watchkeeping, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;

.2 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency; and

.3 the digital selective calling system;

.3 use of the international phonetic alphabet;

.4 ship reporting systems and procedures;

.5 VHF radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;

.6 radio medical systems and procedures; and

.7 causes of false distress alerts and means to avoid them.*

Practical

43 Practical training should be given in:

.1 correct and efficient operation of the GMDSS subsystems and equipment prescribed for ships operating in sea area A1 under normal propagation conditions and under typical interference conditions;

.2 safe operation of relevant GMDSS communication equipment and ancillary devices, including safety precautions; and

.3 operational techniques for use of:

.1 VHF, including channel, squelch, and mode adjustment, as appropriate;

.2 radio life-saving appliances;

.3 emergency position-indicating radio beacons (EPIRBs); and

.4 receivers capable of receiving maritime safety information and search and rescue related information (e.g. NAVTEX).

Miscellaneous

44 Knowledge of, and/or training in:

.1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;

.2 services of rescue coordination centres (RCCs) and related communication routes;

.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 fire prevention and fire fighting, with particular reference to the radio installation;

.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 first aid, including heart-respiration revival techniques.

* See resolution MSC.514(105) – *Guidelines for the avoidance of false distress alerts*.

TRAINING RELATED TO MAINTENANCE OF GMDSS INSTALLATIONS ON BOARD SHIPS

General

45 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 The following guidance on equivalent electronic maintenance qualifications is provided for use by Administrations as appropriate.

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.

Maintenance training equivalent to the First-Class Radioelectronic Certificate

48 In determining training equivalent to the elements of the listed First-Class Radioelectronic Certificate:

.1 the theory content should cover at least the subjects given in paragraphs 3 to 10;

.2 the practical content should cover at least the subjects given in paragraph 13; and

.3 the miscellaneous knowledge included should cover at least the subjects given in paragraph 14.

Maintenance training equivalent to the Second-Class Radioelectronic Certificate

49 In determining training equivalent to the maintenance elements of the Second-Class Radioelectronic Certificate:

.1 the theory content should cover at least the subjects given in paragraphs 17 to 24;

.2 the practical content should cover at least the subjects given in paragraph 27; and

.3 the miscellaneous knowledge included should cover at least the subjects given in paragraph 28.

Section B-II/7

(No provisions)

Section B-II/8

(No provisions)

Section B-II/a*

Guidance on training of deckhand fishing working on fishing vessels of 24 metres in length and over

Definition

1 *Deckhand fishing* means a member of the vessel's crew other than the skipper or an officer.

Safety familiarization for deckhand fishing

2 Before being assigned to shipboard duties, deckhand fishing should be familiar with the following:

.1 marine terms and orders commonly used in fishing vessels;

.2 the dangers associated with fishing operations such as shooting the fishing gear into the water, hauling the fishing gear and landing the catch on board; and

.3 construction, application and purpose of each piece of deck equipment associated with a particular type of fishing gear, including, but not limited to:

.1 trawl gallows;

.2 gantries;

.3 bollards;

.4 power blocks;

.5 pursing blocks;

.6 winches and booms;

.7 derricks;

.8 net drums and side rollers; and

.9 line and trap haulers; and

.4 the dangers associated with the movement of equipment not fixed.

Training for deckhand fishing

3 Deckhand fishing should, before being assigned to any shipboard duties, receive appropriate training cover competences given below.

* There are no corresponding regulations in the Convention or sections in part A of the Code for sections B-II/a and B-II/b.

COMPETENCES

Contribute to safe operation

4 Understanding of dangers caused by the vessel's motions and accelerations.

5 Understanding of dangers caused by slippery surfaces on board.

6 Understanding of good onboard conduct, particularly to minimize fire hazards.

7 Knowledge of the use of personal protection equipment.

Contribute to maintain stability and seaworthiness

8 Understanding of the watertight and weathertight integrity of common types of fishing vessels.

9 Understanding of the operation of closing devices for doors and other openings relevant to the watertight and weathertight integrity of the fishing vessel.

10 Knowledge of stowage of the catch, fishing gear.

11 Knowledge of the function of freeing ports.

Contribute to berthing, anchoring, catch handling and other mooring operations

12 Knowledge of the handling and maintenance of deck appliances and equipment such as winches, derricks, booms, stoppers, chains, wire rope and ropes.

13 Knowledge and safe working practice of making splices and eye splices in wire ropes and ropes.

14 General knowledge of mooring operations and the handling and safe working practice of mooring ropes, including springs, bow, stern and breast ropes.

15 Knowledge of helm orders, commands for mooring, anchoring and towing.

16 Knowledge of possible hazards and risks on mooring, anchoring and towing.

Section B-II/b[*]
Guidance on training of advanced deckhand fishing working on fishing vessels of 24 metres in length and over

Definition

1 *Advanced deckhand fishing* means a qualified deckhand participating in the safe operation of the fishing vessel, preparation for and carrying out fishing operations, handling, safe stowage and, where appropriate, processing the catch and repairing the fishing gear.

Training for advanced deckhand fishing

2 Advanced deckhand fishing should, before being assigned to any shipboard duties, receive appropriate training cover competences given below.

[*] There are no corresponding regulations in the Convention or sections in part A of the Code for sections B-II/a and B-II/b.

COMPETENCES

Function: Navigation at the support level

Contribute to enhance communication for safety navigation

3 Knowledge of common nautical terms which apply to the work and navigation of a fishing vessel.

Contribute to hazard identification

4 Working knowledge of margins of safety and prepare the fishing vessel to go to sea, including:

.1 the procedure for keeping a proper lookout in order to maintain a margin of safety between own vessel and other traffic;

.2 the safe distances between boats and land; and

.3 the risk of collision.

Contribute to safe navigation using guidance equipment

5 Knowledge about the principles of a visual lookout.

6 Knowledge of GPS operations that describe the dangers of operating GPS equipment without proper training.

Contribute to safe anchor operation

7 Knowledge of anchors, including weighing and dragging.

8 Knowledge of common nautical terms which apply to anchoring.

Contribute to safe mooring operation

9 Knowledge of mooring operation and equipment including mooring ropes.

Contribute to safe towing operation

10 Knowledge of towing operation.

Contribute to safe navigational watch

11 Ability to steer the fishing vessel on a compass course and maintain a course satisfactory.

12 Understanding the method of handing over the wheel and lookout duty when vessel is under way in order to ensure its continuity.

13 Knowledge of watchkeeping, including:

.1 engine checks;

.2 safe watchkeeping practices; and

.3 International Collision Prevention Regulations.

14 Knowledge of use of magnetic and gyro-compass.

Function: Catch handling and stowage at the support level

Contribute to safe catch handling and stowage

15 Knowledge of the effects upon a fishing vessel of catch handling and stowage factors.

16 Knowledge of the related principles and guidelines for responsible fisheries.

17 Understanding of responsible harvesting, including:

.1 effects of discards and by-catch;

.2 causes of habitat damage through fishing operations; and

.3 proper disposal of unserviceable fishing gear.

18 Understanding of responsible fishing gear selectivity including its importance and factors that affects size and species selectivity.

19 Knowledge of the relevant national Administrations and their fisheries responsibilities.

Function: Controlling the operation of the vessel and care for persons on board at the support level

Apply occupational health and safety precautions

20 Understanding parts of the fishing vessel, including:

.1 functions of fishing vessel equipment and gear;

.2 main components of fishing gear including trawl net, purse seine net, set net, cast net, long line, dredge and fish pot; and

.3 fish aggregating devices (FADs) and main types of fishing gear, including: surrounding nets (e.g. purse seine nets), seine nets, trawls, dredges, lift nets, falling gear (e.g. cast nets), gillnets and entangling nets, traps (e.g. pots), hooks and lines (e.g. longlines).

Ability to make and use knots and splices

21 Ability to tie and use various types of knots.

22 Ability to make splices and whipping.

23 Ability to apply rope and chain stoppers depending on the situation.

Ability to use purchases

24 Ability to use various types of purchases for rigging.

25 Understanding of the purpose of tackles.

Function: Maintenance and repair at the support level

Contribute to safe operation and maintenance of the deck equipment

26 Knowledge and understanding of the construction, application and purpose of deck equipment on fishing vessels.

27 Understanding of the procedures for safe operation and maintenance of deck equipment.

28 Knowledge of fibre ropes, wire ropes and chains for use and maintenance, including precautions to take.

29 Understanding watertight and weather tight integrity of common types of fishing vessels.

Chapter III
Guidance regarding basic training for all fishing vessel personnel

Section B-III/1
Guidance regarding basic training and onboard safety familiarization for all fishing vessel personnel

Personal survival techniques

1 The training in personal survival techniques required by section A-III/1 should include the following theoretical and practical knowledge:

.1 principles concerning survival including:

.1 actions to be taken at rescue operations by a helicopter; and

.2 getting the survival craft quickly away of the fishing vessel and fishing gear.

Fire prevention and fire fighting

2 The training in fire prevention and fire fighting required by section A-III/1 should include the following theoretical and practical knowledge:

.1 re-entry procedure; and

.2 fire prevention measures such as:

.1 prohibition of smoking;

.2 location of heat sources to prevent contact with combustible materials;

.3 control of use of blowlamps, cutting or welding equipment;

.4 risk assessment and purchase control of articles and substances in order to avoid the introduction of fire hazards, where possible;

.5 risk assessment and control of the use of articles and substances that pose fire hazards in order to avoid the introduction of fire risks;

.6 adequate cleanliness of working areas; and

.7 adequate supervision of cooking facilities.

Elementary first aid

3 The training in elementary first aid required by section A-III/1 should include the following theoretical and practical knowledge:

.1 use of telemedical assistance service;[8] and

.2 means to obtain medical advice by radio.

[8] See MSC/Circ.960 on *Medical assistance at sea and importance of the role of telemedical assistance services*.

Personal safety and social responsibilities

4 The training in personal safety and social responsibilities required by section A-III/1 should include the following theoretical and practical knowledge:

.1 consequences of panic;

.2 immediate and correct action to assist a craft in distress;

.3 risk assessment by:

.1 identification of hazards;

.2 identification of associated risk for health and safety;

.3 decision on appropriate control measures;

.4 prediction of potential outcomes; and

.5 determination of level of risk;

.4 risk mitigation methods, including:

.1 elimination;

.2 guarding of hazards and persons;

.3 procedure and training;

.4 personal protective equipment (PPE);

.5 signage; and

.6 maintenance;

.5 near misses, incidents and accidents, including:

.1 identification of root causes;

.2 recognition of contributing factors;

.3 evaluation of relevant outcomes;

.4 determination of the difference between a near miss, an incident and an accident;

.5 prevention of further development of near misses, incidents and accidents including the safe isolation of equipment, machinery and systems and the future occurrence of near misses, incidents and accidents; and

.6 reporting of a near miss, incident or accident according to legislative requirements, internal safety procedures and confidentiality requirements; and

.6 communication phrases and handling of signals during fishing operations such as:

.1 shooting and hauling of the fishing gear;

.2 transferring the catch;

.3 working with deck and fishing gear; and

.4 lifting.

5 The training in personal safety and social responsibilities required by section A-III/1 should include awareness training in the following elements:

.1 methods for safety management appropriate to fishing vessels, including:

.1 policy statement;

.2 crew introduction;

.3 onboard training;

.4 working procedures;

.5 maintenance schedules;

.6 fishing vessel design;

.7 checklists;

.8 health surveillance; and

.9 agreed common language;

.2 participation in continued monitoring of improvement of safety by:

.1 understanding the reasons for revising existing safety methods including preventive and corrective actions;

.2 understanding of guidance to support revision processes including existing methods, legislation, and accident, incident and near miss reports;

.3 evaluating at least the following options necessary for the successful implementation of changes:

.1 feasibility of proposed changes;

.2 effectiveness of the implementation of changes; and

.3 current behaviour/culture on board;

.3 recognition of a near miss, an incident and an accident;

.4 risks on board fishing vessels during fishing operations such as:

.1 shooting and hauling of the fishing gear; and

.2 transferring the catch;

.5 risks on board fishing vessels with regard to:

.1 falls;

.2 crushing;

.3 fluctuation and loose load; and

.4 cable breaks; and

.6 risks, hazards and safe working procedures for operational safety during:

.1 mooring;

.2 unmooring;

.3 working at height;

.4 hot work; and

.5 working with hazardous substances.

Section B-III/a*

Guidance on basic sustainable fisheries training for all fishing vessel personnel

1 Fishing vessel personnel should, before being assigned to any shipboard duties, receive appropriate approved basic sustainable fisheries training in:

.1 sustainable fisheries;

.2 prevention of pollution of the marine environment; and

.3 efficient use of energy and reduction of air pollution.

Above trainings should cover competences given below.

Competences

Define sustainable fisheries

2 Understand that sustainable development requires a balance of social responsibility (People), care for the environment (Planet) and economic prosperity (Profit).

* There is no corresponding regulation in the Convention or section in part A of the Code for section B-III/a.

3 Be able to apply the principles of sustainable development to the fishing industry.

Recognize the ocean as a diverse and valuable environment

4 Understand the importance of healthy oceans for the fishing industry.

Prevent plastic pollution to the (marine) environment

5 Be able to properly handle garbage, as defined in MARPOL Annex V, on board ships and the correct disposal in ports.

Contribute to the efficient use of energy and reduction of air pollution

6 Have knowledge of the impacts of air pollution to the environment.

7 Understand the urgency of climate change and the way the maritime sector contributes to the problem.

8 Be able to contribute to the efficient use of energy and the reduction of air pollution.

Ensure a positive reputation of the fishing industry

9 Understand the importance of interaction with society, transparency and accountability to ensure a good reputation and a "licence to operate".

Chapter IV
Guidance regarding watchkeeping

Section B-IV/1

(No provisions)

Section B-IV/2

(No provisions)

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ANNEX 30*

DRAFT AMENDMENTS TO REQUIREMENTS FOR MAINTENANCE, THOROUGH EXAMINATION, OPERATIONAL TESTING, OVERHAUL AND REPAIR OF LIFEBOATS AND RESCUE BOATS, LAUNCHING APPLIANCES AND RELEASE GEAR (RESOLUTION MSC.402(96))

6 SPECIFIC PROCEDURES FOR INSPECTION, MAINTENANCE, THOROUGH EXAMINATION, OPERATIONAL TESTING, OVERHAUL AND REPAIR

6.2 Annual thorough examination and operational test

1 The existing paragraph 6.2.3 is amended, as follows:

"6.2.3 For lifeboats (including free-fall lifeboats), rescue boats and fast rescue boats, the following items shall be thoroughly examined and checked for satisfactory condition and operation:

.1 condition of the boat structure including fixed and loose equipment (including a visual examination of the external boundaries of the void spaces, as far as practicable);

.2 engine and propulsion system;

.3 sprinkler system, where fitted;

.4 air supply system, where fitted;

.5 manoeuvring system;

.6 power supply system;

.7 bailing system;

.8 fender/skate arrangements; ~~and~~

.9 rescue boat righting system, where fitted~~.~~; and

.10 ventilation system, where fitted."

***

* Modifications are indicated in grey shading.

ANNEX 31[1]

DRAFT AMENDMENTS TO THE LSA CODE

CHAPTER II
PERSONAL LIFE-SAVING APPLIANCES

2.2 Lifejackets

2.2.1 *General requirements for lifejackets*

1 The existing paragraph 2.2.1.6.2 is modified, as follows:

"2.2.1.6 When tested according to the recommendations of the Organization on at least 12 persons, adult lifejackets shall have sufficient buoyancy and stability in calm fresh water to:

.1 lift the mouth of exhausted or unconscious persons by an average height of not less than the average provided by the adult RTD minus 10 mm;

.2 turn the body of unconscious, face-down persons in the water to a face-up position where the nose and mouth are~~is~~ clear of the water in an average time not exceeding that of the RTD plus 1 s;

.3 incline the body backwards from the vertical position for an average torso angle of not less than that of the RTD minus 10˚;

.4 lift the head above horizontal for an average faceplane angle of not less than that of the RTD minus 10°; and

.5 return at least as many wearers to a stable face-up position after being destabilized when floating in the flexed foetal position[2] as with the RTD when tested on the wearers in the same manner."

CHAPTER IV
SURVIVAL CRAFT

4.4 General requirements for lifeboats

4.4.7 Lifeboat fittings

2 The existing paragraph 4.4.7.6.8 is modified, as follows:

".8 to prevent an accidental release during recovery of the boat, the hook shall not be able to support any load unless the hook is completely reset.~~, either the hook shall not be able to support any load, or~~ In the case of a hook which is capable of releasing the lifeboat or rescue boat with a load on the hook when it is not fully waterborne, the handle or safety pins shall not be able to be returned to the reset (closed) position, and any indicators shall not

[1] Modifications are indicated in grey shading.

[2] Refer to the illustration on page 9 of the *IMO Pocket Guide for Cold Water Survival,* 2010 Edition, and to the *Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70), as amended).

indicate the release mechanism is reset, unless the hook is completely reset. Additional danger signs shall be posted at each hook station to alert crew members to the proper method of resetting;"

3 The existing paragraph 4.4.7.6.17 is modified, as follows:

".17 where a single fall and hook system is used for launching a lifeboat or rescue boat in combination with a suitable painter, the requirements of paragraphs 4.4.7.6.7, ~~4.4.7.6.8~~ and 4.4.7.6.15 need not be applicable, ~~in such an arrangement a single capability to release the lifeboat or rescue boat, only when it is fully waterborne, will be adequate~~ provided that the single fall and hook system does not have the capability to release the lifeboat or rescue boat with a load on the hook when it is not fully waterborne.

CHAPTER VI
LAUNCHING AND EMBARKATION APPLIANCES

6.1.2 Launching appliances using falls and a winch

4 The existing paragraph 6.1.2.8 is modified, as follows:

"6.1.2.8 The speed at which the fully loaded survival craft or rescue boat is lowered to the water shall not be less than that obtained from the formula:

$S = 0.4 + 0.02H$, or 1.0, whichever is less

where:

S is the lowering speed in metres per second and

H is the height in metres from the davit head to the waterline with the ship at the lightest sea-going condition."

5 The existing paragraph 6.1.2.10 is modified, as follows:

"6.1.2.10 The maximum lowering speed shall be ~~established by the Administration~~ 1.3 m/s. The Administration may accept a maximum lowering speed other than 1.3 m/s, having regard to the design of the survival craft or rescue boat, the protection of its occupants from excessive forces, and the strength of the launching arrangements taking into account inertia forces during an emergency stop. Means shall be incorporated in the appliance to ensure that this speed is not exceeded."

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ANNEX 32*

DRAFT MSC RESOLUTION ON AMENDMENTS TO THE REVISED RECOMMENDATION ON TESTING OF LIFE-SAVING APPLIANCES (RESOLUTION MSC.81(70))

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO that the Assembly, when adopting resolution A.689(17) on *Testing of life-saving appliances*, authorized the Committee to keep the annexed Recommendation on testing of life-saving appliances under review and to adopt, when appropriate, amendments thereto,

RECALLING FURTHER that, since the adoption of resolution A.689(17), the Committee has amended the Recommendation annexed thereto by resolutions MSC.54(66) and MSC.81(70), and by circulars MSC/Circ.596, MSC/Circ.615 and MSC/Circ.809,

RECOGNIZING the need to ensure that the references in the *Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70)) are kept up to date,

1 ADOPTS the Amendments to the Revised recommendation on testing of life-saving appliances (MSC.81(70)), set out in the annex to the present resolution;

2 RECOMMENDS Governments to apply the amendments when testing life-saving appliances, as set out in the annex to the present resolution;

3 INVITES Contracting Governments to the SOLAS Convention to bring the above amendments to the attention of all parties concerned.

* Modifications are indicated in grey shading.

ANNEX

AMENDMENTS TO THE REVISED RECOMMENDATION ON TESTING OF LIFE-SAVING APPLIANCES (RESOLUTION MSC.81(70))

PART 1 - PROTOTYPE TEST FOR LIFE-SAVING APPLIANCES

2.8 Water performance tests

Test subjects

1 Add the following new paragraph 2.8.2.1 after existing paragraph 2.8.2:

"2.8.2.1 If a "no turn" is recorded for a test subject wearing the RTD during the righting tests in 2.8.5, the test subject may be replaced with one additional test subject from the same height and weight category and in accordance with 2.7.2."

Assessment

2 Existing paragraph 2.8.7.1 is modified, as follows:

"2.8.7 After the water tests described in 2.8.5 and .6 above:

.1 *Turning time:* The average turn time for all subjects in the candidate lifejacket should not exceed the average time in the RTD plus 1 s, ~~and the number of "no-turns", if any, should not exceed the number in the RTD~~ and at the end of each righting test, each test subject should attain a face-up position where the nose and mouth are clear of the water;

.2 *Freeboard*: The average freeboard of all the subjects should not be less than the average for the RTD minus 10 mm;

.3 *Torso angles*: The average of all subjects' torso angles should be not less than the average for the RTD minus 10°;

.4 *Faceplane (head) angles*: The average of all subjects. faceplane angles should be not less than the average for the RTD minus 10°; and

.5 *Lifejacket light location*: The position of the lifejacket light should permit it to be visible over as great a segment of the upper hemisphere as is practicable."

PART 2 - PRODUCTION AND INSTALLATION TESTS

6.1 Launching appliances using falls and winches

Installation tests

Loaded test

3 Existing paragraph 6.1.2 is modified, as follows:

"6.1.2 The survival craft or rescue boat, loaded with its normal equipment or an equivalent mass and a distributed mass equivalent to that of the number of persons, each weighing 75 kg or 82.5 kg, as applicable, it is permitted to accommodate, should be released by operation of the launching control on deck. The speed at which the survival craft or rescue boat is lowered into the water should be not less than that obtained from the formula:

S = 0.4 + (0.02H), or 1.0, whichever is less

where: *S* = speed of lowering (m/s)
H = height from davit head to the waterline at the lightest seagoing condition (m).

The maximum lowering speed shall be 1.3 m/s or as decided by the Administration in accordance with paragraph 6.1.2.10 of the LSA Code ~~established by the Administration should not be exceeded~~.";

Loaded lowering test (brake test only)

4 Existing paragraph 6.1.5 is modified, as follows:

"6.1.5 The survival craft or rescue boat loaded with its normal equipment or an equivalent mass and a distributed mass equal to that of the number of persons, each weighing 75 kg or 82.5 kg, it is permitted to accommodate +10% of the working load, should be released by the operation of the launching controls on deck. When the craft has reached its maximum lowering speed, the brake should be abruptly applied to demonstrate that the attachments of the davits and winches to the ship's structure are satisfactory. The maximum lowering speed shall be 1.3 m/s or as decided by the Administration in accordance with paragraph 6.1.2.10 of the LSA Code ~~established by the Administration should not be exceeded~~.".

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ANNEX 33*

DRAFT AMENDMENTS TO SOLAS CHAPTER II-2

CHAPTER II-2
CONSTRUCTION – FIRE PROTECTION, FIRE DETECTION AND FIRE EXTINCTION

Part C
Suppression of fire

Regulation 7 – Detection and alarm

5 Protection of accommodation and service spaces and control stations

1 The existing paragraph 5.2 is amended, as follows:

"**5.2 Requirements for passenger ships carrying more than 36 passengers**

A fixed fire detection and fire alarm system shall be so installed and arranged as to provide smoke detection in-service spaces, control stations and accommodation spaces, including corridors, stairways and escape routes within accommodation spaces. Smoke detectors need not be fitted in private bathrooms and galleys. Spaces having little or no fire risk such as voids, public toilets, carbon dioxide rooms and similar spaces need not be fitted with a fixed fire detection and fire alarm system. Detectors fitted in cabins, when activated, shall also be capable of emitting, or cause to be emitted, an audible alarm within the space where they are located."

2 The existing section 5.5 (Cargo ships) is amended, as follows:

"**5.5 Cargo ships**

(The requirements of paragraph 5.5 shall apply to ships constructed on or after 1 January 2026. Ships constructed before 1 January 2026 shall comply with the previously applicable requirements of paragraph 5.5.)

Accommodation and service spaces and control stations of cargo ships shall be protected by a fixed fire detection and fire alarm system and/or an automatic sprinkler, fire detection and fire alarm system as follows depending on a protection method adopted in accordance with regulation 9.2.3.1.

5.5.1 *Method IC*

A fixed fire detection and fire alarm system shall be so installed and arranged as to provide smoke detection in all corridors, stairways, and escape routes within accommodation spaces and in all control stations and cargo control rooms.

5.5.2 *Method IIC*

An automatic sprinkler, fire detection and fire alarm system of an approved type complying with the relevant requirements of the Fire Safety Systems Code shall be so installed and arranged as to protect accommodation spaces, galleys and other service spaces, except spaces which afford no substantial fire risk such as void spaces, sanitary spaces, etc. In addition, a fixed fire detection and fire alarm system shall be so installed and arranged as to provide smoke detection in all corridors,

* Modifications are indicated in grey shading.

stairways, and escape routes within accommodation spaces and in all control stations and cargo control rooms.

5.5.3 *Method IIIC*

A fixed fire detection and fire alarm system shall be so installed and arranged as to detect the presence of fire in all accommodation spaces and service spaces providing smoke detection in corridors, stairways and escape routes within accommodation spaces, except spaces which afford no substantial fire risk such as void spaces, sanitary spaces, etc. In addition, a fixed fire detection and fire alarm system shall be so installed and arranged as to provide smoke detection in all corridors, stairways, and escape routes within accommodation spaces and in all control stations and cargo control rooms."

Regulation 9 – Containment of fire

6 Protection of cargo space boundaries

3 The existing paragraph 6.1 is deleted and the subsequent paragraphs are renumbered accordingly:

"~~6.1 In passenger ships carrying more than 36 passengers, the boundary bulkheads and decks of special category and ro-ro spaces shall be insulated to "A-60" class standard. However, where a category (5), (9) and (10) space, as defined in paragraph 2.2.3, is on one side of the division the standard may be reduced to "A-0". Where fuel oil tanks are below a special category space, the integrity of the deck between such spaces may be reduced to "A-0" standard.~~"

Part G
Special requirements

Regulation 20 – Protection of vehicle, special category and ro-ro spaces

4 The existing title of regulation 20 is amended, as follows:

"**Regulation 20 Protection of vehicle, special category ~~and ro-ro spaces~~, open and closed ro-ro spaces, and weather decks intended for the carriage of vehicles**"

1 Purpose

5 The existing paragraph 1.1 is amended, as follows:

"**1 Purpose**

The purpose of this regulation is to provide additional safety measures in order to address the fire safety objectives of this chapter for ships fitted with vehicle, special category and ro-ro spaces. For this purpose, the following functional requirements shall be met:

.1 fire protection systems shall be provided to adequately protect the ship from the fire hazards associated with vehicle, special category and ro-ro spaces, and weather deck intended for the carriage of vehicles;"

2 General requirements

2.1 Application

6 The following new paragraph 2.1.3 is added after existing paragraph 2.1.2:

"2.1.3 Ships constructed before 1 January 2026 shall also comply with regulations 20.4.1.6, 20.4.4 and 20.6.2.3, as adopted by resolution MSC.[…]."

3 Precaution against ignition of flammable vapours in closed vehicle spaces, closed ro-ro spaces and special category spaces

7 The existing paragraph 3.1.5 is amended, as follows:

"***3.1.5 Permanent openings***

In cargo ships, ~~P~~permanent openings in the side plating, the ends or deckhead of the space shall be so situated that a fire in the cargo space does not endanger stowage areas and embarkation stations for survival craft and accommodation spaces, service spaces and control stations in superstructures and deckhouses above the cargo spaces."

4 Detection and alarm

8 The following new paragraph is added under the existing title of section 4 (Detection and alarm):

"Ships constructed before 1 January 2026 shall comply with the requirements of paragraph 4.1.6 not later than the first survey after 1 January 2028."

4.1 Fixed fire detection and fire alarm systems

9 The existing section 4.1 (Fixed fire detection and fire alarm systems) is amended, as follows:

"**4.1 Fixed fire detection and fire alarm systems**

~~Except as provided in paragraph 4.3.1, there shall be provided a fixed fire detection and fire alarm system complying with the requirements of the Fire Safety Systems Code. The fixed fire detection system shall be capable of rapidly detecting the onset of fire. The type of detectors and their spacing and location shall be to the satisfaction of the Administration taking into account the effects of ventilation and other relevant factors. After being installed the system shall be tested under normal ventilation conditions and shall give an overall response time to the satisfaction of the Administration.~~

The requirements of paragraphs 4.1.1 through 4.1.4 shall only apply to passenger ships constructed on or after 1 January 2026. Passenger ships constructed before 1 January 2026 shall comply with the previously applicable requirements of paragraph 4.1, as amended by resolution MSC.108(…) and paragraph 4.1.6.

4.1.1 In vehicle, special category and ro-ro spaces, there shall be provided an individually identifiable fixed fire detection and fire alarm system. The system shall comply with the requirements of the Fire Safety Systems Code.

4.1.1.1 The fixed fire detection and fire alarm system shall provide smoke and heat detection throughout vehicle, special category and ro-ro spaces. The Administration may accept linear heat detectors as the required system for heat detection. The system shall be capable of rapidly detecting the onset of fire. The location of detectors shall be to the satisfaction of the Administration, taking into account the effects of ventilation and other relevant factors. After being installed, the system shall be tested under normal ventilation conditions and shall give an overall response time to the satisfaction of the Administration.

4.1.2 If a fixed water-based deluge system is used for vehicle, special category and ro-ro spaces, then a fire detection and fire alarm system identifiable to the same sections of the deluge system shall be arranged.

4.1.3 The fire detection and fire alarm system shall be designed with a system interface which provides logical and unambiguous presentation of the information, to allow a quick and correct understanding and decision-making. In particular, the alarm system section numbering shall coincide with the sections of other systems, such as a fixed water-based fire-extinguishing system or video monitoring system, if available.

4.1.4 There shall be provided a fixed fire detection and fire alarm system for the area on the weather deck intended for the carriage of vehicles. The fixed fire detection system shall be capable of rapidly detecting the onset of the fire anywhere on the area. The type of detectors and their spacing and location shall be to the satisfaction of the Administration, taking into account the effects of weather conditions, cargo obstruction and other relevant factors. Different settings may be used for specific operation sequences, such as during loading or unloading and during voyage, in order to reduce the false alarms.

4.1.5 In cargo ships, vehicle spaces, special category spaces and ro-ro spaces shall be provided with a fixed fire detection and fire alarm system complying with the requirements of the Fire Safety Systems Code. The fixed fire detection system shall be capable of rapidly detecting the onset of fire. The type of detectors and their spacing and location shall be to the satisfaction of the Administration, taking into account the effects of ventilation and other relevant factors. After being installed, the system shall be tested under normal ventilation conditions and shall give an overall response time to the satisfaction of the Administration.

4.1.6 For passenger ships constructed before 1 January 2026, a fixed fire detection and fire alarm system complying with the requirements of the Fire Safety Systems Code shall be provided in special category spaces, open and closed ro-ro and vehicle spaces. The fixed fire detection system shall be capable of rapidly detecting the onset of fire. The fixed fire detection and fire alarm system shall provide smoke and heat detection throughout vehicle, special category and ro-ro spaces. In this context, heat detectors shall comply with the spacing and coverage area requirements as applicable for smoke detectors. Heat detectors are only required where there is already a smoke detector."

4.3 Special category spaces

10 The existing paragraph 4.3.1 is amended, as follows:

"4.3.1 An efficient fire patrol system shall be maintained in special category spaces. ~~If an efficient fire patrol system is maintained by a continuous fire watch at all times during the voyage, a fixed fire detection and fire alarm system is not required.~~"

11 The following new section 4.4 is added after existing section 4.3 (Special category spaces):

"**4.4 Video monitoring**

The requirements of paragraphs 4.4.1 and 4.4.2 apply to ships constructed on or after 1 January 2026. Passenger ships with vehicle, special category or ro-ro spaces constructed before 1 January 2026 shall comply with the requirements of paragraphs 4.4.1 and 4.4.2 not later than the first survey after 1 January 2028.

4.4.1 For passenger ships, an effective video monitoring system shall be arranged in vehicle, special category and ro-ro spaces for continuous monitoring of these spaces. The system shall be provided with immediate playback capability to allow for quick identification of fire location, as far as practicable. Cameras shall be installed to cover the whole space, high enough to see over cargo and vehicles after loading.

4.4.2 The videos recorded by this monitoring system shall be available for replay at a continuously manned control station or at the safety centre for at least seven days for installation on ro-ro passenger ships constructed on or after 1 January 2026 and 24 hours for existing ro-ro passenger ships constructed before 1 January 2026 and the correspondence between any one video camera and the section of the fixed water-based fire-extinguishing system it is covering shall be clearly displayed close to the video monitor. Continuous monitoring of the video image by the crew is not required."

5 Structural fire protection

12 The existing section 5 (Structural fire protection) is amended, as follows, together with the associated footnotes:

"**5 Structural fire protection and arrangement of openings**

~~"Notwithstanding the provisions of regulation 9.2.2, in passenger ships carrying more than 36 passengers, the boundary bulkheads and decks of special category spaces and ro-ro spaces shall be insulated to "A-60" class standard. However, where a category (5), (9) or (10) space, as defined in regulation 9.2.2.3, is on one side of the division, the standard may be reduced to "A-0". Where fuel oil tanks are below a special category space or a ro-ro space, the integrity of the deck between such spaces may be reduced to "A-0" standard.~~

This paragraph applies to passenger ships constructed on or after 1 January 2026.

5.1 Structural fire protection

5.1.1 In passenger ships carrying more than 36 passengers, the boundary bulkheads and decks of special category and ro-ro spaces shall be insulated to "A-60" class standard. However, where a category (5), (9) and (10) space, as defined in regulation 9.2.2.3, is on one side of the division, the standard may be reduced to "A-0". Where fuel oil tanks are below a special category space, the integrity of the deck between such spaces may be reduced to "A-0" standard.

5.1.2 Where a special category space or ro-ro space is sub-divided with internal decks, the fire rating of these decks shall be determined based on the capacity and arrangement of the fixed water-based fire-extinguishing system. If the fixed water-based fire-extinguishing system cannot simultaneously cover the applicable area above and below a given deck, this deck shall be of "A-30" standard while any

ramps and doors between decks shall be made of steel and of a design being as tight as practical.

5.2 Arrangement of openings in ro-ro spaces and special category spaces

5.2.1 Openings in the side plating, the ends or deckhead of the ro-ro space shall be situated and arranged so that a fire in the ro-ro space does not endanger:

.1 stowage areas for survival craft;

.2 embarkation stations and assembly stations, including access to such stations; and

.3 accommodation spaces, control stations and normally occupied service spaces in superstructures and deckhouses above the ro-ro space.

Openings are not permitted for all decks directly below these objects and within a safety distance of minimum 6.0 m measured horizontally.

5.2.2 This requirement does not apply to openings fitted with closing arrangements, such as ramps and doors. Ramps and doors shall be of steel for all decks directly below accommodation spaces, control stations and normally occupied service spaces, and minimum "A-0" for all decks directly below survival craft, embarkation stations and assembly stations.

5.2.3 Openings are, however, accepted in ro-ro spaces below accommodation spaces, control stations and normally occupied service spaces, when the fire integrity of the ship's side, including windows and doors, is "A-60" on boundaries in a rectangular area measured 6.0 m horizontally forward and aft of the openings and vertically minimum two deck levels above the deck level with the opening. "A-0" windows protected by a water-based system with an application rate of at least 5.0 L/min per square metre may be accepted as equivalent to "A-60" windows. Ventilation inlets shall be designed to minimize the risk of contamination.*

* Refer to regulations II-2/5.2, II-2/8.2, II-2/9.7.1.5 and II-2/20.3.1.4.

5.2.4 Openings for mechanical ventilation of ro-ro and special category spaces are permitted below accommodation spaces, service spaces and control stations in superstructures, if the opening is protected by a closing device, with a closing arrangement not likely to be cut off in case of a fire in the ro-ro spaces, capable of being closed from a readily accessible position. The closing device shall be made of steel or other fire-resistant material. Such openings are not permitted below survival craft, the emergency generator and air intakes for the engine-room(s).

5.2.5 Notwithstanding the above, air intakes serving machinery used for the ship's main propulsion, power generation and emergency power generation shall be in a position minimizing the risk of being contaminated by a fire in the ro-ro space or special category space.

5.3 Arrangement of weather deck intended for the carriage of vehicles

5.3.1 Appropriate arrangements shall be made so that a fully developed fire on weather decks intended for the carriage of vehicles does not endanger:

.1 stowage areas for survival craft;

.2 embarkation stations and assembly stations including access to these; and

.3 accommodation spaces, control stations and normally occupied service spaces in superstructures and deckhouses adjacent to the weather deck.

5.3.2 Appropriate arrangements shall be made providing a safety distance, measured horizontally, from the designated vehicle lanes of more than 6.0 m to accommodation spaces, control stations and normally occupied service spaces in superstructures and deckhouses adjacent to the weather deck.

5.3.3 The safety distance can be reduced to 3.0 m when boundaries, including windows and doors, within 6.0 m are of "A-60" integrity. Alternatively, "A-0" boundaries protected by a water-based system with an application rate of at least 5.0 L/min per square metre may be accepted as equivalent.

5.3.4 Survival craft and embarkation stations, including access to these, shall be protected with a safety distance of more than 12.0 m. Safety distances shall be measured horizontally.

5.3.5 Notwithstanding the above, air intakes serving machinery used for the ship's main propulsion, power generation and emergency power generation shall be in a position minimizing the risk of being contaminated by a fire on the weather deck intended for carriage of vehicles.

6 Fire extinction

6.1 Fixed fire-extinguishing systems

13 The existing explanatory paragraph under the title of section 6.1 (Fixed fire-extinguishing systems) is amended, as follows:

"(The requirements of paragraphs 6.1.1 and 6.1.2 shall apply to ships constructed on or after 1 July 2014. Ships constructed before 1 July 2014 shall comply with the previously applicable requirements of paragraphs 6.1.1 and 6.1.2. The requirements of paragraph 6.2 shall apply to ro-ro passenger ships constructed on or after 1 January 2026. Passenger ships with vehicle, special category or ro-ro spaces constructed before 1 January 2026 shall comply with the requirements of paragraph 6.2.3 not later than the first survey after 1 January 2028.)"

14 The following new section 6.2 is inserted after existing section 6.1 and the subsequent paragraph is renumbered accordingly:

"**6.2 Fixed water-based fire-extinguishing on weather decks intended for carriage of vehicles**

6.2.1 In passenger ships, a fixed water-based fire-extinguishing system based on monitor(s) shall be installed in order to cover weather decks intended for the carriage of vehicles. The monitor(s) shall comply with the provisions of the Fire Safety Systems Code.

6.2.2 In passenger ships, drainage shall be provided where a fixed water-based fire-extinguishing system is installed to cover weather decks intended for carriage of

vehicles. The system shall be sized to remove no less than 125% of the combined capacity of both the monitor(s) and the required number of fire hose nozzles.

6.2.3 For passenger ships built before 1 January 2026, a fixed water-based fire-extinguishing system based on monitor(s) shall be installed in order to protect areas on weather decks intended for the carriage of vehicles. Monitors shall be located in positions which ensure unobstructed protection of vehicles in the area on the weather deck intended for carriage for vehicles, as far as practicable. Operation of monitors shall be ensured by safe access ways or remote control not to be impaired by a fire in the area protected by that monitor. Capacity of each monitor shall be at least 1,250 L/min. The Administration may permit lower flow rates when the required rate is not practical given the size and arrangement of the ship. The Administration may also permit alternative arrangements for ships that have already installed a fixed water-based fire-extinguishing system based on monitor(s) prior to 1 January 2026."

15 The following new section 7 is added after existing section 6 (Fire extinction) with the associated footnotes:

"**7 Decision-making**

In passenger ships, vehicle, special category and ro-ro spaces, where fixed pressure water-spraying systems are fitted, shall be provided with suitable signage and marking on deckhead and bulkhead and on the vertical boundaries allowing easy identification of the sections of the fixed fire-extinguishing system. Suitable signage and markings shall be adapted to typical patterns of crew movement taking into consideration obstruction by cargo or fixed installations. Section number signs shall be of photoluminescent material.* The section numbering indicated inside the space shall be same as section valve identification and section identification at the safety centre or continuously manned control station.

* Refer to chapter 11 of the FSS Code for the evaluation and testing of photoluminescent material.

Regulation 23 – Safety centre on passenger ships

6 Control and monitoring of safety systems

16 The existing paragraph 6.10 is amended, as follows:

"Notwithstanding the requirements set out elsewhere in the Convention, the full functionality (operation, control, monitoring or any combination thereof, as required) of the safety systems listed below shall be available from the safety centre:

.10 fire detection and fire alarm system;"

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ANNEX 34*

DRAFT AMENDMENTS TO THE FSS CODE

CHAPTER 7
Fixed pressure water-spraying and water mist fire-extinguishing systems

2 Engineering specifications

1 The following new section 2.5 is added after existing section 2.4 (Fixed water-based fire-fighting systems for ro-ro spaces, vehicle spaces and special category spaces):

"**2.5 Fixed water-based fire-extinguishing on ro-ro passenger ships' weather decks intended for the carriage of vehicles**

This chapter details the specification of fixed water-based fire-extinguishing on ro-ro passenger ships having weather decks intended for the carriage of vehicles as required by chapter II-2 of the Convention. The requirements of this chapter shall apply to ro-ro passenger ships constructed on or after 1 January 2026.

2.5.1 The protected area shall be the entire length and width of the weather deck intended for the carriage of vehicles. The fixed monitor(s) shall be capable of delivering water to:

.1 the area of weather decks intended for carriage of vehicles; and

.2 the area, including superstructure boundaries located up to 8.0 m, measured horizontally, from the area intended for vehicle storage, or the next vertical boundaries, whichever is less.

2.5.2 The combined capacity of all fixed monitors shall be minimum 2.0 L/min per square metre of the protected area, but in no case shall the output of any monitor be less than 1,250 L/min. Even distribution of water shall be ensured.

2.5.3 The distance from the monitor to the farthest extremity of the protected area forward of that monitor shall not be more than 75% of the monitor throw in still air conditions.

2.5.4 Each monitor shall be located outside the area which it protects, in a safe position, with access not likely to be cut off in case of fire.

Monitors shall be installed in positions which allow for unobstructed water coverage with vehicles stowed to maximum capacity of the weather deck. However, areas that cannot be covered by water monitors shall be protected by water nozzles. Nozzles shall be designed and installed taking into account weather conditions and provide 5.0 L/min per square metre for the area they cover and have release controls in a position being accessible in case of a fire.

2.5.5 The system shall be available for immediate use and capable of continuously supplying water. The water supply shall be capable of simultaneously supplying water at the required rate for the entire width of the weather deck intended for carriage of vehicles and a length of 40 m, or the entire length of the weather deck if this is less

* Modifications are indicated in grey shading.

than 40 m. In no case shall the supply capacity be less than that required for the largest monitor.

2.5.6 The system may be supplied by the fire main, the pump(s) serving other fixed water-based fire-fighting systems or a dedicated pump providing a continuous supply of seawater.

Where the ship's fire pumps are used to feed the monitor(s):

.1 it shall be possible to segregate the ship's fire main from the monitor(s) by means of a valve in order to operate both systems separately or simultaneously; and

.2 the capacity of the pumps shall be sufficient to serve both systems simultaneously, including two jets of water at the required pressure from the fire main system. In case the weather deck shall also carry dangerous goods, capacity for four jets of water at the required pressure shall be provided.

Where another fixed water-based fire-fighting system is used to feed the monitor(s):

.3 it shall be possible to segregate the other fixed water-based fire-fighting system from the monitor(s) by means of a valve in order to operate both systems separately or simultaneously; and

.4 the capacity of the pump(s) shall, in case of open ro-ro spaces, be sufficient to serve both systems simultaneously, minimum two sections of the fixed water-based fire-fighting system being close to the openings facing weather deck and one monitor serving the weather deck. For closed ro-ro spaces and special category spaces, simultaneous operation is not required."

CHAPTER 9
Fixed fire detection and fire alarm systems

1 Application

2 The existing paragraph 1.1 is amended, as follows:

"1.1 This chapter details the specification of fixed fire detection and fire alarm systems as required by chapter II-2 of the Convention. Unless expressly provided otherwise, the requirements of this chapter shall apply to ships constructed on or after 1 July 2012. The requirements of 2.3.1.5 and 2.4.2.2 of this chapter shall apply to ships constructed on or after 1 January 2026."

2 Engineering specifications

2.3 Component requirements

3 The existing paragraphs 2.3.1.3 and 2.3.1.4 are amended to read as follows:

"2.3.1.3 Heat detectors and linear heat detectors shall be certified to operate before the temperature exceeds 78ºC but not until the temperature exceeds 54ºC, when the temperature is raised to those limits at a rate less than 1ºC per min, when tested

according to standards EN 54:2001 and IEC 60092-504. Alternative testing standards may be used as determined by the Administration. At higher rates of temperature rise, the heat detector and linear heat detector shall operate within temperature limits to the satisfaction of the Administration having regard to the avoidance of detector insensitivity or oversensitivity.

2.3.1.4 The operation temperature of heat detectors and linear heat detectors in drying rooms and similar spaces of a normal high ambient temperature may be up to 130ºC, and up to 140ºC in saunas."

4 The following new paragraph 2.3.1.5 is inserted after the existing paragraph 2.3.1.4 and subsequent paragraphs are renumbered accordingly:

"2.3.1.5 Linear heat detectors shall be tested according to standards EN 54-22:2015 and IEC 60092-504. Alternative testing standards may be used as determined by the Administration."

2.4 Installation requirements

2.4.2 Positioning of detectors

5 The existing paragraph 2.4.2.2 and table 9.1 (Spacing of detectors) therein are amended, as follows:

"**2.4.2.2** The maximum spacing of detectors shall be in accordance with the table below:

Table 9.1 – Spacing of detectors

Type of detector	Maximum floor area per detector (m^2)	Maximum distance apart between centres (m)	Maximum distance away from bulkheads (m)
Heat	37	9	4.5
Smoke	74	11	5.5
Combined smoke and heat	74	9	4.5

2.4.2.2.1 The Administration may require or permit other spacing based upon test data which demonstrate the characteristics of the detectors. Detectors located below movable ro-ro decks shall be in accordance with the above.

2.4.2.2.2 The distance between two sensor cables of the linear heat detection system shall not be more than 9.0 m, while the distance between such cables and bulkheads shall not be more than 4.5 m."

2.5 System control requirements

2.5.1 Visual and audible fire signals

6 The following new paragraphs 2.5.1.2, 2.5.1.3 and 2.5.1.4 are inserted after existing paragraph 2.5.1.1 and the subsequent paragraphs are renumbered accordingly:

"**2.5.1.2** On ro-ro passenger ships constructed on or after 1 January 2026, alarm notifications shall follow a consistent alarm presentation scheme (wording, vocabulary, colour and position). Alarms shall be immediately recognizable on the navigation bridge and shall not be compromised by noise or poor placing.

2.5.1.3 On ro-ro passenger ships constructed on or after 1 January 2026, the interface shall provide alarm addressability, allow the crew to identify the alarm history, the most recent alarm and the means to suppress alarms while ensuring the alarms with ongoing trigger conditions are still clearly visible.

2.5.1.4 On ro-ro passenger ships constructed on or after 1 January 2026, the smoke detector function in special category and ro-ro spaces may be disconnected during loading and unloading of vehicles. The time of disconnection shall be adapted to the time of loading/unloading and be automatically reset after this predetermined time. The central unit shall indicate whether the detector sections are disconnected or not. Disconnection of the heat detection function or manual call points shall not be permitted."

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ANNEX 35

RESOLUTION MSC.548(107)

INTERNATIONAL CODE OF SAFETY FOR DIVING OPERATIONS, 2023 (2023 DIVING CODE)

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO that the Assembly, when adopting, by resolution A.831(19), the *Code of Safety for Diving Systems, 1995* (1995 Diving Code), authorized the Committee to amend the Code as necessary in the light of further developments and experience gained from the implementation of the provisions contained therein,

RECALLING FURTHER that the Assembly, by resolution A.692(17), adopted *Guidelines and specifications for hyperbaric evacuation systems*, noting that hyperbaric evacuation systems were of value in certain circumstances for the rescue of divers involved in saturation diving operations where support ships might have to be abandoned,

RECALLING that, at its seventy-ninth session, it adopted, by resolution MSC.185(79), amendments to the 1995 Diving Code,

RECOGNIZING the need to ensure that provisions for diving and hyperbaric evacuation operations are kept up to date,

RECOGNIZING ALSO the need to keep the 1995 Diving Code in effect after the adoption of the International Code of Safety for Diving Operations, 2023 (2023 Diving Code), which will apply to ships of not less than 500 gross tonnage that have a diving system installed on or after 1 January 2024,

BEARING IN MIND that the Assembly, by resolution A.886(21), adopted the *Procedure for the adoption of, and amendments to, performance standards and technical specifications,* resolving that the function of adopting maritime safety-related performance standards and technical specifications, as well as amendments thereto, shall be performed by the Committee, on behalf of the Organization,

HAVING CONSIDERED, at its 107th session, the recommendation made by the Sub-Committee on Ship Systems and Equipment, at its ninth session,

1 ADOPTS the International Code of Safety for Diving Operations, 2023 (2023 Diving Code), set out in the annex to the present resolution;

2 INVITES Member States concerned to:

.1 consider the provisions of the 2023 Diving Code as recognized international provisions for the design, construction and survey of diving systems, diving units and hyperbaric evacuation systems; and

.2 take appropriate action to give effect to the 2023 Diving Code.

ANNEX

INTERNATIONAL CODE OF SAFETY FOR DIVING OPERATIONS, 2023 (2023 DIVING CODE)

PREAMBLE

1 The International Code of Safety for Diving Operations, 2023 (2023 Diving Code) has been developed to provide an international standard of safety for diving units, the application[1] of which will result in a level of safety for a diving operation on a diving platform equivalent to that required by the International Convention for the Safety of Life at Sea, 1974 (SOLAS).

2 The intent of the 2023 Diving Code is to enhance the safety of divers and diving support personnel, facilitate the international movement and operation of diving units and provide a minimum international standard for the design, construction and survey of diving units to safely support diving operations.

3 The 2023 Diving Code has been developed for all diving operations from diving units and this includes circumstances where a diving system may be temporarily installed on a diving platform.

4 The 2023 Diving Code expands the scope of the 1995 *Code of Safety for Diving Systems* (resolution A.831(19), as amended) and the *Guidelines and specifications for hyperbaric evacuation systems* (resolution A.692(17)), as set out in paragraph 1.4 of appendix 3 to this Code.

5 All diving personnel should be considered as persons on board (POB) with regard to the diving platform's normal life-saving appliances. However, divers under pressure and requiring lengthy decompression (such as those in saturation) cannot access the diving platform's normal life-saving appliances. They can only be evacuated in hyperbaric survival craft (HBSC). For the period that such divers are under pressure they do not need to be included in the number of personnel who are allocated to the diving platform's normal life-saving appliances.

6 While the 2023 Diving Code has been developed for new diving units where the diving platform is of 500 gross tonnage and above, Administrations may also consider the application of the provisions of this Code to diving platforms of lesser tonnage and of any age.

7 In order to facilitate the operation of diving units, this Code provides for a "Diving Unit Safety Certificate" (DUSC), which should be issued to every diving unit to which this Code applies. Where a diving unit is normally engaged on international voyages as defined in SOLAS, it shall, in addition, also carry SOLAS safety certificates, either:

.1 for a passenger ship with a SOLAS Exemption Certificate; or

.2 for a cargo ship with a SOLAS Exemption Certificate, where necessary, as the Administration deems appropriate.

8 Taking into account that there are some diving platforms, including fixed offshore installations, to which SOLAS does not apply but which carry out diving operations, Administrations are invited, for the purpose of consideration of the safety of diving operations, to apply the standards of the 2023 Diving Code in such circumstances to the extent deemed reasonable and practicable.

[1] This is a non-mandatory Code and its application is voluntary.

INTRODUCTION

1 Goal

The goal of the 2023 Diving Code is, especially where diving safety issues are not adequately addressed by other instruments of the Organization,[2] to:

.1 provide a minimum international standard for the design, construction, installation and survey of diving systems integrated on ships, floating structures and MODUs (hereafter referred to as diving platforms) engaged in diving operations;

.2 facilitate safe diving operations from diving platforms and achieve a level of safety equivalent to that required by SOLAS for ships engaged on international voyages; and

.3 enable the international movement and safe operation of diving units.

2 Application

2.1 The 2023 Diving Code applies to ships of not less than 500 gross tonnes that have a diving system installed on or after 1 January 2024. The date of the completed installation should be taken as the date on which the DUSC is issued. The Administration may also apply these provisions as far as reasonable and practicable to ships of less than 500 gross tonnes and to other objects acting as a diving unit to which SOLAS does not apply.

2.2 Ships that have a diving system already installed prior to 1 January 2024 should be certified as a diving unit according to this Code by the due date of the next Safety Construction Renewal Survey or equivalent. Diving systems under construction at the time of this Code coming into effect, should consider the installation date as the date the building contract of the diving system was signed.

2.3 The 2023 Diving Code does not apply to the plant and equipment required for the medical care or treatment of patients, not related to diving, in a pressure vessel for human occupancy (PVHO).[3]

2.4 The coastal State may impose additional or alternative requirements regarding the diving unit and diving operations.

2.5 Where plant and equipment are installed on a standby diving unit, the application of this Code should be considered on a case-by-case basis by the Administration.[4]

2.6 The instruments referenced in table 1 have been considered in developing the provisions of this Code. In order to meet the goal in 1.2 above, in addition to the provisions of this Code, subsequent amendments to these instruments should also be applied, to the extent

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[2] For example, by SOLAS; the LSA Code, as amended; the MODU Code, as amended; the FSS Code, as amended; the FTP Code, as amended; the Code of Safety for Diving Systems 1995, as amended; and by the *Guidelines and specifications for hyperbaric evacuation systems* (resolution A.692(17)).

[3] If required by an Administration, appropriate elements of this Code may be applied to a PVHO and associated plant and equipment installed and integrated into a vessel for medical treatment.

[4] Guidance on the requirements and certification of standby diving units available in appendix 1 (Guidance on standby diving units).

that they apply to diving, to the satisfaction of the Administration. The application of new instruments adopted after this Code has come into effect should also be considered.

IMO instrument	**Reference/Edition**	**2023 Diving Code provision**
International Convention for the Safety of Life at Sea, 1974 (SOLAS)	2020	Preamble 1, 7.1, 7.2, 8 Goal 1.2 Application 2.1 Definition 3.33 1.2, 1.3, 2.4.3.1, 3.8.3.2, 4.11.3.1, 4.11.3.5, 4.11.3.6 5.6.3.4
1995 Code of Safety for Diving Systems	Resolution A.831(19), 1995	Preamble 4 Surveys and certification 5.2.4, 5.3.3 and 5.3.4
Guidelines and specifications for hyperbaric evacuation systems	Resolution A.692(17)	Preamble 4
LSA Code	International Life-Saving Appliance Code Resolution MSC.48(66), amended by MSC.459(101)	Definition 3.25 4.9.5.2.3 4.9.5.3.2 4.15.1. 4.15.2, 4.15.3
FSS Code	Code for Fire Safety Systems as defined in SOLAS chapter II-2	Definition 3.18 4.10.3.3
FTP Code	International Code for Application of Fire Test Procedures, 2010 Resolution MSC.307(88)	Definition 3.19 3.8.3.1 4.10.3.1
MODU Code	Construction and Equipment of Mobile Offshore Drilling Units, Resolution A.1023(26), 2009	Goal 1.1 Definition 3.27 3.7.3.2
Guidelines on anchoring systems for MODUs	MSC/Circ.737	3.7.3.2

IMO instrument	Reference/Edition	2023 Diving Code provision
ISM Code	International Safety Management Code Resolution A.741(18), as amended	2.6.3.3 5.1 5.3.1, 5.3.2, 5.3.3.6 5.5.1 5.6.1
IMDG Code	International Maritime Dangerous Goods (IMDG) Code, 2020	3.5.3.5
Guidelines for the design and construction of offshore supply vessels	Resolution MSC.235(82), 2006	3.6.3.6
SPS Code	Code of Safety for Special Purpose Ships, 2008	3.6.3.2
Guidelines for the design and construction of offshore supply vessels	Resolution MSC.235(82), 2006	3.6.3.3
Guidelines for vessels with dynamic positioning systems	MSC/Circ.645	3.7.3.1
Guidelines for vessels with dynamic positioning (DP) systems	MSC.1/Circ.1580	3.7.3.1
General requirements for electromagnetic compatibility (EMC) for all electrical and electronic ship's equipment	Resolution A.813(19)	4.11.3.9
Polar Code	International Code for Ships Operating in Polar Waters Resolution MSC.385(94), 2014	5.7.3.6

Table 1: Referenced IMO instruments

3 Definitions

Unless expressly provided otherwise, for the purpose of this Code, the terms used have the meanings defined in the following paragraphs.

3.1 *Administration* means the Government of the State whose flag a ship or floating structure which carries a diving system is entitled to fly or in which the ship or floating structure is registered.

3.2 *Breathing gas/breathing mixture* means all gases/mixtures of gases which are used for breathing during diving operations.

3.3 *Category A machinery spaces* are those spaces and trunks to such spaces as defined in the International Convention for the Safety of Life at Sea, 1974, as amended.

3.4 *Certificate* means Diving Unit Safety Certificate (DUSC).

3.5 *Coastal State* means the Government of the State exercising administrative control over the diving operations of the diving unit.

3.6 *Cylinder* means a pressure container for the storage and transport of gases under pressure.

3.7 *Daughter-craft* means a workboat deployed from and/or operating in conjunction with a diving platform; the workboat is used to deploy divers into and recover them from the water.

3.8 *Dive basket* (synonymous with diving basket, diving stage or diving cage) means a diver deployment and recovery device normally designed with an open cage structure.

3.9 *Diving depth* means the depth of water or equivalent pressure to which the diver is exposed at any time during a dive or inside a pressure vessel for human occupancy (PVHO).

3.10 *Diving bell* (synonymous with closed bell and submersible decompression chamber) means a submersible pressure vessel for human occupancy (PVHO), including its fitted equipment, for transfer of diving personnel between the work location and the surface compression chamber.

3.11 *Diving operation* means a planned activity where one or more persons are exposed to a pressure greater than 100 mbar above atmospheric pressure and which is supported by a pressure vessel for human occupancy (PVHO) and/or a launch and recovery system (LARS).

3.12 *Diving organization* means the legal entity responsible for conducting a diving operation.

3.13 *Diving platform* means the ship, floating structure or mobile offshore drilling unit (MODU) from which a diving operation is being conducted.

3.14 *Diving system* means the whole plant and equipment necessary for the conduct of diving operations and for the evacuation of divers.

3.15 *Diving system internal muster point* means the location within the surface compression chamber complex where the divers gather before entering the hyperbaric survival craft (HBSC) access trunking.

3.16 *Diving unit* means the combined diving system and diving platform, installed and integrated to conduct diving operations.

3.17 *Essential services* means the services for maintaining the diving system functionality with regard to the safety, health and environment of the divers in a hyperbaric environment and at the worksite.

3.18 *FSS Code* means the International Code for Fire Safety Systems, as defined in SOLAS chapter II-2.

3.19 *FTP Code* means the International Code for Application of Fire Test Procedures, 2010 (2010 FTP Code), as defined in SOLAS chapter II-2.

3.20 *Hazardous areas* are those locations in which an explosive gas-air mixture is continuously present, or present for long periods (zone 0); in which an explosive gas-air mixture is likely to occur in normal operation (zone 1); in which an explosive gas-air mixture is not likely to occur, and if it does it will only exist for a short time (zone 2).

3.21 *Hyperbaric evacuation* means the emergency transport of divers under pressure from a diving unit to a place of safety where planned decompression can be completed.

3.22 *Hyperbaric survival craft* (HBSC) means a pressure vessel for human occupancy (PVHO) and associated support plant and equipment whereby divers under pressure can be safely evacuated from a diving unit until recovered to a position where planned decompression can be completed.

3.23 *Launch and recovery system* (LARS) means the plant and equipment necessary for lowering, raising and transporting divers between the diving platform and/or the surface compression chamber into and from the sea or onto a support vessel, as the case may be. These systems are used for the deployment and recovery of dive baskets, wet bells, diving bells, daughter-craft and HBSC.

3.24 *Living compartment* means the part of the surface compression chamber which is intended to be used as the main habitation for the divers during diving operations and which is equipped for such purpose.

3.25 *LSA Code* means the International Life-Saving Appliance Code, as defined in SOLAS chapter III.

3.26 *Mating device* means the equipment necessary for the connection and disconnection of a diving bell or an HBSC to a surface compression chamber.

3.27 *MODU Code* means the Code for the Construction and Equipment of Mobile Offshore Drilling Units, adopted by resolution A.1023(26), as amended.

3.28 *Organization* means the International Maritime Organization (IMO).

3.29 *Place of safety* means a location where rescue operations are considered to terminate. It is also a place where the survivors' safety of life is no longer threatened and their basic human needs (such as food, shelter and medical/decompression needs) can be met. A place of safety may be on land, or it may be on board a rescue unit or facility at sea that can serve as a place of safety until the survivors are disembarked to their next destination. An assisting ship should not be considered as a place of safety solely on the fact that survivors are on board as it may not have appropriate facilities and equipment to sustain the survivors.

3.30 *Pressure vessel* means a container capable of withstanding an internal maximum working pressure greater than or equal to 1 bar.

3.31 *Pressure vessel for human occupancy* (PVHO) means a container intended to be occupied by one or more persons that is capable of withstanding an internal or external pressure differential exceeding 0.14 bar (2 psi).

3.32 *Saturation diving* means a method of diving, using PVHO, that allows divers to remain in the pressurized environment long enough for their body tissues to become saturated with the inert components of the gas mixture they are breathing.[5]

3.33 *SOLAS* means the International Convention for the Safety of Life at Sea, 1974.

3.34 *Standby diving unit* means a ship carrying plant and equipment solely to assist in the rescue of divers from another diving unit or units.

3.35 *Surface compression chamber* means a PVHO installed on the diving platform with means of controlling the pressure inside the chamber.

3.36 *Surface compression chamber complex* means a series of mechanically connected PVHOs including all associated trunkings.

3.37 *Surface orientated diving* means a method of diving in which it is not planned for the diver(s) to become saturated. The divers may be deployed using a dive basket, wet bell or diving bell or, for shallow dives, directly from the diving platform, depending on what water access is available.

3.38 *Temporary diving system* means a diving system installed on a diving platform for a period not exceeding one year.

3.39 *Umbilical* means the link between a PVHO, wet bell or diver and the rest of the diving system and may contain surveillance, communication and power supply cables, breathing gas and hot water hoses. The hoisting and lowering strength member may be part of the umbilical.

3.40 *Water depth* means the depth of the water in which the diving platform is operating.

3.41 *Wet bell* means a diver deployment and recovery device as a minimum fitted with a gas filled dome, a main supply umbilical from the surface (providing breathing gas and other service to a manifold inside the device), and diver excursion umbilicals terminated at the device.

4 Alternative arrangements

In order that research and development is not restricted by the 2023 Diving Code, an Administration may accept alternative arrangements which embody features, or designs, of a novel kind. Any diving unit for which such arrangements have been accepted should provide for an equivalent level of safety which, in the opinion of that Administration, is satisfactory for the operation intended and will ensure the overall safety of the diving unit and diving operation. Any such alternative arrangements accepted by the Administration should be documented on the Certificate.

5 Surveys and certification

5.1 A diving unit represents the integration of a diving system onto or into a diving platform. As the diving system and diving platform may be owned/operated by different parties, a two-part certification process is used with Part I of the Certificate for the diving unit and Part II for the diving system. A model form of the Certificate is presented at appendix 2.

[5] When saturation is reached, long decompression periods are required. As a result, divers cannot safely be brought to the surface quickly, even during an emergency.

5.2 Every diving unit should be subject to the surveys specified below:

.1 An initial survey before any diving unit is put into service or before the Certificate required under this section of this Code is issued for the first time, which should include a complete and thorough verification of the diving systems integration and arrangement with the diving platform. The integration of a diving organization's occupational health and safety management system, provision of essential services and diving system limitations listed in Part II of the Certificate are to be verified, as well as the suitability of the life-saving arrangements and the functionality of the whole diving unit.

.2 Where a diving system has already been certified to the provisions of this Code, the status of that certification should be confirmed to be acceptable to the Administration.

.3 Where the DUSC Part II requires an installation survey by the certifying authority of the diving system, this should be completed prior to issuing the DUSC Part I.

.4 Where an existing diving system is not certified in accordance with the *Code of Safety for Diving Systems, 1995* (resolution A.831(19)), a DUSC Part II may be issued with validity no longer than 1 January 2029 clearly stating which provisions under 4.3.3 of the Code cannot be confirmed as alternative arrangements for the consideration of the Administration issuing Part I.

.5 A renewal survey at intervals specified by the Administration, but not exceeding five years, which should be a complete and thorough verification to ensure that the diving unit, including the diving system, fully complies with the applicable provisions of this Code.

.6 An annual survey within three months before or after each anniversary date of the Certificate so as to ensure that the diving unit, including the diving system, remains in compliance with the applicable provisions of this Code and are in good working order. Such annual survey should be endorsed on the Part I of the Certificate issued under the provisions of this section.

5.3 Every diving system forming part of a diving unit should be subject to the surveys specified below:

.1 An initial survey before being put into service as part of a diving unit or before Part II of the Certificate required under this section of this Code is issued for the first time, which should include verification of the diving system, equipment, fittings, arrangements and material and which should be such as to ensure their full compliance with the applicable provisions of this Code.

.2 A renewal survey at intervals specified by the certifying authority, but not exceeding five years, which should be a complete and thorough examination to ensure that the diving system, equipment, fittings, arrangements and material fully comply with the applicable provisions of this Code.

.3 Where an existing diving system has already been certified in accordance with the *Code of Safety for Diving Systems, 1995* (resolution A.831(19)), as amended) then this certification may be accepted as the basis of the DUSC Part II.

.4 Where an existing diving system is not certified in accordance with the *Code of Safety for Diving Systems, 1995* (resolution A.831(19)), a DUSC Part II may be issued with validity no longer than 1 January 2029 and clearly stating the circumstances under which the Administration considers it acceptable to issue the DUSC Part II. The DUSC Part II should also state which provisions under 4.3.3 of this Code cannot be confirmed as alternative arrangements for the consideration of the Administration issuing Part I of the DUSC.

.5 An annual survey within three months before or after each anniversary date of the Certificate so as to ensure that the diving system, fittings, arrangements, safety equipment and other equipment remain in compliance with the applicable provisions of this Code and are in good working order. Such annual survey should be endorsed on Part II of the Certificate issued under the provisions of this section.

.6 When a temporary diving system is demobilized, the surveys above may be carried out as far as practicable and endorsed on the Certificate as above. However, upon a remobilization all surveys that were not practicable to carry out while demobilized should be completed and Part II of the Certificate endorsed accordingly.

5.4 An inspection, either general or partial according to the circumstances, should be made every time a defect is discovered or an accident occurs which affects the safety and certification of the diving system or whenever a significant repair or alteration is made. The inspection should be such as to ensure that the repairs or alterations carried out have been done effectively and are in all respects in full compliance with the applicable provisions of this Code.

5.5 Surveys and inspections should be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it. In every case the Administration concerned should fully guarantee the completeness and efficiency of the surveys.

5.6 After any survey or inspection under this section has been completed, no significant change should be made in the diving unit without the agreement of the Administration or any person or organization duly authorized by it, except the replacement of equipment and fittings to the equivalent specification for the purpose of repair or maintenance.

5.7 After survey or inspection, a Certificate should be issued either by the Administration or any person or organization duly authorized by it after survey or inspection to a diving unit which complies with the provisions of this Code. In every case the Administration should assume full responsibility for the Certificate.

5.8 The Certificate should be drawn up in the official language of the Administration in the form corresponding to the model given in appendix 2 to this Code. If the language used is neither English, French nor Spanish, the text should include a translation into one of these languages.

5.9 Any alternative arrangements granted under section 4 above should be clearly noted on the Certificate.

5.10 A Certificate should be issued for a period specified by the Administration, and should not exceed five years from the date of issue.

5.11 An extension of the validity of the Certificate may be granted for a maximum period of five months at the discretion of the Administration, subject to an annual survey being carried out.

6 Control

6.1 Every diving system or diving unit, issued with a Certificate under section 5.1 or 5.2 of this Code, is subject, while under the control of an Administration other than that which has issued the Certificate, to control by officers duly authorized by that Administration for verification that the Certificate is valid. Such Certificate should be accepted unless there are clear grounds for believing that the condition of the diving system or diving unit or its equipment does not correspond substantially with the particulars of that Certificate. In that case, the officer carrying out the control may take such steps as will allow the diving unit to operate on a temporary basis without undue risk to the divers and the personnel on board. In the event of this control giving rise to intervention of any kind, the officer carrying out the control should inform the Administration or the Consul or in their absence, the nearest diplomatic representative of the State in which the diving unit is registered, in writing forthwith of all circumstances on the basis of which intervention was deemed to be necessary.

6.2 Notwithstanding paragraph 6.1, the provisions of this Code are without prejudice to any rights of the coastal State under international law to impose its own provisions relating to the regulation, surveying and inspection of diving units engaged, or intending to engage, in diving operations on those parts of the seabed and subsoil over which that State is entitled to exercise sovereign rights.

7 Structure of the Code

This Code contains provisions for the suitability of ships, floating structures and MODUs as platforms for diving systems, the design and testing of diving equipment and plant, and the conduct of diving operations including hyperbaric evacuation. Appendix 1 contains additional guidance on the implementation of these provisions.

1 CHAPTER 1 – GENERAL

1.1 Structure of this Code

Each chapter consists of the overall goal of the chapter, functional criteria to fulfil the goal and provisions. A system or operational plan should be considered to meet the functional criteria set out in this Code when the design or arrangements comply with all the provisions associated with those functional criteria.

1.2 Certificate and survey

1.2.1 Every diving unit engaged in diving operations to which this Code applies should have a DUSC Part I. Every diving system used in conjunction with a diving unit should have a DUSC Part II.

1.2.2 The DUSC should be issued after an initial or renewal survey of a diving unit and/or diving system which complies with the relevant provisions of this Code.

1.2.3 The Certificate referred to in this Code should be issued either by the Administration or by any person or organization recognized by it in accordance with SOLAS regulation XI-1/1. In every case, that Administration assumes full responsibility for the certificate.

1.2.4 The DUSC should be drawn up in the form corresponding to the model given in appendix 2 to this Code. If the language used is neither English, French nor Spanish, the text should include a translation into one of these languages.

1.3 Performance standards

Unless expressly provided otherwise, systems and equipment addressed in this Code should satisfy equivalent performance standards to those referred to in SOLAS.

2 CHAPTER 2 – DIVING UNIT PRINCIPLES – REDUNDANCY AND INTEGRATION

2.1 Goals

The goal of this chapter is to define the overall redundancy and integration provisions for the diving unit when integrating the diving system into the diving platform.

2.2 Functional criteria

In order to achieve its goal, this chapter embodies the following provisions.

2.3 Redundancy level and risks external to the diving activity

2.3.1 Goal

The goal of this section is to ensure that the diving unit has sufficient redundancy suitable for its intended operation and for all diving system equipment critical to life support, considering all relevant internal and external risk factors.

2.3.2 Functional criteria

In order to achieve the goal set out in section 2.3.1 above:

.1 the technical level of fault tolerance in the diving unit plant and equipment should be matched to the safety-critical aspects of the intended operation and define any additional levels of redundancy; and

.2 interactions with other objects and non-diving activities both on board and external to the diving unit should not reduce the designed redundancy level.

2.3.3 In order to comply with the functional criteria of section 2.3.2 above, the following apply:

.1 When working on subsea objects where the termination of diving operations may lead to additional risks to the environment or other personnel, the redundancy of the diving unit should be at a level to cover the risks to both the diver and the environment.

.2 When working on subsea objects where the termination of diving operations may be achieved safely without risk at any time, the systematic review required under section 2.4 is considered to achieve an acceptable level.

.3 Where another onboard activity also requires access to systems or services supporting the diving activity, these should be separated as far as possible. Where these cannot be separated, failures within the other activity's equipment should be included within a systematic review required under section 2.4.

.4 Where communication, signals or other information are critical to safe diving unit operation, but originate externally to the diving unit or from a non-diving activity, the redundancy of these should be addressed in the systematic review required under section 2.4.

.5 Any findings from the above are to be clearly identified within the systematic review required under section 2.4.

2.4 Redundancy and essential services

2.4.1 Goal

The goal of this section is to ensure that the diving unit can tolerate failures without creating a hazardous situation.

2.4.2 Functional criteria

In order to achieve the goal set out in section 2.4.1 above, the diving unit should be designed and tested to ensure and verify that it is sufficiently safeguarded against failures creating a hazardous situation in terms of:

.1 failure of components and systems;

.2 loss of any services to the diving unit; and

.3 inadvertent and intentional acts,

and to ensure that:

.4 the criticality of components and systems is identified;

.5 the designed level of redundancy is maintained throughout the service life; and

.6 mitigations are suitably documented and accessible to the operator.

2.4.3 In order to comply with the functional criteria of section 2.4.2 above, the following apply:

.1 All services supporting the divers directly, including environmental control, should be considered as essential services as per SOLAS chapter II-1.

.2 The essential services listed in Part II of the DUSC should be specially considered in relation to the diving platform supply arrangements and all consumer demands.

.3 No single failure of a component, either static or dynamic, nor a single inadvertent act should lead to life-threatening situations for any person, or to unacceptable damage to facilities or the environment. However, where a failure mode of a system or component cannot be addressed by redundancy, either:

.1 independent backup arrangements should be provided (e.g. in the case of umbilical separation); or

.2 the system or component should be designed and built to recognized national or international standards that have appropriate safety factors for manned application in similar service conditions (e.g. PVHO rupture).

.4 Essential services for divers in the water should have sufficient redundancy to ensure the divers can return to a safe haven within the diving bell or basket.

.5 Essential services for divers located in a diving bell or basket should have sufficient redundancy to ensure the diver can return to a safe haven within the diving unit.

.6 Essential services for divers in the diving unit should have sufficient redundancy to ensure that all planned decompressions can be completed at the planned normal rate. The ability to provide hyperbaric medical care should not be adversely affected.

.7 Emergency services should not replace the required redundancies. Emergency services should allow divers within the diving system or in the water to safely evacuate the diving unit.

.8 Emergency power services should be available to provide services to the surface compression chamber complex in order to complete the normal planned decompression without main power.

.9 A systematic risk review of the diving unit is to be carried out in order to ensure compliance with the designed redundancy level and the suitability of emergency services.

.10 The systematic risk review should consider:

.1 failure of a normally static component;

.2 failure of an active component or system;

.3 loss of any services to the diving unit; and

.4 inadvertent and intentional acts.

.11 The systematic risk review should be confirmed by a test programme, performed when the diving system is first installed, that clearly describes the expected behaviour of the diving unit and includes all necessary procedures to allow later testing to confirm the ongoing redundancy.

.12 The diving unit systematic risk review should take into consideration already prepared reviews for the diving platform and diving system.

.13 The systematic risk review and corresponding test programme should be fully documented and maintained available on board the diving unit. The test programme should establish intervals for testing acceptable to the Administration to ensure redundancy levels are maintained.

.14 Mitigations:

.1 Probability assessment as a means of mitigation is not acceptable without the availability of suitable industry data applicable for personnel safety levels. Such data should also be applicable to marine conditions.

.2 Any mitigations that are based on repairs should be assessed/tested against time assumptions. Ensuring access to spares in an acceptable timescale is to be included in documentation required in chapter 5.

.3 Any failures that allow compliance with 2.4.3.3 and 2.4.3.4 above, but leave the diving unit below the designed redundancy level should be identified to ensure such failures will result in termination of appropriate operations.

.4 Mitigations or potential hidden failures that are controlled by inspection and testing are to be addressed by maintenance routines.

2.5 Enabling evacuation and protection from external events

2.5.1 Goal

The goal of this section is to provide a basis for reviewing the suitability of the diving unit to enable the diving system to withstand accidental events originating elsewhere in the diving platform and also to allow recovery and safe evacuation of divers.

2.5.2 Functional criteria

In order to achieve the goal set out in section 2.5.1 above:

.1 the diving unit design should be such that a survivable incident elsewhere on the diving unit does not force the divers to evacuate the diving unit by way of the HBSC; and

.2 the diving unit should provide protection so as to allow the divers sufficient time to be recovered and evacuated taking into account the type of diving operations.

2.5.3 In order to comply with the functional criteria of section 2.5.2 above, the following applies:

.1 A fire or flooding event in any single compartment outside the diving system should not interrupt essential services.

.2 The diving system should be physically separated and protected from the rest of the diving unit with suitable structural fire protection to allow a full evacuation of the divers.

.3 The provisions for a diving platform carrying out saturation diving operations, are intended to provide 60 minutes for evacuation. This time should account for:

.1 recovery of the bell and mating with the chamber complex;

.2 pressurization time required to evacuate divers at differing diving depths; and

.3 moving divers to the HBSC and subsequent launch and clear.

The evacuation procedure, including pressurization, should be tested and timed to ensure it is within this time limit. Should this not be possible, depth limitations should be introduced.

.4 For surface orientated diving systems (not those including planned surface decompression) evacuation should be completed within 15 minutes. This time should account for:

.1 emergency decompression from the deepest treatment depth;

.2 moving divers and any required medical supplies to the diving platform's life-saving appliances; and

.3 subsequent launch of the life-saving appliance and until it is clear of the diving unit. The evacuation procedure including pressurization should be tested and timed to ensure it is within this time limit. Should this not be possible, structural fire protection should be added to protect the diving system.

.5 For surface orientated diving systems with planned surface decompression that are unable to evacuate the diver within 15 minutes, the diving system should be protected as for saturation diving (see 2.5.3.3) and allow decompression and evacuation within 60 minutes. If this cannot be achieved with the planned or emergency decompression schedule, an HBSC should be provided.

2.6 Integration of the diving system and diving platform to create the diving unit

2.6.1 Goal

The goal of this section is to provide a basis for ensuring that integration of the diving system into the diving platform is managed and documented.

2.6.2 Functional criteria

In order to achieve the goal set out in section 2.6.1 above, the boundaries of the diving system and the diving platform are to be defined allowing them to function as a diving unit.

2.6.3 In order to comply with the functional criteria of section 2.6.2 above, the following applies:

.1 A block diagram showing the diving system located on board the diving platform should be produced.

.2 Any service or supply to or from the diving system should be marked at the boundary location including specifications of the supply and its status as an essential service. All systems that are affected by the marked supplies are to be tested after integration.

.3 The provisions of this Code, in particular chapter 5, are verified by the diving platform company in compliance with the ISM Code part B. Chapter 5 should be considered the equivalent of a mandatory code when reviewing the ISM Code part A, 1.2.3.1.

.4 Mustering locations and evacuation plans, particularly if diving platform crew will man the HBSC, should be reviewed.

.5 The performance of life support and environmental controls for the diving system should be verified after integration.

.6 The integrated diving unit should be tested as provided for in section 2.4.

3 CHAPTER 3 – OPERATIONAL CAPABILITIES AND LIMITATIONS OF DIVING PLATFORMS FOR CONDUCTING SAFE DIVING OPERATIONS

3.1 Goals

The goal of this chapter is to define the operational capabilities and limitations of a diving platform from which safe diving operations will be conducted.

3.2 Functional criteria

In order to achieve its goal, this chapter embodies the following provisions:

3.3 Geographic location and environmental conditions

3.3.1 Goal

The goal of this section is to ensure that the diving unit is capable of conducting safe diving operations, including any necessary hyperbaric evacuation, in the anticipated environmental conditions.

3.3.2 Functional criteria

In order to achieve the goal set out in section 3.3.1 above, the diving unit should provide full functionality under the anticipated environmental conditions, taking into account:

.1 diving platform response;
.2 air temperature range (minimum and maximum);
.3 solar radiation;
.4 water depth;
.5 water temperature range (minimum and maximum); and
.6 wind and sea state.

3.3.3 In order to comply with the functional criteria of section 3.3.2 above, the following applies:

.1 The diving unit should provide full functionality to the intended diving depth in the anticipated environmental conditions.

.2 The diving unit should have a safe operating envelope defined for the intended operational diving conditions and for standby conditions when divers are not operating in the water. These operational limits are determined from the limiting criteria of the combined diving system and diving platform.

3.4 Structural integrity and imposed loads

3.4.1 Goal

The goal of this section is to define the minimum standards for diving platform structural loads, imposed loads and connections.

3.4.2 Functional criteria

In order to achieve the goal set out in section 3.4.1 above, the following functional criteria are embodied in the provisions of this section. Supporting structures should:

.1 ensure that the surface compression chamber complex is adequately supported and not subjected to imposed loads due to deck loading or deflection;

.2 allow for any expansions or contractions of the surface compression chamber complex due to pressure and temperature changes;

.3 support the surface compression chamber complex in all required service conditions including damage conditions and in the event of a collision; and

.4 for launch and recovery systems (LARS), be designed to withstand imposed loads expected in the worst environmental design conditions at its installed position on the diving platform.

3.4.3 In order to comply with the functional criteria of section 3.4.2 above, the following apply:

.1 Supporting structures should be designed, constructed and tested in accordance with international or national standards recognized by the Administration or proprietary specifications acceptable to the Administration.[6]

.2 Loads applied to the surface compression chamber complex should be based on the same probability level as the global strength for the diving platform.

.3 Collision loads should be at least one half the weight of the surface compression chamber complex in the forward direction and one quarter the weight in the aft direction.

3.5 Placement and configuration of diving system on diving platform

3.5.1 Goal

The goal of this section is to ensure that diving systems are placed and configured on diving platforms so as to ensure the safe operation of the diving unit.

[6] Such as those of a recognized classification society which has rules for diving systems acceptable to the Administration.

3.5.2 Functional criteria

In order to achieve the goal set out in section 3.5.1 above, the following functional criteria are embodied in the provisions of this section:

.1 The diving unit should be configured such that propulsion, anchoring and mooring systems or intakes do not pose a risk to the diving operation.

.2 When any part of the diving system is sited on deck, particular consideration should be given to providing reasonable protection from the sea, icing, solar radiation, dropped objects, lifting operations or any damage which may result from other activities on board the diving platform.

.3 The diving system should be protected from hazardous gases and materials.

.4 Gases required by the diving system should be stored in a safe manner.

.5 Pressure vessel for human occupancy (PVHO) occupants should be protected from noise and vibration produced by diving platform systems.

.6 Personnel on the diving platform should be protected from noise and vibration created by the diving operation.

.7 The HBSC should be protected from impacts and green seas.

.8 Gases vented from the diving system should be vented to a safe position where they cannot accumulate.

3.5.3 In order to comply with the functional criteria of section 3.5.2 above, the following apply:

.1 The diving systems and breathing gas storage facilities should not be sited in machinery spaces if the machinery is not associated with the diving system. Gases required by the diving system should be stored and distributed in a safe manner.

.2 Siting of diving systems in hazardous areas should be avoided as far as reasonably practicable. Where, due to the requirements of diving operations, systems are sited in hazardous areas, the electrical equipment should comply with the requirements for such equipment in the particular class of hazardous areas. Diving systems should not be permitted in hazardous areas designated as Zone 0.[7]

.3 HBSC are to be stored inboard of the diving platform's sides. When an HBSC is on the main deck or near the waterline then risk of impacts and green seas should be considered.

.4 Diving systems on open decks should not be located in the vicinity of ventilation openings from machinery spaces, exhausts or ventilation outlets from galley.

[7] Diving systems should not be permitted in hazardous areas designated as Zone 0 in IEC 60079-10-1 and electrical equipment should be suitable for the Zone in which it is located.

.5 If any dangerous goods as defined by the International Maritime Dangerous Goods Code (IMDG Code), as amended, are to be carried on deck, there should be a specific assessment of risks to the diving system and the necessary measures should be put in place to mitigate these risks.

.6 Gases vented from the diving system should be vented to the open air away from sources of ignition, personnel or any area where the presence of those gases could be hazardous.

.7 Means should be provided to prevent any hazardous accumulation of gases. The discharge from overpressure-relief devices and exhausts should be directed to a location where any risk is minimized.

.8 The diving system and breathing gas storage and distribution facilities should be arranged in compartments or locations which are adequately ventilated.

.9 Piping and gas distribution systems carrying mixed gas with oxygen content greater than 22% or oxygen under high pressure should not be inside living compartments, engine rooms or similar compartments. Piping systems should comply with applicable international or national regulations, be separated from electrical cables and be protected from damage.

.10 Where gas mixtures with oxygen content less than 20% or higher than 22% are stored in enclosed compartments, there should be means of analysing the atmosphere inside the compartment with an audiovisual high/low-level alarm mounted at the entrance to such compartments. The alarm should be repeated at a manned control station for the diving platform.

.11 Diving systems should be sited such that during diving operations the noise and vibration exposure of personnel on the diving platform, PVHO occupants and operators, is within occupational exposure limits acceptable to the Administration.

3.6 Subdivision and stability

3.6.1 Goal

The goal of this section is to ensure that, with the diving system, project plant and equipment on board, the diving platform should:

.1 not be liable to heel excessively or capsize in the anticipated environmental conditions; and

.2 provide all personnel (including divers) with sufficient time to carry out an orderly evacuation should this become necessary.

3.6.2 Functional criteria

In order to achieve the goal set out in section 3.6.1 above, the following functional criteria are embodied in the provisions of this section. The diving platform should provide:

.1 a stable platform for the continued operation of the surface compression chamber or surface compression chamber complex and be able to recover any item deployed by a LARS after sustaining damage that may be expected in the operational area; and

.2 increased protection to allow divers to be recovered from their operational location and allow sufficient time to carry out a safe evacuation.

3.6.3 In order to comply with the functional criteria of section 3.6.2 above, the following apply (or alternative codes providing the same performance for diving units other than ships):

.1 The diving unit should be able to recover any diving basket, wet bell or diving bell deployed by a LARS after sustaining side damage within the extents given in the *Guidelines for the design and construction of offshore supply vessels, 2006* (resolution MSC.235(82), as amended). The final list and trim in these conditions should be within the design limits of list and trim for the LARS system; ballasting post damage may be used as a means to achieve this.

.2 The diving unit should comply with the damage stability requirements given in the Code of Safety for Special Purpose Ships, 2008, as amended at the appropriate R value.

.3 Essential diving equipment, including that on or above main deck, should remain accessible and operable in any stage of flooding for compliance with 3.6.3.1 and 3.6.3.2 above. Equipment below the main deck for Special Purpose Ships will be considered protected if watertight bulkheads are provided fore and aft and side divisions are provided equivalent to that required under the *Guidelines for the design and construction of offshore supply vessels, 2006* (resolution MSC.235(82), as amended).

.4 Diving units only conducting surface orientated diving should comply with the requirements for cargo ships, as a minimum.

3.7 Position keeping

3.7.1 Goal

The goal of this section is to ensure that the diving unit maintains position when conducting diving operations.

3.7.2 Functional criteria

In order to achieve the goal set out in section 3.7.1 above, the following functional criterion applies:

Where divers enter the water directly from the diving platform,[8] a position keeping system is required that does not expose any divers working subsea to an unsafe situation in the event of a single failure.

3.7.3 In order to comply with the functional criterion of section 3.7.2 above, the following apply:

.1 Where a dynamic positioning system is used, this is to be at least of equipment class 2, for vessels and in accordance with the *Guidelines for vessels with dynamic positioning systems* (MSC/Circ.645) or the *Guidelines for vessels with dynamic positioning (DP) systems* (MSC.1/Circ.1580), as appropriate.

[8] For this a daughter-craft is not considered to be the diving platform.

.2 Where mooring systems with anchors are used, these should comply with the MODU Code, chapter 4.12, with reference to the *Guidelines on anchoring systems for MODUs* (MSC/Circ.737).

3.8 Fire safety

3.8.1 Goal

The goal of this section is to define the minimum fire safety standards needed for the diving unit to conduct safe operations.

3.8.2 Functional criteria

In order to achieve the goal set out in section 3.8.1 above, the following functional criteria are embodied in the provisions of this section:

.1 protection of pressure vessels in the diving system from excessive heat;

.2 protection of essential equipment supplying the diving system from fires originating in the rest of the diving platform; and

.3 suitable fire detection and extinguishing within the diving system, which affords sufficient protection for control station operators and divers to carry out a safe evacuation.

3.8.3 In order to comply with the functional criteria of section 3.8.2 above, the following apply:

.1 Non-metallic materials used in connection with the diving system should be, as far as is reasonably practicable, of fire-retardant type and non-hazardous in accordance with the FTP Code, parts 2 and 5, as amended.

.2 Compartments in the interior of the diving platform in which the diving system or its auxiliary equipment is carried should be provided with 60 class standard structural fire protection arranged to protect against an external fire (SOLAS chapter II-2: Construction – Fire protection, fire detection and fire extinction).

.3 When diving systems are installed on open decks or similar structures that are directly adjacent to Category A machinery spaces, the systems are to be separated from the machinery spaces by A-60 class bulkheads or decks.

.4 Piping and cables essential for the operation of the diving system are regarded as part of the system. Where these transit from other compartments such as the main switchboard room or engine-room into an outer area, they should be laid in separate structural ducts insulated to A-60 class standard.

.5 Enclosed spaces containing essential diving equipment, such as surface compression chambers, diving bells, gas storage, compressors and control stands, should be covered with an automatic fire detection and alarm system and a fixed fire-extinguishing system.

.6 When diving system pressure vessels are situated in enclosed compartments, to provide appropriate cooling a manually actuated water spray system, having an application rate of 10 l/m² per minute of the horizontal projected area, should be provided to cool and protect such

pressure vessels in the event of external fire. When pressure vessels are situated on open decks, fire hoses may be considered as providing the necessary protection.

.7 Surface orientated diving systems that do not include planned surface decompression do not need to comply with 3.8.3.2 and 3.8.3.5 above.

3.9 Electrical power

3.9.1 Goal

The goal of this section is to define the minimum electrical power standards needed for the diving unit to conduct safe operations.

3.9.2 Functional criteria

In order to achieve the goal set out in section 3.9.1 above, the following functional criterion applies:

The diving unit should be provided with an electrical power supply capable of supporting all essential services in the diving system for all planned operations, including evacuation, and in the event of any single failure in the electrical power supply system that would lead to a hazardous situation.

3.9.3 In order to comply with the functional criterion of section 3.9.2 above, the following apply:

.1 All electrical equipment and installation, including electrical power supply arrangements, should be designed for the environment in which they will operate to minimize the risk of fire, explosion, electrical shock, emission of toxic gases to personnel and galvanic action of any pressure vessel or PVHO.

.2 In the event of failure of the main source of electrical power to the diving system, an independent source of electrical power should be available for the safe termination of the diving operation. It is admissible to use the diving platform's emergency source of electrical power as an emergency source of electrical power if it has sufficient electrical power capacity to supply the diving system and the emergency load for the diving platform at the same time.

.3 Any alternative source of electrical power should be located outside the machinery casings to ensure its functioning in the event of fire or other casualty causing failure to the main electrical installation.

.4 Adequate means of normal and emergency lighting should be provided to allow full operation of the diving system during planned operations, decompression and emergency situations.

3.10 Other services

3.10.1 Goal

The goal of this section is to define the minimum standards of the essential and other services needed for the diving unit to conduct safe operations.

3.10.2 Functional criteria

In order to achieve the goal set out in section 3.10.1 above, the following functional criteria apply:

.1 the diving unit should be able to support all essential services required by the diving system, including in the event of a failure that may result in a hazardous situation; and

.2 all services should be configured to allow safe transfer to or from the diving system.

3.10.3 In order to comply with the functional criteria of section 3.10.2 above, the following apply:

.1 services essential to the diving system should also have separate independent backups;

.2 services should be configured so as to prevent hazardous transfer of material or power to or from the diving system; and

.3 all essential services required by the diving system should be in accordance with the diving system requirements.

4 CHAPTER 4 – DIVING SYSTEM DESIGN, CONSTRUCTION, INSTALLATION, TESTING AND SURVEY

4.1 Goals

The goal of this chapter is to provide a minimum international standard for the design, construction, installation, testing and survey of diving systems on diving platforms engaged in diving operations.

4.2 Functional criteria

In order to achieve its goal, this chapter embodies the following provisions.

4.3 Diving system design

4.3.1 Goal

The goal of this section is to define the design and environmental requirements needed for a diving system to conduct safe diving operations.

4.3.2 Functional criteria

In order to achieve the goal set out in section 4.3.1 above, the following functional criteria apply:

.1 Diving system design should minimize the potential and effect of human error;

.2 the diving system is to be appropriate for the environmental conditions under which it will be used, including material selection, manufacture and installation in accordance with recognized marine standards;[9]

[9] Such as those of a recognized classification society which has rules for diving systems acceptable to the Administration.

.3 there should be a systematic engineering assessment of the diving system to confirm that the equipment is adequate, fit for purpose and safe to use; and

.4 safety, control and operational requirements are to be included in design considerations.

4.3.3 In order to comply with the functional criteria of section 4.3.2 above, the following apply:

.1 as far as reasonable and practicable, a diving system should be designed to minimize the potential and effect of human error in the operation of the system, and constructed so that the failure of any single component (determined, if necessary, by an appropriate risk assessment) will not lead to a hazardous situation;

.2 diving systems and their components should be designed for the conditions under which they are certificated to operate;

.3 materials for diving system components should be suitable for their intended use;

.4 all components in a diving system should be designed, constructed, installed and tested in accordance with international or national standards recognized by the Administration or proprietary specifications acceptable to the Administration;

.5 in the design of pressure vessels, including accessories such as doors, hinges, closing mechanisms and penetrators, the effects of rough handling and accidents should be considered in addition to design parameters such as pressure, temperature, vibration and operating and environmental conditions;

.6 all components in a diving system should be so designed, constructed and arranged as to permit easy cleaning, disinfection, inspection and maintenance; and

.7 a diving system should include equipment and controls necessary for the safe performance of diving operations.

4.4 Pressure vessels for human occupancy (PVHO)

4.4.1 Goal

The goal of this section is to ensure a safe environment for personnel operating within and around a PVHO forming part of a diving system.

4.4.2 Functional criteria

In order to achieve the goal set out in section 4.4.1 this chapter embodies the following provisions.

4.4.3 Surface compression chambers

4.4.3.1 Goal

The goal of this subsection is to ensure that a PVHO used as a surface compression chamber is fit for purpose and safe to use.

4.4.3.2 Functional criteria

In order to achieve the goal set out in subsection 4.4.3.1 above, the following functional criteria are embodied in the provisions of this section. A surface compression chamber should:

.1 provide a safe and suitable environment and facilities for the persons who use it, having regard to sizing, ergonomic design and the type and duration of the diving operation;

.2 allow transfer in and out of material and personnel and where required allow separation of divers during operations; and

.3 connect to the diving bell and HBSC if used for closed-bell diving to allow the transfer of personnel.

4.4.3.3 In order to comply with the functional criteria of subsection 4.4.3.2 above, the following apply:

.1 A diving system should, as a minimum, include either one surface compression chamber with two separate compartments, or two interconnected separate chambers so designed as to permit ingress or egress of personnel while one compartment or chamber remains pressurized. Compartments should have a specified maximum number of occupants. This capacity will define the required outfitting of the compartment or chamber including the number of bunks, built-in breathing systems (BIBS) and the ergonomic design.

.2 Where a surface compression chamber is to be used in circumstances in which a person is intended to remain under pressure for a continuous period of more than 12 hours, it should be so arranged as to allow most divers to stand upright and to stretch out comfortably on their bunks. The smaller of the two compartments should be large enough for at least two persons. One of these compartments should be a living compartment.

.3 Where the chamber is intended to be occupied for more than 8 hours, fixed toilet facilities should also be provided. Toilet facilities capable of discharging the waste to the outside should be fitted with suitable interlocks.

.4 All doors should be designed to prevent accidental opening and, if any locking mechanisms is provided, it should be able to be operated from both sides.

.5 Arrangements should be provided to allow the occupants to be observed. Viewports should be protected and situated so that the risk of damage is minimized.

.6 Living compartments intended to be used for decompression, including any emergency decompression, should have a service lock through which

provisions, medicine and equipment may be passed into the chamber while its occupants remain under pressure. The dimensions of the service lock should be adequate to enable essential supplies to be transferred into the surface compression chamber.

.7 Service locks should be designed to prevent opening under pressure or being pressurized when not fully secure and, where necessary, interlocks should be provided for this purpose.

.8 The diving system should be capable of allowing the safe transfer of a person under pressure from the diving bell or HBSC to a surface compression chamber (and vice versa).

.9 Saturation systems should have facilities available to use one of the compartments to provide emergency medical treatment to an injured diver while under pressure.

4.4.4 Diving bell

4.4.4.1 Goal

The goal of this subsection is to ensure that a PVHO used as a diving bell is fit for purpose and safe to use.

4.4.4.2 Functional criteria

In order to achieve the goal set out in subsection 4.4.4.1 above, the following functional criteria are embodied in the provisions of this section. The diving bell should provide:

.1 a manned subsea working space, ergonomically sized to allow safe transfer of material and personnel;

.2 protection from damage during handling operations (e.g. deployment and recovery processes); and

.3 emergency provisions for survival and recovery if separated from the diving system.

4.4.4.3 In order to comply with the functional criteria of subsection 4.4.4.2 above, the following apply:

.1 A diving bell should provide a suitable environment and facilities for the persons who use it, having regard to the type and duration of the diving operation.

.2 Diving bells should be so designed as to provide adequate space for the number of occupants envisaged, together with any equipment carried.

.3 The diving bell should be provided with adequate protection against mechanical damage during handling operation, be equipped with one extra lifting point designed to recover the bell including ballast and equipment as well as the weight of the divers staying in the bell.

.4 Interlocks should be provided to prevent the inadvertent release of the diving bell from the surface compression chamber while the access trunking is

pressurized. The mating flange and clamp should be protected from damage at all times including during the launch and recovery stages.

.5 All doors should be designed to prevent accidental opening during normal operations. All doors should be so designed that locking mechanisms, if provided, can be operated from both sides.

.6 The diving bell should be equipped with means whereby each diver using the bell is able to enter and leave it safely as well as with means for taking a helpless diver up into a dry bell. The seating or other arrangements provided should be designed for the maximum number of occupants and provide protection to the divers.

.7 The diving bell should have a service lock through which provisions, medicine and equipment may be passed into the diving bell while its occupants remain under pressure. Service locks should be designed to prevent accidental opening under pressure and, where necessary, interlocks should be provided for this purpose. The dimensions of the service lock should be adequate to enable essential supplies to be transferred into the diving bell.

.8 Arrangements should be provided to allow the occupants to be observed and as far as practicable allow an occupant to observe divers outside the bell. Viewports should be protected and situated so that the risk of damage is minimized.

.9 For diving systems with only one diving bell, a suitable arrangement should be in place to reconnect a lost bell to the diving system and allow the divers to return safely to the surface compression chamber.

.10 A diving bell should be fitted with a manifold at a suitable point close to the main lifting attachment. The manifold should incorporate a universal set of fittings and couplers for the following services conforming to the following:

.1 ¾ inch NPT (female) – for hot water;

.2 ½ inch NPT (female) – for breathing mixture;

The manifold should also incorporate connectors for the following:

.3 internal pressure;
.4 sampling of internal gas;
.5 communication; and
.6 electrical power.

The manifold should be clearly marked and suitably protected.

4.4.5 Hyperbaric survival craft (HBSC) PVHO

4.4.5.1 Goal

The goal of this subsection is to ensure that the PVHO forming part of an HBSC is fit for purpose and safe to use.

4.4.5.2 Functional criteria

In order to achieve the goal set out in subsection 4.4.5.1 above, the following functional criteria are embodied in the provisions of this section. The HBSC should provide:

.1 a manned evacuation living compartment, ergonomically sized to allow transfer of material and divers;

.2 protection from damage during handling operations (e.g. deployment and recovery processes); and

.3 emergency provisions for survival and recovery when separated from the diving system.

4.4.5.3 In order to comply with the functional criteria of subsection 4.4.5.2 above, the following apply:

.1 The PVHO should provide a suitable environment and facilities for the persons who use it, having regard to the type and duration of the evacuation.

.2 Where the PVHO is intended to be occupied for more than 8 hours, toilet facilities should also be provided. Toilet facilities capable of discharging the waste to the outside should be fitted with suitable interlocks.

.3 The means provided for access into the PVHO should be such as to allow safe access to or from the surface compression chambers. Interlocks should be provided to prevent the inadvertent release of the HBSC from the surface compression chamber while the access trunking is pressurized. The mating flange should be adequately protected from damage at all times including during the launch and recovery stages.

.4 All doors should be designed to prevent accidental opening during normal operations and, if any locking mechanism is provided, it should be able to be operated from both sides.

.5 Arrangements should be provided to enable a helpless diver to be taken into the HBSC PVHO.

.6 The seating or other arrangements provided should be designed for the maximum number of occupants and provide an adequate degree of protection to the divers from impact collisions during launch and while the HBSC is deployed.

.7 The PVHO should have a service lock through which provisions, medicine and equipment may be passed into the PVHO while its occupants remain under pressure. Locks should be designed to prevent accidental opening under pressure and, where necessary, interlocks should be provided for this purpose. The dimensions of the service lock should be adequate to enable essential supplies to be transferred into the PVHO.

.8 Arrangements should be provided to allow the occupants to be observed. Viewports should be protected and situated so that the risk of damage is minimized.

.9 Where it is intended to carry out decompression of the divers after hyperbaric evacuation in another surface compression chamber, then consideration should be given to the suitability of the mating arrangements on that surface compression chamber. Where necessary, a suitable adapter and clamping arrangements should be provided on the HBSC conforming to figure 1 and on the other surface compression chamber (e.g. a hyperbaric reception facility) conforming to figure 2.

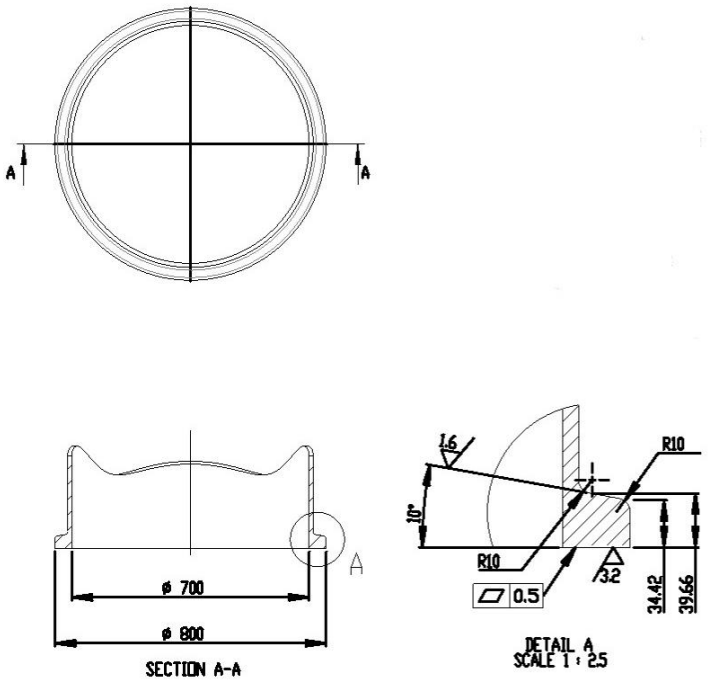

Figure 1: HBSC PVHO adapter and clamping arrangement

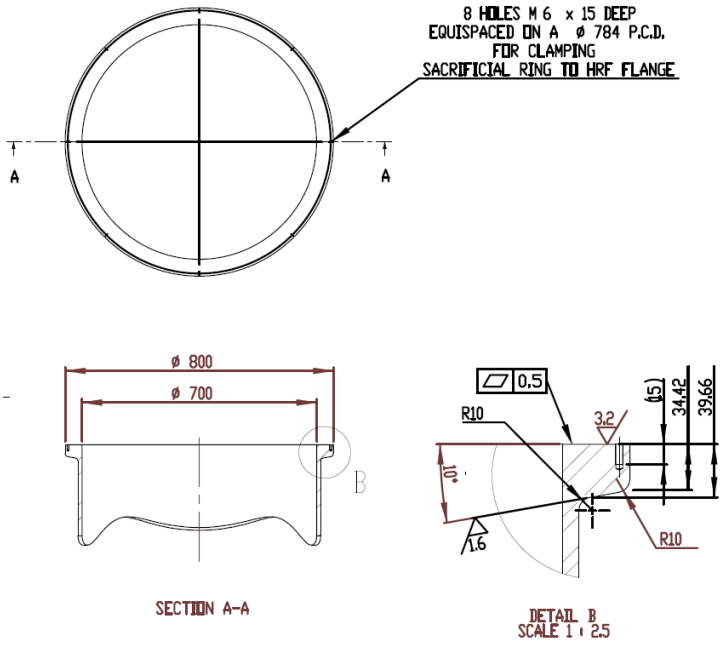

Figure 2: Hyperbaric reception facility PVHO adapter and clamping arrangement

.10 The HBSC should be fitted with a manifold at a suitable point. The manifold should incorporate international standard connections for the following services:

.1 Internal pressure (Diving depth monitoring);
.2 Communications;
.3 Electric power supply;
.4 Analysis of HBSC PVHO internal environment;
.5 Oxygen addition;
.6 Built-in breathing system (BIBS) supply;
.7 Blow-down (Pressurization);
.8 Exhaust;
.9 Hot water supply;
.10 Hot water return;
.11 Chilled water supply; and
.12 Chilled water return.

The manifold should be clearly marked and suitably protected.

.11 PVHO locks and openings that are, or may be, submerged should be designed to be mechanically restrained to prevent loss of seal and water ingress at lower hyperbaric pressures during deployment and in any sea state. This should include the effects of the hydrodynamic impacts of free-fall HBSC launch requirements.

.12 All open flange faces that may be exposed both when in air and water should be suitably protected or provided with easily replaceable sealing faces.

.13 When the HBSC is waterborne, it should be possible to access and egress the HBSC from atmospheric pressure.

4.5 Other pressure vessels not intended for human occupancy

4.5.1 Goal

The overall goal of this section is to ensure that pressure vessels not intended for human occupancy are fit for purpose and safe to use.

4.5.2 Functional criteria

In order to achieve the goal set out in section 4.5.1 above, the following functional criterion is embodied in the provisions of this section:

Ensure safe standards are used that are applicable to the environment and intended duty.

4.5.3 In order to comply with the functional criterion of section 4.5.2 above, the following apply:

.1 special attention should be paid to the design and choice of material for the construction of pressure vessels containing a volume percentage higher than 22% oxygen;

.2 oxygen and gases with an oxygen volume percentage higher than 22% should be stored in cylinders or pressure vessels exclusively intended for such gases; and

.3 all pressure vessels not intended for use as a PVHO should be suitable for the intended duty and conform to a national or international standard acceptable to the Administration for the design, construction and testing of such pressure vessels.

4.6 Wet bells and dive baskets used for the deployment and recovery of surface orientated divers

4.6.1 Goal

The overall goal of this section is to ensure that wet bells and dive baskets are fit for purpose and safe to use.

4.6.2 Functional criteria

In order to achieve the goal set out in section 4.6.1 above, the following functional criteria are embodied in the provisions of this section. A wet bell or dive basket is required to provide:

.1 protection for the diver(s) during deployment and recovery operations and to enable the recovery of a helpless diver in a controlled and safe manner; and

.2 a safe haven during subsea work, including onboard gas and for wet bell communication and lighting at the underwater dive site.

4.6.3 In order to comply with the functional criteria of section 4.6.2 above, the following apply:

.1 All diving platforms should provide for safe deployment and recovery of the divers, including during a diving emergency. During any deployment, fully dressed divers should not have to climb a ladder more than 2 m, or stairs that should be fitted with a handrail more than 4 m, down to or up from the water surface.

.2 Wet bells and dive baskets, with the exception of those specifically for a rescue diver, should be fitted out to carry a minimum of two divers. The structure should prevent the divers from falling out during operations and enable the recovery of a helpless diver while maintaining the safety of the rescue diver.

.3 For wet bell gas services, the onboard control point should ensure a primary and secondary supply to both a working diver and an in-water standby diver. A diver's bail-out is an emergency supply and not considered to be a secondary supply.

.4 A minimum of 30 minutes of onboard emergency gas at the maximum planned depth should be provided. This includes a breathing system for each diver independent of their main and bail-out diving equipment.

4.7 Pipes, valves, fittings and hoses

4.7.1 Goal

The goal of this section is to ensure that pipes, valves, fittings and hoses are fit for purpose and safe to use.

4.7.2 Functional criteria

In order to achieve the goal set out in section 4.7.1 above, the following functional criteria are embodied in the provisions of this section:

.1 the configuration of manned diving compartments and control rooms should take into account, noise, vibration, isolation devices, overpressure alarms, oxygen compatibility and the selection of appropriate material for the gases in use; and

.2 piping systems should be protected from damage or inadvertent use.

4.7.3 In order to comply with the functional criteria of section 4.7.2 above, the following apply:

.1 Pipe systems should be so designed as to minimize noise and vibration inside the PVHO during normal operation.

.2 A PVHO should be equipped with such valves, gauges and other fittings as are necessary to control and indicate the internal pressure and safe environment of each compartment from a centralized control position.

.3 Valves, gauges and other fittings should be provided outside a submerged PVHO as necessary to control and indicate the pressure and safe environment within the PVHO. The external pressure on the submerged PVHO should also be indicated inside the PVHO.

.4 All pipe penetrations on a PVHO should be fitted with two shut-off devices as close to the penetration as practicable. Where appropriate, one device should be a non-return valve. Large diameter piping should be fitted with a flow fuse isolator for exhaust valves.

.5 All PVHO which can be pressurized separately should be fitted with overpressure alarms or pressure-relief valves. If pressure-relief valves are fitted, a quick-operating manual shut-off valve should be installed between the chamber and the pressure-relief valve and should be held open with a frangible wire or equivalent. This valve should be readily accessible to the attendant monitoring the operation of the PVHO. All other pressure vessels and cylinders should be fitted with a pressure-relief device.

.6 Piping systems which may be subjected to a higher pressure than designed for should be fitted with a pressure-relief device. PVHO pressure-relief

device(s) and associated pipework should be tested for maximum gas volume flow.

.7 Non-metallic materials used in oxygen systems should be compatible with oxygen at the working pressure and flow rate.

.8 The use of high-pressure oxygen piping should be minimized by the fitting of pressure-reducing devices, as close as practicable to the storage cylinders or pressure vessels.

.9 Flexible hoses, except for umbilicals, should be reduced to a minimum.

.10 Hoses for gases containing greater than 22% oxygen should, as far as practicable, be of fire-retardant construction.

.11 Exhaust lines should be fitted with an anti-suction device on the inlet side.

.12 The function of all valves should be clearly marked, and all high-pressure piping should be well protected against mechanical damage.

.13 Piping systems containing gases with more than 22% oxygen should be treated as systems containing pure oxygen.

.14 Systems for gases containing greater than 22% oxygen with pressure greater than 1.72 bar should have slow-opening shut-off valves except pressure-boundary shut-off valves.

.15 Pressure gauge full scale, divisions and accuracy should be suitable for the application. Gauges should be positioned so that they can be easily read.

.16 Piping systems where cross-over valves are used should be designed to prevent incorrect pressure readings.

.17 Regulators and valves should be selected so as to provide the appropriate sensitivity and control for the required function.

4.8 Breathing gas supply, storage and temperature control

4.8.1 Goal

The goal of this section is to define the minimum standards for breathing gases used during diving operations.

4.8.2 Functional criteria

In order to achieve the goal set out in section 4.8.1 above, the following functional criteria are embodied in the provisions of this section. The diving unit should provide:

.1 breathing gas, at the required quantity (including primary, secondary, emergency and operational contingency supplies), quality and composition for the required depth of operation;

.2 equipment for storing and supplying appropriate breathing gases; and

.3 temperature control systems to maintain thermal balance for divers and PVHO occupants.

4.8.3 In order to comply with the functional criteria of section 4.8.2 above, the following apply:

.1 Each PVHO should be fitted with adequate equipment for supplying and maintaining the appropriate breathing mixtures to its occupants including adequate ventilation to prevent temperature differences and gas stratification, at all depths down to maximum operating depth.

.2 Equipment and surface coatings designated for use within the PVHO should not off-gas volatiles such as to create an unacceptable exposure level.

.3 When adding pure oxygen to the PVHO, a separate piping system should be provided. Internal oxygen inlets should be positioned so as to ensure appropriate mixing of oxygen within the PVHO.

.4 All breathing gases, including reclaimed and processed gases, should conform to recognized national and international standards.

.5 Breathing air intakes should be at safe distance/location from exhausts, or other sources of contamination.

.6 In addition to the system mentioned in .1 above, each PVHO should contain a separately controlled built-in breathing system for oxygen, therapeutic gas or bottom-mix gas with at least one mask per occupant stored inside each separately pressurized compartment and means should be provided to prevent any hazardous accumulation of gases. A spare mask and its inlet and outlet connection points should also be provided per compartment.

.7 PVHO should include adequate plant and equipment to maintain the divers in safe thermal balance during normal operations.

.8 In an emergency the diving bell and HBSC should be designed for survivability of at least 24 hours for the diving bell and 72 hours for the HBSC at its maximum operating depth. Provision should be made for:

.1 a self-contained breathing gas system capable of maintaining a satisfactory concentration of breathing gas including oxygen for the occupants; and

.2 equipment and controls for temperature control and thermal balance for occupants.

.9 For piping systems and gas storage cylinders/pressure vessels, the colour code in table 2 should be used.

Name	**Symbol**	**Colour code**
Oxygen	O_2	White
Nitrogen	N_2	Black
Air	Air	White and black

Name	Symbol	Colour code
Carbon dioxide	CO_2	Grey
Helium	He	Brown
Hydrogen	H_2	Red
Oxygen–helium gas mixture	O_2–He	White and brown

Table 2: Colour code for gas storage and piping systems

.10 Each cylinder/pressure vessel should be marked with the name and symbol given in 4.8.3.9 above of the gases it contains. The marking and colour coding of the gas storage cylinders should be visible from the valve end.

4.9 Diving launch and recovery systems (LARS)

4.9.1 Goal

The overall goal of this section is to ensure diving systems are equipped with suitable LARS to provide safe deployment and recovery of the divers.

4.9.2 Functional criteria

In order to achieve the goal set out in section 4.9.1 this chapter embodies the following provisions.

4.9.3 Diving bell LARS

4.9.3.1 Goal

The goal of this subsection is to ensure that diving bell diving systems are equipped with LARS, providing safe deployment and recovery of the divers between the surface compression chamber and the maximum deployment depth.

4.9.3.2 Functional criteria

In order to achieve the goal set out in subsection 4.9.3.1 above, the following functional criteria are embodied in the provisions of this section. There should be a LARS that:

.1 considers all environmental and operational conditions at the worksite; and

.2 operates such that any failure should not create a hazardous situation.

4.9.3.3 In order to comply with the functional criteria of subsection 4.9.3.2 above, the following apply:

.1 A diving system should be equipped with a LARS to ensure safe deployment and recovery of the diving bell between the surface compression chamber and the maximum deployment depth.

.2 LARS should be designed with adequate safety factors considering the environmental and operating conditions, including the dynamic loads which are encountered while handling the diving bell through the air–water interface.

.3 LARS should enable smooth and easily controllable handling of the diving bell.

.4 LARS and mating devices should enable easy and firm connection or disconnection of a diving bell to or from a surface compression chamber, even under conditions where the diving platform is rolling, pitching or listing to predetermined degrees.

.5 LARS should be equipped with mechanisms to prevent the inadvertent or inappropriate operation or overloading of any part of the diving system.

.6 The lowering of diving bells under normal conditions should not be controlled by brakes, but by the drive system of the winches.

.7 Winches used for lifting personnel should meet a standard for safe lifting of personnel acceptable to the Administration, and where the power supply to the LARS fails, brakes should be engaged automatically.

.8 In the event of a single component failure of the LARS primary means of recovery, a secondary means of recovery should be provided whereby the bell can be returned to the surface compression chamber. In addition, provision should be made for safe emergency retrieval of the bell occupants to a surface compression chamber if the primary and secondary means fail.

.9 Where a powered actuating system is used for mating operations, an auxiliary power actuating system or an appropriate alternative means should be provided to connect a diving bell to a surface compression chamber in the event of failure of the normal power actuating system.

.10 The design of LARS for diving bells should consider the protection and routeing of the diving umbilical to prevent damage.

4.9.4 Surface orientated diving LARS

4.9.4.1 Goal

The goal of this subsection is to ensure that surface orientated diving systems are equipped with LARS, providing safe deployment and recovery of the divers to and from the maximum deployment depth.

4.9.4.2 Functional criteria

In order to achieve the goal set out in subsection 4.9.4.1 above, the following functional criteria are embodied in the provisions of this section. There should be a LARS that:

.1 considers all environmental and operational conditions at the worksite; and

.2 operates such that any failure should not create a hazardous situation.

4.9.4.3 In order to comply with the functional criteria of subsection 4.9.4.2 above, the following apply:

.1 A diving system should be equipped with a LARS to ensure deployment and recovery of a dive basket or wet bell to and from the maximum deployment depth.

.2 Where applicable, a diving system should be equipped with a LARS to ensure the safe launch and recovery of a diving daughter-craft to and from the water.

.3 LARS should be designed with adequate safety factors considering the environmental and operating conditions, including the dynamic loads which are encountered while launching and recovering the dive basket or wet bell through the air–water interface.

.4 LARS should enable smooth and easily controllable handling of the dive basket, wet bell or daughter-craft. LARS and restraint devices should enable easy and controlled handling of the dive basket, wet bell or daughter-craft when recovered to the embarkation point, even under conditions where the diving platform is rolling, pitching or listing to predetermined degrees.

.5 The lowering of dive basket, wet bell or daughter-craft under normal conditions should not be controlled by brakes, but by the drive system of the winches.

.6 Winches used for lifting personnel should meet the standard for safe lifting of personnel acceptable to the Administration, and where the power supply to the LARS fails, brakes should be engaged automatically.

.7 In the event of a single component failure of the LARS, an alternative means should be provided whereby the dive basket, wet bell, divers or daughter-craft occupants can be returned to the embarkation point. Where the working divers and the standby divers LARS are combined then the failure of a single component should not compromise the ability of the standby system to perform an emergency recovery.

.8 The design of LARS that manage the diver's umbilical(s) should consider the protection and routeing of the diving umbilical to prevent damage.

.9 LARS for primary access and egress is not required where the diver has to climb no more than 2 m above the water surface on a ladder, or no more than 4 m on stairs; the stairs should be fitted with a handrail. However, means should be provided:

.1 for diver access and egress from the water; and

.2 to recover a helpless diver in an emergency.

4.9.5 Hyperbaric survival craft (HBSC) launching appliance

4.9.5.1 Goal

The goal of this subsection is to ensure that HBSC are equipped with a suitable launching appliance, providing safe deployment of the divers from the diving system to a position where the HBSC is in the water and released from the diving platform.

4.9.5.2 Functional criteria

In order to achieve the goal set out in subsection 4.9.5.1 above, the following functional criteria are embodied in the provisions of this section:

.1 provision of a suitable launching appliance that considers all environmental and operational conditions;

.2 provision of a launching appliance that operates in a manner such that any failure should not create a hazardous situation; and

.3 the launching appliance should meet the requirements of the LSA Code, as amended with due consideration to the requirements of hyperbaric evacuation.

4.9.5.3 In order to comply with the functional criteria of subsection 4.9.5.2 above, the following apply:

.1 A diving unit should be equipped with a launching appliance to ensure safe deployment of the HBSC between the mating interface of the surface compression chamber and the water. A float-free HBSC is permissible but not as the primary deployment technique.

.2 The launching appliance should comply with the launching and embarkation appliances requirements as defined in the LSA Code (as amended by resolution MSC.459(101)), with the deviations as defined below:

.1 The launching appliance and its attachments other than winches should be of sufficient strength to withstand added weight in case of water entrainment.

.2 The launching appliance should enable smooth and controlled deployment of the HBSC.

.3 Launching appliance and mating devices should enable easy and firm connection or disconnection of an HBSC to a surface compression chamber, even under conditions where the diving platform is rolling, pitching or listing to predetermined degrees.

.4 The lowering of the HBSC under normal conditions should not be controlled by brakes, but by the drive system of the winches.

.5 In the event of an electrical power failure of the launching appliance, in addition to the requirement for gravity or stored mechanical power in the LSA Code, an emergency power supply should be provided.

.6 The launching appliance does not require hand gear as required by chapter 6.1.2.6 of the LSA Code.

.7 Where a power actuated system is used for the mating/un-mating operations, an independent manual or stored mechanical power means is to be provided as a backup in the event of failure of the normal power supply.

.8 The launching arrangements provided should be designed to ensure easy connection or disconnection of the HBSC from the surface compression chamber and for transportation and releasing of the HBSC from the diving platform under the same conditions of trim and list as those for the diving platform's other survival craft.

.9 The means provided for release of the falls or lift wire after the HBSC is afloat should provide for easy disconnection, particular attention being given to HBSC not provided with an attendant crew.

.10 Interlocks should be provided to prevent the inadvertent release of the HBSC from the surface compression chamber complex while the PVHO adapter and clamping arrangement is pressurized.

.3 For free-fall launched HBSC the ability of the launching appliance to release the HBSC should be confirmed at all required angles of list and trim.

4.10 Fire protection

4.10.1 Goal

The goal of this section is to ensure that the fire protection integral to the diving system is fit for purpose and safe to use.

4.10.2 Functional criteria

In order to achieve the goal set out in section 4.10.1 above, the following functional criterion is embodied in the provisions of this section:

To provide fire protection to the diving system considering fire prevention and extinguishing.

4.10.3 In order to comply with the functional criterion of section 4.10.2 above, the following apply:

.1 Non-metallic materials used in connection with the diving system should be, as far as is reasonably practicable, of fire-retardant type and non-hazardous in accordance with the FTP Code, parts 2 and 5, as amended.

.2 Each compartment in a surface compression chamber should have a suitable means of extinguishing a fire in the interior which provides rapid and efficient distribution of the extinguishing agent to any part of the chamber. The living compartments of a surface compression chamber should be equipped with a fixed, manually actuated fire-extinguishing system with such a layout as to cover the compartments. It should be possible to actuate the extinguisher both from within the compartments and from outside. The extinguishing agent should be water or an alternative agent approved by the Administration.

.3 Where applicable, systems should comply with the FSS Code, as amended. In addition, fire prevention and extinguishing systems should be adjusted for use at the planned operational pressure.

4.11 Electrical system

4.11.1 Goal

The goal of this section is to ensure that electrical systems of the diving system are fit for purpose and safe to use.

4.11.2 Functional criteria

In order to achieve the goal set out in section 4.11.1 above, the following functional criteria are embodied in the provisions of this section.

.1 all electrical services necessary for maintaining the diving system in normal operational and habitable conditions should be assured, without recourse to the emergency source of electrical power;

.2 electrical services essential for safety should be maintained, in case of failure of the main source of electrical power;

.3 electromagnetic compatibility of electrical and electronic equipment should be assured; and

.4 the safety of personnel and the diving system from electrical hazards should be assured.

4.11.3 In order to comply with the functional criteria of section 4.11.2 above, the following apply:

.1 All electrical equipment shall comply with the relevant regulations pertaining to the requirements of passenger and cargo ships, as defined in the applicable requirements of SOLAS. The systematic engineering analysis, evaluation and approval of the electrical design and arrangements should be carried out in accordance with SOLAS regulation II-1/55.

.2 Essential services as defined in chapter 2, as well as other services to ensure minimum comfortable conditions of habitability should be identified and the system should have the capacity to supply all essential services during the planned operations.

.3 In an emergency the diving bell and HBSC should have sufficient electrical power for survivability of at least 24 hours for the diving bell and 72 hours for the HBSC.

.4 The diving system switchboards – main and emergency - should be installed in separate compartments. All emergency electric lighting systems should be separated from the compartments housing the main and emergency switchboards.

.5 An emergency source of electrical power for the diving system should meet the minimum requirement of SOLAS regulation II-1/43, as well as the following:

.1 where using the diving platform's emergency electrical power, there should be enough electrical power capacity to supply the emergency load for the diving system and for the diving platform simultaneously;

.2 have a minimum fuel capacity of 18 hours and be able to be refuelled;

.3 be able to safely terminate the diving operation, including decompression of the divers;

.4 be suitably protected within a deck house structure; and

.5 be suitably ventilated, to ensure continuous operations in the design environment.

.6 Emergency lighting as defined in SOLAS regulations II-1/43.2.1 and 43.2.2 should be additionally provided for:

.1 each PVHO location;

.2 each LARS; and

.3 associated diving equipment not housed within the control room or machinery spaces of the diving system.

.7 Battery charging arrangements should be designed to prevent overcharging under normal or fault conditions. Battery storage compartments should be provided with means to prevent overpressurization and vent to a safe place. When battery charger/battery combinations are used as DC power supply systems, adequate measures should be taken to keep the voltage within specified limits.

.8 Electrical equipment fitted within the PVHO should be suitable for the intended purpose, including hyperbaric use and the specified gas, and high humidity levels and marine applications. Additionally,:

.1 electrical enclosures subject to pressure should include suitable gas relief devices, where applicable;

.2 cabling and electrical components should not off-gas toxic volatiles so as to create a hazardous environment;

.3 equipment supply voltage should be kept at a minimum; and

.4 electrical power services, including battery arrangements, should be suitable for hyperbaric use.

.9 Electrical and electronic diving equipment should follow the requirements for electromagnetic compatibility in the *General requirements for electromagnetic compatibility (EMC) for all electrical and electronic ship's equipment* (resolution A.813(19)).

.10 In-water and hyperbaric electrical equipment should meet the safe voltage requirements in table 3 on safe voltage, body resistance and current.[10] Additionally:

[10] Table based on IMCA D045 Code of practice for the safe use of electricity underwater – October 2020.

.1 For electrically heated suits, the diver's body resistance should be 100 ohms and the safe body current should be divided by 2.5 for all applications.

.2 Electrical equipment used subsea and in hyperbaric conditions should be supplied from a transformer with the secondary winding isolated, such that there is not an obvious path if a fault develops. Isolation requirements should include high-integrity isolation components and a safe insulator barrier.

.3 Residual current devices fitted should have a reaction time of less than 20 ms.

Supply	Safe Body Current mA		Body Route Resistance Ω (ohms)		Safe voltage	
					Maximum V	Nominal V
	(I)	x	(R)	=	(V)	(V)
DC without a suitable trip device	40		750		30	24
AC without a suitable trip device	10		750		7.5	6
DC with a suitable trip device	570		500		285	250
AC with a suitable trip device	500		500		250	220

Note: A suitable trip device is one with a reaction time of 20 ms or less.

Table 3: Safe voltage, body resistance and current

4.12 Control systems

4.12.1 Goal

The goal of this section is to ensure that all control systems are fit for purpose and maintain a safe working environment.

4.12.2 Functional criteria

In order to achieve the goal set out in section 4.12.1 above, the following functional criterion is embodied in the provisions of this section:

To provide control systems for the diving system considering centralized control for the relevant operator(s), including adequate protection from environmental factors and emergency situations.

4.12.3 In order to comply with the functional criterion of section 4.12.2 above, the following apply:

.1 The diving system centralized control should be arranged so as to operate safely under all applicable environmental conditions and should be designed such that any single failure should not cause a hazardous situation.

.2 Provision should be made within the diving bell and HBSC for an independent means of continuously monitoring oxygen and carbon dioxide levels.

.3 Oxygen injection systems should be designed to prevent an uncontrolled flow of oxygen.

.4 Confined areas with gas control systems using gases with an oxygen content less than 20% or greater than 22% should have continuous oxygen monitoring with high- and low-level audiovisual alarms.

.5 Control systems, including automated systems, should be compliant with a national or international standard acceptable to the Administration.

.6 Facilities should be provided at the central control position to monitor and provide appropriate alarms for when any life-support parameter is outside of acceptable limits.

4.13 Communication and location systems

4.13.1 Goal

The goal of this section is to ensure that all communication and location systems provide effective communications between relevant parties.

4.13.2 Functional criteria

In order to achieve the goal set out in section 4.13.1 above, the following functional criteria are embodied in the provisions of this section:

.1 the diving system communications should be arranged so as to ensure complete coverage of all operational control points of the diving system; and

.2 during emergency situations communication systems should be available.

4.13.3 In order to comply with the functional criteria of section 4.13.2 above, the following apply:

.1 The communication system should be arranged for direct two-way voice communication between the control stand and the:

.1 diver(s) in water;

.2 standby diver;

.3 each compartment of the surface compression chambers including the HBSC;

.4 service lock positions when not located in the immediate vicinity of the control stand;

.5 backup control panels;

.6 diving system LARS positions;

.7 dynamic positioning control station, only when required by section 3.7 (Position keeping);

.8 diving platform bridge, command centre or any other operational control area,

and where applicable the:

.9 diving bell, wet bell, dive basket and HBSC;

.10 HBSC launch position;

.11 HBSC operator's position;

.12 deck operations (wireless communications acceptable);

.13 crane operator (wireless communications acceptable);

.14 Remotely operated vehicle (ROV) operator; and

.15 a control stand on the daughter-craft and the diving platform bridge (wireless communications acceptable).

Systems should be hardwired unless stated otherwise.

.2 A secondary means of communication with divers in the surface compression chamber, diving bell and HBSC should be available. All secondary communication systems should operate for a minimum of 30 minutes without main electrical power.

.3 Each PVHO main and secondary communications system should include a speech unscrambler when used with gas systems which include helium.

.4 A self-contained through-water communication system, with a minimum operating duration of 24 hours, should be provided for emergency communication with diving bells when operating underwater.

.5 Communications between dive control, the diving bell or wet bell, the standby diver and the divers in the water should be recorded (audio and video) and retained for a minimum of 24 hours after the dive is completed.

.6 Where diving is carried out from a diving platform operating with dynamic positioning (DP), then an audio and visual alarm activated by the DP operator should be fitted at the dive control stand/station to inform the supervisor of the DP status. It should be able to be tested before each dive when operating on DP.

.7 Primary and secondary means of communication between dive control and the bridge should be provided and available at all times. One of the means of communication should operate without the need for external electrical power supply. If the vessel is operating in DP, the primary means of communication should be a direct hardwired two-way link.

.8 The diving unit general alarm should be able to be heard in the dive and saturation control stands. This alarm should be mutable to ensure communication is not interrupted with the diver(s). Muting of the alarm should be time-limited and there should be visual indication of the alarm status.

.9 A diving bell should have an emergency locating device with a frequency of 37.5 kHz designed to assist personnel on the surface in establishing and maintaining contact with the submerged diving bell if the umbilical to the surface is severed. The device should include the following components:

.1 Transponder:

.1 The transponder should be provided with a pressure housing capable of operating to at least the maximum operating depth of the diving bell containing batteries and equipped with saltwater activation contacts.

.2 The transponder should be designed to operate with the following characteristics:

Common emergency reply frequency	37.5 kHz
Individual interrogation frequencies:	
• channel A	38.5 + 0.05 kHz
• channel B	39.5 + 0.05 kHz
Receiver sensitivity	+15 dB referred to 1 mbar
Minimum interrogation pulse width	4 ms
Turnaround delay	125.7 + 0.2 ms
Reply frequency	37.5 + 0.05 kHz

Maximum interrogation rates:

- more than 20% of battery life remaining Once per second
- less than 20% of battery life remaining Once per 2 seconds

Minimum transponder output power 85 dB referred to 1 mbar at 1 m

Minimum transducer polar diagram	- 6 dB at +135° solid angle, centred on the transponder vertical axis and transmitting towards the surface

Minimum listening life in water 10 weeks

Minimum battery life replying at 85 dB 5 days

.2 Portable (diver-held or ROV mounted) interrogator/receiver:

.1 The interrogator/receiver should be provided with a pressure housing capable of operating to the maximum operating depth of the diving bell with pistol grip and compass. The front end should contain the directional hydrophone array and the rear end the three-digit LED display read-out calibrated in metres. Controls should be provided for "on/off receiver gain" and "channel selection".

.2 The interrogator/receiver should be designed to operate with the following characteristics:

Common emergency reply frequency 37.5 kHz

Individual interrogation frequencies:

- channel A 38.5 + 0.05 kHz
- channel B 39.5 + 0.05 kHz

Minimum transmitter output power 85 dB referred to 1 mbar at 1 m

Transmit pulse 4 ms

Directivity +158
Capability to zero range on transponder

Maximum detectable range more than 500 m

.10 In addition to the communication systems referred to above, a standard bell emergency communication tapping code should be adopted (table 4), for use between persons in the bell and rescue divers. A copy of this tapping code should be displayed inside and outside the bell and also in the dive control room.

Tapping code	Situation
3.3.3	Communication opening procedure (inside and outside)
1	Yes or affirmative or agreed
3	No or negative or disagreed
2.2	Repeat please
2	Stop
5	Have you got a seal?
6	Stand by to be pulled up
1.2.1.2	Get ready for through-water transfer (open your hatch)

Tapping code	Situation
2.3.2.3	You will NOT release your ballasts
4.4	Do release your ballast in 30 minutes from now
1.2.3	Do increase your pressure
3.3.3	Communication closing procedure (inside and outside)

Table 4: Bell emergency communication tapping code

4.14 Maintenance and testing

4.14.1 Goal

The goal of this section is to ensure that diving systems and associated diving platform interfaces are able to be maintained in a safe working condition.

4.14.2 Functional criteria

In order to achieve the goal set out in section 4.14.1 above, the following functional criteria are embodied in the provisions of this section:

.1 all diving plant and equipment and related services should have a risk based planned maintenance system; and

.2 only diving plant and equipment able to be maintained in a safe working condition are to be used.

4.14.3 In order to comply with the functional criteria of section 4.14.2 above, the following apply:

.1 All diving equipment should be identified, marked and controlled within a planned maintenance system. Records should be available, demonstrating that the diving equipment is being maintained and tested.

.2 Equipment maintenance requirements and records should consider:

.1 manufacturer's guidelines;

.2 industry good practice;

.3 national and international standards acceptable to the Administration; and

.4 applicable national regulatory requirements.

.3 All diving plant and equipment should be tested and verified after installation to ensure compliance with national and international standards acceptable to the Administration.

4.15 Hyperbaric survival craft (HBSC)

4.15.1 Goal

The goal of this section is to ensure that the hyperbaric survival craft provides an equivalent escape capability, for divers under pressure, to that provided under the LSA Code, as amended.

4.15.2 Functional criteria

In order to achieve the goal set out in section 4.15.1 above, the following functional criterion is embodied in the provisions of this section:

The HBSC is designed, constructed and tested in accordance with applicable aspects of the LSA Code, chapter IV (Survival craft).

4.15.3 In order to comply with the functional criteria of section 4.15.2 above, the following apply:

.1 HBSC should comply with:

.1 "General requirements for lifeboats" as defined in chapter 4.4 of the LSA Code with the following deviation: When assessing an HBSC in the damaged condition flooding or holes within the PVHO pressure hull do not need to be considered; and

.2 the requirements for "Totally enclosed lifeboat" as defined in chapter 4.6 of the LSA Code or "Free-fall lifeboat" as defined in chapter 4.7 of the LSA Code, with the additional deviations as defined in this provision.

.2 HBSC should comply with the "Construction of lifeboats" as defined in chapter 4.4.1 of the LSA Code with the deviations as defined below:

.1 The design and construction of the HBSC should be such that it is suitable for the environmental conditions envisaged, account being taken of the horizontal or vertical dynamic snatch loads that may be imposed on the system and its lifting points particularly during evacuation and recovery.

.2 The HBSC should be fitted with a single lift point. Safe means should be provided to connect a recovery hook, at sea, to the single lift point.

.3 Attachment points for the HBSC should be provided to enable it to be secured to the deck of a rescue vessel.

.4 A single lift point and associated lift load path should be designed for a load 3 times the weight of the fully loaded HBSC. A minimum factor of safety of 2 to yield should be applied for structures and 4 for loose gear including suspension chains, links and blocks. A static proof load test of not less than 3 times the weight of the fully loaded HBSC should be applied.

.5 The HBSC should be fitted with a tow arrangement suitable in function and strength for towing the HBSC in the following conditions:

.1 3 knots to the top of sea state 3; and

.2 holding the HBSC in position in up to sea state 7.

The tow arrangement should be designed to minimize human operation when connecting the tow.

.6 Where HBSC are semi-submerged PVHO, the pressure boundary of the PVHO may be the HBSC hull.

.7 HBSC on ships required to be provided with fire-protected lifeboats, should be provided with a similar degree of fire protection and self-contained air support systems in accordance with the relevant sections of the LSA Code.

.8 Where HBSC are semi-submerged PVHO and may be used to transport divers through fires, consideration should be given, where practicable, to providing an external water spray system for cooling purposes.

.9 The operating position for the HBSC control panel should be accessible and allow the operator to monitor and operate the equipment in a seaway and have egress from and access to these positions from within the HBSC.

.10 The area of the HBSC enclosure that is 1.7 m or higher may be less than 50% of the floor area but should be sufficient to allow the crew to operate effectively.

.11 Surfaces within a PVHO pressure hull are not required to have a non-skid finish.

.3 HBSC should comply with the "Carrying capacity of lifeboat" as defined in chapter 4.4.2 of the LSA Code with the deviations as defined below:

.1 all equipment and consumables required for support of the HBSC PVHO and its operation should be included in the design of the HBSC and should be based on occupancy and a minimum of 72 hours duration from launch without external support; and

.2 for the carrying capacity of the HBSC, the average mass of survivors inside HBSC should be 82.5 kg.

.4 HBSC should comply with the "Access into lifeboats" as defined in chapter 4.4.3 of the LSA Code with the deviations as defined below:

.1 access into the HBSC from the diving system internal muster point and for crew members should be so arranged that it can be boarded by the crew and diving complement in less than 15 minutes;

.2 a helpless person within the diving system should be able to be transported easily to the HBSC on a stretcher from the diving system; and

.3 surfaces within a PVHO pressure hull are not required to have a non-skid finish.

.5 HBSC should comply with the "Lifeboat buoyancy" as defined in chapter 4.4.4 of the LSA Code with the deviations as defined below:

.1 semi-submerged PVHO HBSC buoyant material can be located external to the hull and should be protected against impact, e.g. during launch in accordance with chapter 4.7 "Free-fall lifeboats" of the LSA Code, and should not be adversely affected by seawater, oil or oil products; and

.2 for stability and buoyancy requirements the HBSC PVHO should be considered sealed and pressurized.

.6 HBSC should comply with the "Lifeboat freeboard and stability" as defined in chapter 4.4.5 of the LSA Code with the deviations as defined below:

.1 Semi-submerged PVHO HBSC should be provided with adequate stability for all envisaged operating and environmental conditions and be self-righting.

.2 Semi-submerged PVHO HBSC should have sufficient reserves of buoyancy to enable the necessary rescue crew and equipment to be carried.

.3 Towing attachment points should be so situated that there is no likelihood of the HBSC being capsized as a result of the direction of the tow line. Where towing harnesses are provided, they should be lightly clipped or secured to the unit and, so far as is possible, be free from snagging when pulled free.

.7 HBSC should comply with the "Lifeboat propulsion" as defined in chapter 4.4.6 of the LSA Code with the deviations as defined below:

.1 the HBSC should be capable of moving away from the diving platform, maintaining a safe position and being adequately protected from a surface oil fire;

.2 provisions for autonomous operation should be for 72 hours, where fuel allowances should be based on:

.1 first hour at 6 knots, full sprinkler system and PVHO life-support functioning;

.2 average speed for first 24 hours is 6 knots and all life-support functioning;

.3 average speed for subsequent 48 hours is 5 knots and all life-support functioning; and

.4 maintaining adequate ventilation for the boat crew;

.3 the HBSC may be battery powered providing enough electrical power is available for 72 hours of autonomous operation including all life-support functions; and

.4 HBSC units without propulsion (submerged or floating) should only be permitted if a suitably powered rescue boat, as defined in chapter V of the LSA Code, is available to tow the HBSC to a safe position.

.8 For semi-submerged PVHO HBSC the following applies:

.1 HBSC launched by fall or falls should comply with the requirement for release mechanisms as defined in paragraph 4.4.7.6 of the LSA Code; and

.2 HBSC should have skates and fenders as necessary to facilitate launching.

.9 HBSC should comply with the "Lifeboat fittings" as defined in chapter 4.4.7 of the LSA Code with the deviations as defined below:

.1 Drainage points as per paragraph 4.4.7.1 of the LSA Code are not required to be automatic when they are part of the PVHO pressure hull.

.2 An HBSC without propulsion is not required to have a rudder and tiller.

.3 Storage within the PVHO pressure hull is not required to be watertight and should not hold pressure unless designed to do so.

.4 Where an HBSC is without propulsion and assisted by a rescue craft the operation should be possible without input from the survivors within the HBSC. Should this not be possible, the required view and communications are to be specially considered.

.10 HBSC should comply with the "Lifeboat equipment" as defined in chapter 4.4.8 of the LSA Code with the deviations as defined below:

.1 Survivors outside the PVHO pressure hull should have access to all lifeboat equipment except oars. They should also have the following with a minimum endurance of 72 hours:

.1 VHF radio;

.2 strobe light;

.3 emergency position-indicating radio beacon (EPIRB);

.4 search and rescue transponder (SART);

.5 drinking water, 6 litres per person (i.e. 2 litres per day); and

.6 food ration totalling 15,000 kJ per person.

.2 Survivors inside any PVHO pressure hull should have the following available:

.1 survival information and emergency procedures;

.2 drinking water, 6 litres per person (i.e. 2 litres per day);

.3 a rustproof graduated drinking vessel;

.4 food ration totalling 15,000 kJ per person;

.5 first aid equipment, paper towels, waste disposal bags and all necessary operational instructions for equipment within the HBSC PVHO; and

.6 anti-sea sickness medicine and bags (for 72 h).

.3 For a semi-submerged PVHO HBSC the following external equipment should be available and either permanently fitted, or available for fitting or activation by a dedicated rescue craft. Electronic devices should have a minimum endurance of 72 hours:

.1 radar reflector or transponder;

.2 sea anchor;

.3 strobe light; and

.4 EPIRB.

.4 For a fully submerged PVHO HBSC the following external equipment should be available and able to be activated in an emergency:

.1 acoustic transponder suitable for operation in accordance with section 4.13 Communications and relocation systems; and

.2 tethered surfaced EPIRB.

.11 HBSC should comply with the "Lifeboat markings" as defined in chapter 4.4.9 of the LSA Code with the deviations as defined below:

.1 Dedicated HBSC should be coloured orange and be provided with retro-reflective material to assist in their location during hours of darkness.

.2 Each HBSC should be marked with at least three identical signs – figure 3. One of these markings should be on top of the unit and be clearly visible from the air and the other two be mounted vertically on both sides and as high as possible and be capable of being seen while the unit is afloat.

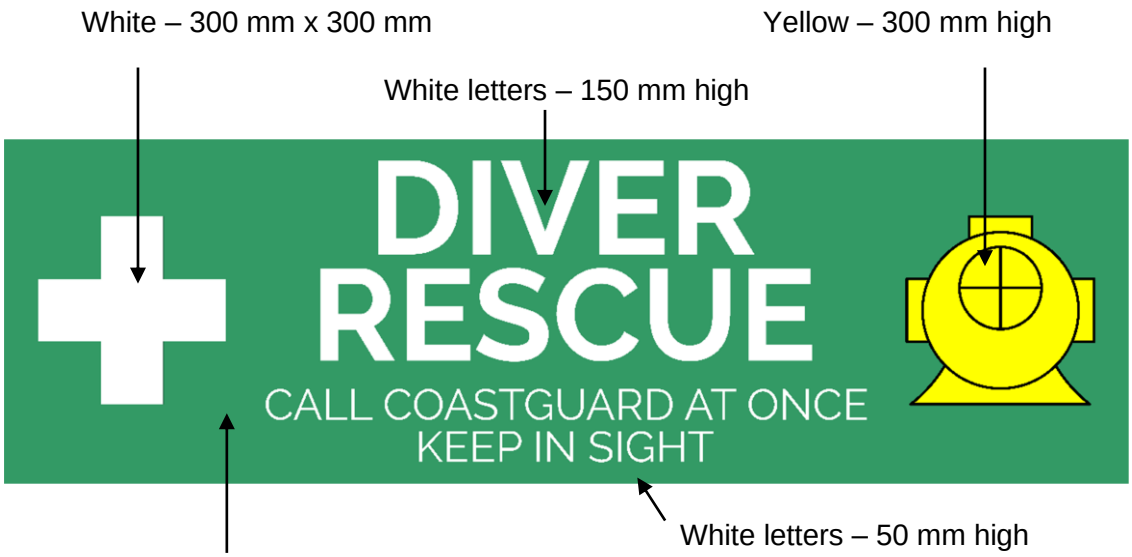

Figure 3: HBSC diver rescue sign

.3 The following instructions and equipment should be clearly visible and be kept readily available while the HBSC is afloat:

.1 towing arrangements and buoyant towline;

.2 all external connections, for essential services;

.3 maximum gross weight of the HBSC in air;

.4 lifting point and load rating;

.5 name of the diving unit and port of registration; and

.6 emergency contact details.

.4 Where appropriate, the following warning instructions should be permanently displayed on every HBSC in two separate locations so as to be clearly visible while the craft is afloat:

"Unless specialized diving assistance is available:

- do not touch any valves or other controls;
- do not try to get occupants out;
- do not connect any gas, air, water or other services;
- do not attempt to give food, drinks or medical supplies to the occupants; and
- do not open any hatches."

.12 HBSC should comply with the "Totally enclosed lifeboats" requirements as in chapter 4.6 of the LSA Code with the deviations as defined below:

.1 HBSC are not required to be rowable;

.2 the requirements to access hatches/handrails and windows apply to parts of the enclosure that are not also part of the PVHO pressure hull; and

.3 ventilation requirements apply to the survivors outside the PVHO pressure hull (boat crew) for a period of not less than 72 hours.

.13 HBSC that are designed for free-fall should comply with the "Free-fall lifeboat" requirements as defined in chapter 4.7 of the LSA Code with the deviations as defined below:

.1 during launching of a free-fall HBSC PVHO access doors should be mechanically prevented from opening;

.2 any externally attached items should be designed for the impact loads of a free-fall launch;

.3 provision should be made for safely enabling activation systems, for release from outside of the HBSC, where such systems are not accessible from the inside of the HBSC; and

.4 recognizing that seating design and orientations for the occupants may be other than facing backwards, arrangements should be made to protect the occupants from the effects of acceleration and deceleration.

5 CHAPTER 5 – DIVING OPERATIONS AND SAFETY MANAGEMENT

5.1 Goals

The goal of this chapter is to provide a minimum international standard for the conduct of diving operations from a diving unit in accordance with the intent of the ISM Code.

5.2 Functional criteria

In order to achieve its goal, this chapter embodies the following provisions:

5.3 Diving operations from the diving unit

5.3.1 Goal

The goal of this section is to provide owners, operators, masters, crews and specialist personnel, including all diving personnel, with sufficient procedures, plans and instructions to operate a diving unit safely and effectively and in accordance with the intent of part A-7 (Shipboard Operations) of the International Safety Management Code (ISM Code).

5.3.2 Functional criteria

In order to achieve the goal set out in section 5.3.1 above, the following functional criteria are embodied in the provisions of this section:

.1 diving operations should be included in the diving platform's safety management system for compliance with the ISM Code;

.2 the diving unit should not be used outside of its design capabilities;

.3 sufficient procedures, plans and instructions should be available to ensure safe diving operations from the diving unit; and

.4 competent personnel should be available to ensure safe operation of the diving unit.

5.3.3 In order to comply with the functional criteria of section 5.3.2 above, the company responsible for the diving unit should:

.1 define and document the responsibility, authority and interrelation of the diving organization's personnel towards the diving platform's personnel;

.2 ensure that the diving organization has procedures, plans and instructions in place for maintaining the condition and certification of the diving system and equipment while it is on board the diving platform;

.3 ensure that the diving organization has procedures in place to ensure that relevant survey, inspection or audit findings, conditions and memoranda are communicated to the diving unit and its Administration or recognized organization;

.4 identify any diving platform support activities which are critical for the diving operation;

.5 in cooperation with the diving organization, identify which equipment and technical systems' sudden operational failure may result in hazardous situations;

.6 ensure that the diving organization's procedures or diving operations manual, safety management system and associated integration documentation, as they apply to the diving unit, are implemented under part A-7 (Shipboard operations) of the ISM Code;

.7 ensure that when undertaking new diving tasks or changing geographical location the above are reviewed and updated where necessary by the persons defined in 5.3.3.1; and

.8 ensure that documentation covering the procedures, plans and instructions for diving operations is included in or referenced by the diving platform's safety management system and contains the following:

.1 means to ensure compliance with section 3.3 "Geographic location and environmental conditions";

.2 means to ensure the operational capabilities and limitations of the diving unit to conduct diving operations are not exceeded;

.3 details of the diving organization's procedures or diving operations manual, safety management system and associated integration documentation[11] as applied to the diving unit; and

.4 emergency and contingency procedures.

5.4 Diving organization's occupational health and safety management system

5.4.1 Goal

The goal of this section is to ensure that the Diving organization has an effective occupational health and safety management system.

5.4.2 Functional criteria

In order to achieve the goal set out in section 5.4.1 above, the following functional criteria are embodied in the provisions of this section:

.1 there should be a certified occupational health and safety management system covering plans, procedures, instructions and methods of diving; and

.2 the occupational health and safety management system should provide the information required to allow integration with the diving unit safety management system.

5.4.3 In order to comply with the functional criteria of section 5.4.2 above, the following apply:

.1 the diving organization's occupational health and safety management system should be certified to a standard[12] that is acceptable to the Administration;

.2 the procedures within the diving organization's occupational health and safety management system should be in accordance with national or international diving regulations, diving codes of practice and diving standards acceptable to the Administration;

.3 the diving organization should identify services from the diving platform and any equipment or technical systems within the diving system where operational failure may result in hazardous situations; and

.4 where the diving organization and the company responsible for the diving unit are the same entity, the diving organization's occupational health and safety management system may be integrated with the diving unit safety management system.

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11 The integration documentation should be implemented in accordance with the *Revised guidelines for the operational implementation of the International Safety Management (ISM) Code by companies* (MSC-MEPC.7/Circ.8).

12 The safety management system should be approved by a relevant coastal State and/or accredited to, or comply with, a recognized system, such as ISO 45001.

5.5 Manning and training

5.5.1 Goal

The goal of this section is to ensure that diving units conducting diving operations are appropriately manned by suitably qualified, trained and experienced personnel, in accordance with the intent of part A-6 (Resources and personnel) of the ISM Code.

5.5.2 Functional criteria

In order to achieve the goal set out in section 5.5.1 above, the following functional criteria are embodied in the provisions of this section:

.1 the diving unit should be manned by personnel who are certified as being qualified and medically fit; and

.2 the diving unit should establish and maintain procedures for identifying any training which may be required in support of the diving operation.

5.5.3 In order to comply with the functional criteria of section 5.5.2 above, the following apply:

.1 The diving unit should be manned by personnel certified as qualified and medically fit. All qualifications and certifications provided by the diving organization should be valid and in date.

.2 The roles and duties of the diving organization personnel required to operate the diving system should be defined, including:

.1 the minimum number of diving personnel required to safely man the diving unit at any time during the diving operation;

.2 a list of personnel positions and the role of each position;

.3 a list of duties and responsibilities of each personnel position; and

.4 the required competence of each personnel position in accordance with national and international requirements; qualifications and associated certificates should be issued by an agency acceptable to the Administration.

.3 The diving unit should establish and maintain procedures for identifying any training or additional manning which may be required in support of the diving operation and ensure that such training is provided for all personnel concerned and that all personnel involved in diving operations have an adequate understanding of relevant rules, regulations, codes and guidelines.

.4 The diving unit should establish procedures by which the ship's personnel receive relevant information on the diving operation in a working language or languages understood by them.

5.6 Emergency preparedness

5.6.1 Goal

The goal of this section is to ensure the diving unit provides for safe escape and evacuation of diving personnel to a place of safety, in accordance with the intent of part A-8 (Emergency preparedness) of the ISM Code.

5.6.2 Functional criteria

In order to achieve the goal set out in section 5.6.1 above, the following functional criteria are embodied in the provisions of this chapter;

.1 potential emergency situations should be identified and procedures established to respond to them;

.2 emergency escape and evacuation preparations should ensure that diving personnel are able to be evacuated to a place of safety;

.3 programmes should be established with drills and/or exercises conducted to prepare for diving-related emergency actions; and

.4 the safety management system should provide for measures ensuring that the diving unit can respond at any time to hazards, accidents and emergency situations involving its diving operations.

5.6.3 In order to comply with the functional criteria of section 5.6.2 above, the following apply:

.1 Suitable measures should be implemented to mitigate the hazards identified in 5.3 and 5.4.

.2 A plan should be developed to evacuate diving personnel to a place of safety and, if the diving operation requires the use of an HBSC, there should also be a plan for hyperbaric evacuation.

.3 The diving unit should have on board a plan for cooperation with appropriate SAR services in the event of an emergency.

.4 The plans should:

.1 be developed in cooperation between the platform, the company, as defined in SOLAS regulation IX/1, and the search and rescue services;

.2 include provisions for periodic exercises to be undertaken to test their effectiveness; and

.3 include documented emergency notification that identifies the responsible persons both onshore and on the diving unit.

.5 Standby diving units do not require hyperbaric evacuation for received survivors and should be considered as part of the contingency planning for the diving unit being supported.

5.7 Voyage planning

5.7.1 Goal

The goal of this section is to ensure that the company, master and crew are provided with sufficient information to enable operations to be conducted with due consideration to safety of ship and persons on board and, as appropriate, environmental protection.

5.7.2 Functional criteria

In order to achieve the goal set out in section 5.7.1 above, the voyage plan should take into account the potential hazards of the intended voyage while a diving unit is under way.

5.7.3 In order to comply with the functional criteria of section 5.7.2 above, while the vessel is a diving unit, the master should consider a route, taking into account the following:

.1 Any limitations of the hydrographic information and aids to navigation available. Published information should be supplemented with the latest available site-specific information for locations that diving or underwater operations are to be carried out.

.2 Current information on fixed structures and moored vessels at the planned underwater operational locations. This is to include the increased effective draught of the diving unit while submersible parts of the diving system, still attached to the diving platform, are deployed in mooring patterns and catenaries of mooring lines of vessels and/or suspended hazards which will be in close proximity to the intended underwater operations. The information also needs to include the maximum and minimum catenary heights and details or reference to the safe system of work to be used to control the interfaces with these hazards.

.3 Limitations placed on the voyage due to the provisions implemented in chapter 3.

.4 Limitations on the diving platform's geographical location and operating conditions in order to remain compliant with the hyperbaric rescue plan.

.5 Limitations on geographical location or duration of operation imposed by diving platform endurance such as fuel tankage, freshwater capacity, provision stores, gas and diving consumables.

.6 A diving unit operating in polar waters should comply with chapter 11 (Voyage planning) of the Polar Code, as amended.

APPENDIX 1

ADDITIONAL GUIDANCE

1 ADDITIONAL GUIDANCE TO CHAPTER 3 – OPERATIONAL CAPABILITIES AND LIMITATIONS OF DIVING PLATFORMS FOR CONDUCTING SAFE DIVING OPERATIONS

1.1 Guidance on 3.5: Placement and configuration of diving system on diving platform

1.1.1 There should be sufficient deck area for the diving system, including the provision of a level of access allowing operational personnel the ability to carry out their duties safely and efficiently.

1.1.2 The placement and configuration of the diving system plant and equipment should ensure compliance with the provisions of section 3.3 (Geographic location and environmental conditions).

1.1.3 The placement and configuration of the diving system should comply with provision in section 3.8 (Fire safety).

1.2 Guidance on 3.6: Subdivision and stability

The diving platform should have a sufficient freeboard height. Diving platforms where decks are constantly awash, even in moderate seas, should be considered unsuitable for diving operations.

2 ADDITIONAL GUIDANCE TO CHAPTER 4 – DIVING SYSTEM DESIGN, CONSTRUCTION, INSTALLATION, TESTING AND SURVEY

2.1 Guidance on 4.3: Diving system design

2.1.1 Design and interface of the diving system on the diving platform should consider different dynamic loads when operating over-the-side, through a moon pool or from the stern.

2.1.2 For diving equipment and plant that have automated functions, a systematic engineering assessment of the diving system and its subsystems should be completed. The assessment should identify all components and control systems that contain automated functions during normal operation, maintenance and testing phases within the diving system.

2.2 Guidance on 4.4: Pressure vessels for human occupancy (PVHO)

2.2.1 General guidance

2.2.1.1 The minimum internal diameter of the surface compression chamber should allow for the management of a casualty, see table 1:

Surface compression chamber use	Minimum internal diameter (m)
Surface orientated diving support	1.50
Saturation diving	1.80
Hyperbaric survival craft	1.70

Table 1: Surface compression chamber minimum diameter

2.2.1.2 All interlocks on PVHO should prevent inadvertent opening of the mechanism/door if pressure is still inside the lock and prevent obtaining a gas tight seal on the lock if the mechanism/door is not properly closed.

2.2.2 Guidance on 4.4.5: Hyperbaric survival craft (HBSC) PVHO

It is recommended that the HBSC manifold should include the international standard connections and configurations shown in table 2, or equivalent:

HBSC Manifold service	Standard connector[13]
Internal pressure (Diving depth monitoring)	Snap-tite SVHN 4-4F
Communications	Crouse Hinds Electro Products (also referred to as an Electro Oceanics (EO) or Watermate) female, Series 53, model 53F8F-1 with 4 sockets and 2 contacts per socket.
	Communications are two wire and utilize the inboard (odd number) contact from each of the sockets either side of the polarizing hole.
Electrical power supply	Crouse Hinds Electro Products (also referred to as an Electro Oceanics (EO) or Watermate) male, Series 53, model 53E4M-1 with 4 sockets and 1 contact per pin.
	Electrical power supply, single phase 240 VAC either 50 or 60 Hz. Current should be limited to 15 A.
	Viewed end-on with the polarizing pin at the top, first pin clockwise is live contact, second neutral contact and the third ground.
Analysis of HBSC PVHO internal environment	Snap-tite SVHN 4-4F
Oxygen addition	Snap-tite BVHN 6-6F
Built-in breathing system (BIBS) supply	Snap-tite BVHN 12-12F
Blow-down (Pressurization)	Snap-tite BVHN 12-12F
Exhaust	Snap-tite BVHN 12-12F
Hot water supply	Snap-tite BVHN 12-12F
Hot water return	Snap-tite BVHN 12-12F

Table 2: HBSC manifold should include the international standard connections and configurations

2.3 Guidance on 4.7: Pipes, valves, fittings and hoses

All pipework systems and associated valves for gases containing greater than 22% oxygen should be designed to reduce temperature increases due to adiabatic compression. Where required by the certifying authority, systems may need to be subject to oxygen pressure surge testing.

[13] Other products to a similar specification may be available.

2.4 Guidance on 4.8: Breathing gas supply, storage and temperature

2.4.1 The colour coding for piping systems and gas storage cylinders/pressure vessels should comply with EN 1089-3 Transportable gas cylinders – Gas cylinder identification (excluding LPG) part 3: Colour coding, or equivalent standards.

2.4.2 Critical equipment for survival of the divers inside a lost diving bell should be tested to ensure that it is capable of keeping the divers alive and reasonably healthy for a minimum period of 24 hours.

2.4.3 All life-support systems and other critical equipment for survival of the divers inside an HBSC should be tested to ensure that the hyperbaric evacuation systems are capable of keeping the divers alive and fit for purpose for a minimum period of 72 hours.

2.5 Guidance on 4.9: Diving launch and recovery systems (LARS)

For LARS that have automated functions, a systematic engineering assessment of the diving system and its subsystems should be completed. The assessment should identify all components and control systems that contain automated functions during normal operation, maintenance and testing phases within the dive system. Particular attention should be given to the connection and disconnection of a PVHO.

Any crane that may be required for an emergency recovery of a system deployed by a launching appliance or a LARS should have sufficient lift capacity and length of wire.

2.5.1 Guidance on 4.9.3: Diving bell LARS

2.5.1.1 Techniques for safe emergency retrieval of the bell occupants to the surface compression chamber (surface orientated Transfer Under Pressure diving may require special consideration) if the primary and secondary means fail, may include bell to bell through-water transfer or buoyant ascent of the bell.

2.5.1.2 If the emergency retrieval involves buoyant ascent, the bell should have sufficient stability to maintain a substantially upright position and means should be provided to prevent accidental release of the ballast weights.

2.5.2 Guidance on 4.9.4: Surface orientated diving LARS

2.5.2.1 If a ladder is to be used as a means of access to and egress from the water, then it should be securely mounted, extend at least 2 metres below the water and have sufficient hand holds above water to allow the diver to step easily onto the embarkation point.

2.5.2.2 If stairs are to be used as a means of access to and egress from the water, then they should be securely mounted, extend at least 2 metres below the water and have a hand rail above water to allow the diver to step easily onto the embarkation point.

2.6 Guidance on 4.10: Fire protection

Any extinguishing agent used should have a cooling effect equivalent to or better than water.

2.7 Guidance on 4.11: Electrical system

2.7.1 Diving system switchboards should be considered to extend to the switchboard(s) to which the emergency consumers are first connected to the emergency electrical power source.

2.7.2 The emergency load for the diving system needs to include electrical power to systems that are essential for maintaining life support and for returning divers to a point of safety. However, the distribution system may be designed for staged reconnection/ disconnection of emergency consumers. Consumers, such as LARS/diver hot water, may be disconnected after divers in the water are recovered to the surface compression chamber complex. Similarly emergency consumers such as environmental control of the surface compression chamber complex (that are not time-critical) may be connected manually after switchover to emergency electrical power. Where manual intervention is required to manage the emergency electrical power system, these switchboards should be easily accessible within the diving system area.

2.7.3 The safe use of electrical systems for diving operations may be achieved by following industry good practice, such as IMCA D 045 "Code of practice for the safe use of electricity underwater".

2.8 Guidance on 4.12: Control systems

Equipment should be provided at the central control position to monitor the values of the following parameters for:

.1 Each occupied compartment (table 3):

Parameter	Compartments		
	Surface compression chamber (Each Lock)	Diving bell	HBSC
Pressure or diving depth[1,2]	X	X[2]	X
Temperature[1,3]	X	-	X
Humidity	X	-	X
Oxygen partial pressure[1,3]	X	X	X
Carbon dioxide partial pressure[1,3]	X	X	X
Video surveillance	X	X	X
Special environments			
Contaminants[4]	-	X	-

1 These parameters should be indicated continuously.

2 Pressure or diving depth both inside and outside the bell should be indicated.

3 High and low alarms should be provided (audible and visible).

4 As identified in project working areas requiring this monitoring, such as H_2S and hydrocarbon contaminated worksites.

Table 3: PVHO compartment monitoring

.2 Divers (table 4):

Parameters					
	Diver 1	Diver 2	Standby Diver	Reclaim Gas	Machinery
Pressure or diving depth [1]	X	X	X	-	-
Oxygen partial pressure [1,2]	X	X	X	X	-
Carbon dioxide partial pressure [1,2]	-	-	-	X	-
Carbon monoxide [1,2]	-	-	-	X	-
Diver's suit heating medium [1,2]	X	X	X	-	X

1 These parameters should be indicated continuously.

2 A high and low alarm is to be fitted (audible and visible).

Table 4: Diver monitoring

.3 Central dive control should have monitored pressurization and breathing gas sources (table 5):

	Primary Source of Gas	**Independent Secondary Source of Gas**
Surface Orientated Diving		
One Working Diver	One	One
Two Working Divers – Alternative 1	One per diver	One per two divers
Two Working Divers – Alternative 2	One for two divers	One per diver
Surface Standby Diver	One (separate from working divers)	One (common with working divers' secondary source)
Wet Bell Services	One	One (can be from onboard gas)
Saturation Diving		
Diving Bell	One (from surface)	One (can be from surface or onboard gas)
Working Divers	One (from surface)	
Bell Man	One onboard gas or surface	One common with working divers
Oxygen	One onboard gas	-

Table 5: Central dive control monitored pressurization and breathing gas sources

.4 Central saturation control should have the following monitored pressurization and breathing gas sources (table 6):

	Primary Source of Gas	Independent Secondary Source of Gas
Each Chamber Compartment	One	One (this can be a separate source and common pipe to the compartment)

Table 6: Central saturation control monitored pressurization and breathing gas sources

Notes:

The term "source" is used to describe a means of providing the breathing or pressurization gas going into the control panel (figure 1).

The term "supply" is used to refer to the breathing or pressurization gas going to the diver/dive basket/wet-bell/PVHO from the control panel (figure 1).

The fundamental principle to the provision of breathing gas to divers is that any diver should have ready access to two sources of breathing gas (a primary and a secondary source), at least one of which should be supplied solely for the individual's own use, i.e. provide an independent supply of breathing gas.

The diver's bail-out is not considered as a primary or secondary source. The air supply to each diver should be arranged such that if one line fails then this does not interfere with the supply to another diver.

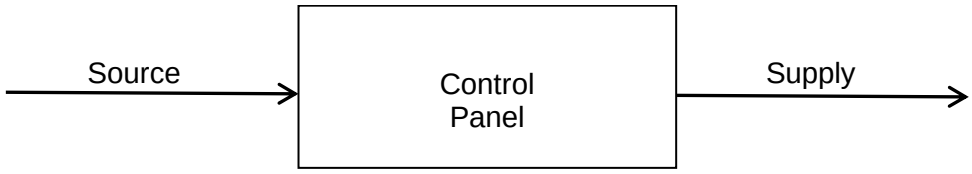


Figure 1: Illustration of source and supply

2.9 Guidance on 4.14: Maintenance and testing

2.9.1 The availability of any hyperbaric evacuation system provided is dependent on the regular testing and maintenance of the system. A planned maintenance and testing programme should be devised with the responsibility for carrying out the maintenance tasks being allocated to specific crew members. A maintenance and testing schedule should be available for recording the execution of the tasks and the signatures of the persons allocated the tasks. Such schedules should be maintained on board and be available for inspection.

2.9.2 The diving organization should appoint person(s) who are competent for the purposes of maintaining, testing and certifying diving equipment.

2.10 Guidance on 4.15: Hyperbaric survival craft (HBSC)

2.10.1 Where the HBSC has fuel tanks, these need to be completely full at all times to ensure that it is capable of surviving autonomously for 72 hours.

2.10.2 Medical equipment in accordance with DMAC 15 "Medical Equipment to be held at the Site of an Offshore Diving Operation"[9] or similar should be available to the occupants of an HBSC PVHO.

2.10.3 In determining the degree of stability to be provided for self-righting, consideration should be given to the adverse effects of large righting moments on the divers. Consideration should also be given to the effect which equipment and rescue personnel, required to be placed on the top of the system to carry out a recovery from the sea, may have on the stability of the semi-submerged PVHO HBSC.

3 ADDITIONAL GUIDANCE TO CHAPTER 5 – DIVING OPERATIONS AND SAFETY MANAGEMENT

3.1 Guidance on 5.3: Diving operations from the diving unit

3.1.1 The entity which owns the diving unit may or may not be the company which performs the diving operations. Third-party companies may charter or hire a diving unit temporarily. Organizations which may charter a diving unit include diving service contractors, marine salvage companies, scientific organizations, military, or public/civil service divers. Procedures, plans and instructions for diving operations to be included in or referenced by the diving platform safety management system should include, but are not be limited to:

.1 personnel familiarization with dive equipment and processes;

.2 equipment preparation checklists;

.3 pre-dive and post-dive inspections and checklists;

.4 diver deployment and recovery instructions;

.5 diver communication and monitoring instructions;

.6 diver tether/umbilical management instructions;

.7 diver standard and emergency decompression instructions;

.8 PVHO pressurization and decompression instructions;

.9 life-support/atmosphere monitoring and control instructions;

.10 diving gases management instructions;

.11 diver health management instructions;

.12 catering, hygiene and cleaning instructions; and

.13 instructions for diver interface with ROV, ships tools and equipment.

3.1.2 This can be addressed through a bridging document between the safety management systems of the diving platform and the diving contractor.

[9] DMAC 15 has been developed by the Diving Medical Advisory Committee (DMAC), which is an independent advisory body comprised of hyperbaric medical physicians supporting the international diving industry.

3.2 Guidance on 5.4: Diving organization's occupational health and safety management system

3.2.1 When diving operations are performed by a diving organization from a diving unit that is not the owner or operator of the diving platform, the diving organization should have an occupational health and safety management system which can be aligned with the diving platform's safety management system.

3.2.2 The occupational health and safety management system should list or include by reference occupational/commercial diving practices and methods which are proven to reduce risks relevant to the diving tasks being carried out by the diving unit. Diving methods and safe work practices that are developed for recreational diving purposes are unlikely to have sufficient risk-reducing measures for occupational and commercial diving tasks.

3.2.3 The safety management system should be approved by a relevant coastal State and/or accredited to, or comply with, a recognized system, such as ISO 45001.

3.2.4 Where an Administration does not have a national diving standard, international diving standards available to the Administration for consideration of diving safe practices include, but are not limited to:

.1 International Marine Contractors Association (IMCA);

.2 International Association of Oil and Gas Producers (IOGP); and

.3 Association of Diving Contractors International (ADCI).

3.3 Guidance on 5.5: Manning and training

3.3.1 Medical fitness for divers requires periodic evaluation and assessment, by medical doctors with training and experience in diving medicine. Administrations should recognize fitness to dive medical exams conducted to a national legislation where it exists, or an international standard, such as the Diving Medical Advisory Committee (DMAC), or the Undersea Hyperbaric and Medical Society (UHMS).

3.3.2 Divers require specialized training in diving physics, physiology, methods of diving and diving equipment. Administrations should recognize training and certification intended for occupational and commercial divers which meet national legislation requirements where they exist, or an international standard, such as those established by IMCA or ADCI. In general, it is recommended that the training and certification of recreational divers should not be recognized by the Administration for divers working in commercial or occupational diving tasks.

3.4 Guidance on 5.6: Emergency preparedness

3.4.1 Procedures for emergencies should include but not be limited to:

.1 loss and malfunction of critical diving system components;

.2 loss of pressure containment and suitable atmosphere inside a PVHO;

.3 recovery of diver(s), diving basket(s) and diving bell(s) when operating limitations are exceeded;

.4 location and recovery of diver(s), diving basket(s) and diving bell(s) when lost;

.5 loss of position and position keeping; and

.6 diving illness and injury of a diver while in the water or inside a PVHO.

3.4.2 Oxygen should be provided for divers using conventional lifeboats during an evacuation who may be injured or have decompression illness.

3.5 Guidelines for hyperbaric evacuation planning

3.5.1 Introduction

These hyperbaric evacuation planning guidelines have been developed with a view to promoting the safety of all divers in saturation and achieving a standard of safety for divers which corresponds, so far as is practicable, to that provided for other seagoing personnel.

3.5.2 Planning context

3.5.2.1 A potentially hazardous situation can arise if a diving unit from which saturation diving operations are being carried out has to be abandoned with a diving team under pressure. While this hazard should be reduced by pre-planning, under extreme conditions consideration may have to be given to hyperbaric evacuation of the divers. The hyperbaric evacuation arrangements should be studied prior to the commencement of the dive operation and suitable written contingency plans made.

3.5.2.2 Once an HBSC has been launched, the divers and any support personnel may be in a precarious situation where recovery into another facility may not be possible and exposure to seasickness and accompanying dehydration will present further hazards. It is, therefore, necessary that diving organizations ensure that any such contingency plans include appropriate solutions.

3.5.2.3 In preparing the contingency plans, various possible emergency situations should be identified taking into consideration the geographical area of operation, the environmental conditions, the proximity of other vessels, and the availability and suitability of any onshore or offshore facilities. The facilities for rescue, recovery and subsequent medical treatment of divers evacuated in such circumstances should be considered as part of the contingency plan.

3.5.3 Planning considerations

3.5.3.1 It is recognized that there are various methods available for evacuating divers in an emergency and that the suitability of the various options for safe hyperbaric evacuation depends on a number of factors. The risk associated with divers being inside an HBSC increases with exposure to that environment and, therefore, the time spent being exposed to this risk should be as low as reasonably practicable (ALARP).

3.5.3.2 The hyperbaric evacuation plan should allow execution of the plan such that the divers can reach a place of safety (typically a hyperbaric reception facility (HRF)) in a time frame which is less than 75% of the HBSC survival endurance capability (which typically equates to 54 hours). Such planning should be based on the capability of the HBSC, support vessel and systems at best speed based on expected mean weather conditions for the region and the time of year.

3.5.3.3 A vessel may be required to provide contingency facilities to a diving unit, e.g. carry a standby recompression facility on deck for use in the event of a hyperbaric evacuation from a diving unit. Due to the restricted nature of the recompression facility, only relevant sections of this Code will apply to this vessel and the recompression facility. See 3.5.5 below on Standby diving units.

3.5.4 Further planning considerations

3.5.4.1 As part of every project preparation, it is recommended that a meeting take place to agree the hyperbaric evacuation requirements. This should be captured in the risk assessment process.

3.5.4.2 The planning for the reception site(s) needs to include a consideration of all the assets, resources and services that are available. This will include a suitable crane, electrical power supplies, water supplies, food supplies for the chamber occupants and human effluent management, accommodation and food for the life-support team and other personnel. If there are suitable personnel available, for example if there is a hyperbaric facility or another diving organization in the vicinity that has on call life-support personnel, they should be informed of the potential request for their help in dealing with an emergency.

3.5.4.3 If the reception site cannot be established at the quayside at which the HBSC will arrive, then a method of transporting the HBSC to the reception facility needs to be included in the plan.

3.5.4.4 Lifting appliances that will lift an HBSC at sea should have a cargo rated capacity at the actual radius of lift of not less than 2 times the weight of the loaded HBSC and be further derated taking into account:

.1 weight of the loaded HBSC;

.2 radius of the lift;

.3 specific pendant arrangement and hook;

.4 risk of damage to HBSC from pendant and hook;

.5 lift speed and HBSC movement;

.6 static or dynamic lift;

.7 sea state;

.8 wind speed; and

.9 load offset from the vertical.

3.5.4.5 For lifting appliances that will lift the HBSC onshore or from a vessel in harbour, the cargo rated capacity at the actual radius of lift should not be less than two times the weight of the loaded HBSC (when divers/personnel are on board the HBSC).

3.5.5 Standby diving units

3.5.5.1 Standby diving units are solely for the purpose of rescuing divers from a diving unit. This rescue may be for recovery, transport to or acting as a place of safety. It may also be considered as a surface unit for submarine escape and rescue activities.

3.5.5.2 The plant and equipment that may be required on a standby diving unit varies considerably both in terms of operation and type. It is also an area that can reasonably be expected to experience innovation and novel solutions in the future. As such, this Code has been written to allow flexibility and these Guidelines may be considered in approaching such equipment on a case-by-case basis.

3.5.5.3 Standby diving units that:

.1 receive surface orientated survivors not involving the use of an HBSC should not require survey in accordance with section 5.2. However, the related plant and equipment on board should be surveyed in accordance with section 5.3 as applicable.

.2 recover HBSC and/or transport them to a place of safety on land should not require survey in accordance with section 5.2. However, the related plant and equipment on board should be surveyed in accordance with section 5.3 as applicable. Lifting appliances for the recovery of an HBSC should be surveyed after installation.

.3 act as a place of safety at sea should be surveyed in accordance with both section 5.2 and 5.3 as applicable. Hyperbaric evacuation arrangements from a standby diving unit should be surveyed only with respect to diving operations that may be carried out during trials of such units.

.4 in an emergency situation use portable equipment to create a standby diving unit (as per 3.5.5.2 or 3.5.5.3 above) do not require a survey to section 5.2 provided a procedure for mobilization has been approved by the certifying authority issuing Part II of the DUSC for that equipment.

3.5.6 Training and evacuation drills

3.5.6.1 Periodic training exercises should be carried out to test the operation of the hyperbaric evacuation system and the efficiency of the personnel responsible for the hyperbaric evacuation of the divers. Such training exercises should not normally be carried out while the chambers are pressurized, but should be carried out at each available opportunity.
3.5.6.2 All safety-critical equipment and procedures should be tested, trialled and periodically drilled. HBSC should be tested on a similar periodicity to the life-saving appliances within SOLAS.

3.5.6.3 In cases where the hyperbaric evacuation system cannot be launched due to the dive system being pressurized, an entry should be recorded in such logbook as may be prescribed by the Administration explaining why the drill could not be undertaken, and the launch should take place at the first available opportunity.

3.5.6.4 It is recommended that the crew assigned to launching of the hyperbaric evacuation system "walk through" the procedures for launch at regular intervals, so that they are familiar with the operation of the launching system.

3.5.6.5 In addition, the following should be considered, where appropriate, in conjunction with a SAR Cooperation plan:

.1 HBSC recovery;

.2 connection of support vessel life-support systems to HBSC;

.3 HBSC towing trials with emergency life-support umbilical;

.4 HBSC shore-side recovery;

.5 HBSC road transport with life-support package systems; and

.6 HBSC mating trials with hyperbaric reception facility (HRF).

3.5.7 Further guidance

Further guidance specific to hyperbaric evacuation planning can be found in:

.1 IMCA D 052, Guidance on Hyperbaric Evacuation Systems; and

.2 IOGP Report 478, Performance of saturation diving emergency hyperbaric evacuation and recovery.

APPENDIX 2

MODEL FORM OF DIVING UNIT SAFETY CERTIFICATE

DIVING UNIT SAFETY CERTIFICATE (DUSC)

(Official seal)

Issued in the pursuance of the

INTERNATIONAL CODE OF SAFETY FOR DIVING OPERATIONS (2023 DIVING CODE)

PART I

(Adopted by resolution MSC.548(107))

Name of diving unit …….....

Official number of diving unit[14] .....

Under the authority of the Government

.....

(Full official designation of the country)

by .....

(Full official designation of the competent person or organization authorized by the Administration)

Date on which the diving unit was certificated for the first time:

.....

Name of diving system .....

Part II Certificate Number .....

Under the inspection of

.....

Date on which the diving system was certificated for the first time:

.....

[14] For the period a diving system is installed on a diving platform, the diving unit name and number is that of the diving platform.

(Select saturation diving system and/or surface orientated diving system below, as appropriate)

The saturation diving system is designed and constructed for:

- A maximum operating depth of ……
- Air temperature ranges of ……..……..……..
- Water temperature ranges of ……..……..….
- A maximum wind speed of ……..
- A maximum sea state of ……..……
- A maximum number of divers of ……

The surface orientated diving system and its components are designed in accordance with the following limiting operating parameters:

- A maximum operating depth of ……..…….
- Air temperature ranges of ……..……..
- Water temperature ranges of ……..……...….
- A maximum wind speed of ……..
- A maximum sea state of ……..……..
- A maximum number of in-water divers of ……
- A maximum number of divers in the PVHO(s) of …….

THIS IS TO CERTIFY:

1. That the above-mentioned diving system has been installed in accordance with the applicable provisions of the 2023 Code of Safety for Diving Operations.

2. That the following aspects of the installation has been verified:

   2.1 The Part II certificate listed above has been issued by a recognized organization acceptable to the Administration, is current and all conditions and memoranda have been reviewed against the Administrations instructions.

   2.2 That, in accordance with section 5 of the Introduction to the 2023 Diving Code, and after reviewing Part II 3, the provisions of the 2023 Diving Code are modified in respect of the system in the following manner:

   .....

2.3 The required services listed in Part II are verified to be in place and tested. Services listed as essential are verified against the 2023 Diving Code reference:

…….

2.4 The hyperbaric survival craft (HBSC) are installed in accordance with the limitations in Part II, and the diving unit International Safety Management (ISM) is updated with contingency planning details.

2.5 The diving unit ISM is updated to include integration with the diving organization's occupational health and safety management system.

This certificate is valid until ..... day of ..... 20…..

Completion date of the survey on which this certificate is based:

.....
(dd/mm/yyyy)

Issued at .....

(place of issue of certificate)

The undersigned declares that he or she is authorized by the said Government to issue this certificate.

.....

(signature of official issuing the certificate and/or seal of issuing authority)

(seal or stamp of issuing authority, as appropriate)

SURVEYS

This is to certify that, at a survey required by section 5 of the Introduction to the 2023 Diving Code, this diving unit was found to comply with the relevant provisions of the 2023 Diving Code.

Annual survey

Place ..... Date .....

(Signature and seal of issuing authority)

Place ..... Date .....

(Signature and seal of issuing authority)

Place ..... Date .....

(Signature and seal of issuing authority)

Place ..... Date .....

(Signature and seal of issuing authority)

Place ..... Date .....

(Signature and seal of issuing authority)

Endorsement for the extension of the Certificate

The diving unit fully complies with the relevant provisions of the 2023 Diving Code and this Certificate should, in accordance with section 5 of the Introduction to the 2023 Diving Code, be accepted as valid until .....

Signed .....
(signature of authorized official)

Place ..... Date .....

(seal or stamp of the Administration, as appropriate)

DIVING UNIT SAFETY CERTIFICATE
(DUSC)

(Official seal)

Issued in the pursuance of the

INTERNATIONAL CODE OF SAFETY FOR DIVING OPERATIONS
(2023 DIVING CODE)

PART II

Diving system details for consideration in issuance of Part I of the certificate and acceptance by an Administration.

This certificate does not confer acceptance by an Administration nor provide complete certification against the 2023 Diving Code

(Adopted by resolution MSC.548(107))

Name of diving system …….....

Identifying number of diving system .....

Certifying Authority .....

Was diving system previously certified under the Code of Safety for Diving Systems, 1995 Diving Code Resolution A.831(19) prior to *[date]* (Yes / No / Not applicable)

Date on which the diving system was certificated for the first time:
.....

This Certificate may only be considered valid when accompanied by an installation survey: (Yes/No)

Current conditions and memoranda will be supplied to the Administration upon notification of installation as part of a diving unit.

(Select saturation diving system and/or surface orientated diving system below as appropriate)

The saturation diving system is designed and constructed for:

- A maximum operating depth of ……..…….
- Air temperature ranges of ……..……..
- Water temperature ranges of ……..……...….
- A maximum wind speed of ……..
- A maximum sea state of ……..……..
- A maximum number of divers of ……

The surface orientated diving system and its components are designed in accordance with the following limiting operating parameters:

- A maximum operating depth of ……..…….
- Air temperature ranges of ……..……..
- Water temperature ranges of ……..……...….
- A maximum wind speed of ……..
- A maximum sea state of ……..……..
- A maximum number of in-water divers of ……..
- A maximum number of divers in the chamber(s) of …….

Diving system details:

Main equipment	Design standard	Rating	Certificate number

Diving system required and essential services including interface location:

Required supply	Rating	Essential yes/no	Emergency supply	Location of connection

Diving system hyperbaric survival craft (HBSC)

Type		Certificate:
Launch limitations		Test certificate: (Free fall)
Environmental limits		Test certificate: (Environmental)

THIS IS TO CERTIFY:

1 That the above-mentioned diving system has been duly surveyed and tested in accordance with the applicable provisions of the 2023 Code of Safety for Diving Operations.

2 That the survey showed that the design, construction, equipment, fittings, communication system, arrangements and materials of the system and the conditions thereof are in all respects satisfactory and that the system complies with the relevant provisions of the 2023 Diving Code.

3 The following alternative arrangements under section 4 of the Introduction to the 2023 Diving Code :

……

are supported by the certification authority to be considered by the Administration when issuing Part I.

4. This certificate is valid until ..... day of ..... 20……..…

Completion date of the survey on which this certificate is based:

.....
(dd/mm/yyyy)

Issued at .....

(place of issue of certificate)

The undersigned declares that he or she is authorized by the said Government to issue this certificate.

.....

(signature of official issuing the certificate and/or seal of issuing authority)

(seal or stamp of issuing authority, as appropriate)

SURVEYS

This is to certify that, at a survey required by section 5 of the Introduction to the 2023 Diving Code, this system was found to comply with the relevant provisions of the 2023 Diving Code.

Annual survey

Place .... Date ....
Mobilized (Yes/No) Diving Unit…………….…… IMO number……….……… Flag …………………

(Signature and seal of issuing authority)

Place .... Date ....
Mobilized (Yes/No) Diving Unit…………….…… IMO number……….……… Flag …………………

(Signature and seal of issuing authority)

Place .... Date ....
Mobilized (Yes/No) Diving Unit…………….…… IMO number……….……… Flag …………………

(Signature and seal of issuing authority)

Place .... Date ....
Mobilized (Yes/No) Diving Unit…………….…… IMO number……….……… Flag …………………

(Signature and seal of issuing authority)

Place .... Date ....
Mobilized (Yes/No) Diving Unit…………….…… IMO number……….……… Flag …………………

(Signature and seal of issuing authority)

Endorsement for the extension of the Certificate

The diving system fully complies with the relevant provisions of the 2023 Diving Code and this Certificate should, in accordance with section 5 of the Introduction to the 2023 Diving Code, be accepted as valid until .....
Signed .....
(signature of authorized official)

Place ..... Date .....

(seal or stamp of the Administration)

APPENDIX 3

GUIDANCE ON IMPLEMENTATION OF THE CODE OF SAFETY FOR DIVING OPERATIONS

1 Introduction

1.1 Resolution A.831(19), as amended by resolution MSC.185(75), on *Code of Safety for Diving Systems* (henceforth "the 1995 Diving Code") pertains primarily to diving systems themselves. It does not contain requirements for the ships that carry diving systems, nor requirements that deal with how the diving system and diving platform should be integrated. Much of the 2023 International Code of Safety for Diving Operations (henceforth "the 2023 Diving Code") introduces such provisions and represents a more holistic approach.

1.2 It should be noted that chapter 4 of the 2023 Diving Code has essentially the same scope as the 1995 Diving Code A.831(19) *Code of Safety for Diving Systems* and *Hyperbaric Evacuation Systems* (resolution A.692(17)). With the exception of chapter 4, the 2023 Diving Code has an expanded scope that was not covered in the 1995 Diving Code.

1.3 Further, the 2023 Diving Code has been written and presented as a goal-based standard, the IMO preferred format.

1.4 The main differences between the 1995 Diving Code and the 2023 Diving Code are summarized in the table below.

Chapter	**Main differences**
Preamble	• Clarifies the intent to provide an equivalent level of safety to SOLAS. • Extends application to all types of diving systems, fixed or temporary, surface orientated or saturation.
Chapter 1 General	• Introduces a two-part certificate system developed to allow application of the 2023 Diving Code to temporary and surface orientated diving systems.
Chapter 2 Diving unit principles – Redundancy and integration	Provisions added regarding the diving unit as a whole, as well as the integration of the diving system with the diving platform.
Chapter 3 Operational capabilities and limitations of diving platforms for conducting safe diving operations	• Provisions for stability and positioning have been added for the ship. • New evacuation times.
Chapter 4 Diving system design, construction, installation, testing and survey	• Provisions for surface orientated diving systems clarified. • General update of provisions based upon current industry practice.

Chapter	Main differences
	• Provisions for hyperbaric survival craft (HBSC) now developed from a base in the LSA Code.
Chapter 5 Diving operations and safety management	• Provisions to align the ship's ISM with the diving organization's safety management system introduced. • Provisions for manning, training emergency preparedness and voyage planning added.
Appendix 1 Additional guidance	• Provides additional information on the above topics based on current industry good practice.

2 Interpretation of the 2023 Diving Code based upon amendments to referenced IMO instruments

Throughout the development of the 2023 Diving Code, effort has been made to ensure that the 2023 Diving Code captures and adapts the provisions of other IMO instruments in a way that is practical for diving systems. Table 1 "Referenced IMO Instruments" of the 2023 Diving Code provides the amended status of the instruments that have been considered when drafting the 2023 Diving Code. Should these instruments be further amended without a subsequent amendment to the 2023 Diving Code, the new amendments should be applied as far as is practicable for diving units.

3 Implementation of the two-part certification scheme

3.1 With the addition of temporary diving systems within the intended application of the 2023 Diving Code, a means to handle two owners and two discrete objects was required (of which only the ship is an IMO object). A system of two certificates has therefore been chosen to allow this in practice. Namely the Diving Unit Safety Certificate (DUSC) Part I issued to the diving unit, and a DUSC Part II issued to the diving system.

3.2 Some key points on the two certificates:

.1 As the DUSC Part I is the only certificate issued against an IMO object, being the diving unit (ship with an installed diving system), it is the only certificate issued by or on behalf an Administration.

.2 A DUSC Part II is issued against the diving system which, being a non-IMO object, means it is issued as a statement of compliance by a certifying authority.

.3 A DUSC Part I also certifies that the installation of the diving system is in accordance with the 2023 Diving Code. Subsequent removal of a temporary diving system invalidates the certificate, and a new Part I would need to be issued should the diving system be reinstalled.

.4 A DUSC Part II is issued to the diving system and equipment and, so long as the diving system and equipment does not change and periodical surveys are current, the DUSC Part II remains valid over multiple mobilizations. Modifications to the diving system are to be followed up by the certifying authority.

.5 A DUSC Part II relates to the provisions of chapter 4 within the 2023 Diving Code, which has essentially the same scope as the 1995 Diving Code, with associated reference to A.692(17). Hence the use of existing certification to the 1995 Diving Code (Diving System Safety Certificate (DSSC)) is a suitable basis for the issuance of a DUSC Part II Certificate for the Diving System.

.6 A DUSC Part I addresses procedural, planning, integration of the dive system/ship and safety management issues. These key safety improvements should apply to all existing diving units.

3.3 Application of the 1995 and the 2023 Diving Codes are shown below (see also appendix 1 to this Guidance):

Diving system	**Code and Guidelines to be applied**
Existing	1995 Diving Code (A.831(19) *Code of Safety for Diving Systems*) and associated Guidelines (A.692(17) *Guidelines and Specifications for Hyperbaric Evacuation Systems*)
New	2023 Diving Code incorporating associated Guidelines
Diving unit	
Existing	2023 Diving Code incorporating associated Guidelines
New	2023 Diving Code incorporating associated Guidelines

4 Specific guidance to the survey part of the code

4.1 Diving Unit Safety Certificate (DUSC) – Part II

4.1.1 Noting that the DUSC Part I is the primary certificate (see 4.2 below), chronologically the DUSC Part II would typically be issued first (or at the same time as the DUSC Part I) as a diving system is required to be built before it can be installed on a diving platform.

4.1.2 Part II of the DUSC is intended to allow a diving system to be portable and owned/operated/classed by different entities than the ship it is installed upon. The Part II certificate's two main functions are to provide assurance on the technical condition of the diving system and highlight the required services/supplies for the diving system that the ship is expected to provide.

4.1.3 With regard to establishing the technical condition of a temporary (modular) diving system, it is vital that the equipment certified as part of the diving system is clearly identified. The model certificate within the 2023 Diving Code contains a table for diving system details. This table needs to be filled in at a level that allows a recognized organization (RO) tasked with issuing a Part I certificate, to be able to positively identify that all the equipment of a diving system being mobilized onto a ship has already been certified as meeting the provisions of the 2023 Diving Code.

4.1.4 The table below records an example of a required service/supply to be provided by the ship. It also specifies the interface location between the ship and the diving system. The record therefore defines both the boundaries of the certified diving system and its supply requirements. The example shown is of a diving system requiring cooling water to be supplied

by the vessel to cool the hydraulic power unit (HPU) for the diver launch and recovery system (LARS).

Required service/supply	**Rating**	**Essential yes/no**	**Emergency supply**	**Location of connection**
Cooling water LARS HPU	10 l/min at 7 °C	Yes	Yes	Machinery container 2 connection manifold

4.1.5 Upon mobilization it will be important to ensure the ship can supply such cooling water under normal and emergency power and establish to which point the ship will provide the physical connection.

4.1.6 Existing diving systems that have already been certified to the 1995 Diving Code are not expected to be recertified to the 2023 Diving Code as provided for in 5.3.3 of the 2023 Diving Code. The language accepting earlier certification as the "basis" for issuing a new Part II is used for the following reasons:

.1 It is recognized that existing certifications to the 1995 Diving Code apply to the diving system itself, but are issued via the ship it is installed upon. As such a temporary diving system may, at the time of the 2023 Diving Code entering into effect, be demobilized and its DSSC no longer formally valid. The use of the word "basis" is to allow such earlier certification to be used as the technical background for the design and construction of such a diving system to be accepted under the 2023 Diving Code.

.2 Given that such a diving system may have been demobilized for an unknown time period since its last certification, an earlier certificate may not be directly exchanged for a new DUSC Part II. The diving system should be surveyed for condition and completeness prior to issuing the new certificate.

4.1.7 It should be noted that a number of Administrations have introduced national legislation requiring diving systems to be certified under the 1995 Diving Code. If so, a Part II certificate issued under 5.3.3 of the 2023 Diving Code may not be accepted by such Administrations.

4.1.8 Under paragraph 5.2.3.4 of the 2023 Diving Code, existing diving systems that have not already been certified to the 1995 Diving Code may be reviewed and issued with a Part II certificate (see section 4.3). However, this is a process that should be completed within five years of the 2023 Diving Code coming into effect.

4.1.9 On the certificate where the question is asked, "Was diving system previously certified under the Code of Safety for Diving Systems, 1995 Diving Code Resolution A.831(19) prior to *[date]"* this should be marked "No" for saturation diving systems and "Not Applicable" for surface orientated systems. For the date on which the diving system was certificated, a statement "not certified" should be marked in place of the date.

4.1.10 The diving system details should still be completed for the main equipment and type of certification available.

4.1.11 The Authority issuing a Part II under this clause should mark under "Alternative arrangements" on the certificate the areas where the diving system is known not to comply. For example, "not design reviewed" and "not surveyed under construction".

4.1.12 Even under this clause, all diving systems should be subject to a survey confirming condition and functionality prior to certificate issuance and the validity of any certificates issued should not be longer than 5 years from the date of the 2023 Diving Code coming into effect.

4.2 Diving Unit Safety Certificate (DUSC) – Part I

4.2.1 Part I of the DUSC is intended to confirm that the diving unit as a whole (ship and diving system) is compliant with the 2023 Diving Code.

4.2.2 For a built-in diving system whose RO is the same as the diving system certifying authority, this is expected to be straightforward. However, for a temporary diving system this could be more challenging.

4.2.3 From the 2023 Diving Code 5.2.1 the RO role in issuing Part I of the certificate is to verify that the diving system integration and arrangement is in accordance with the 2023 Diving Code. The term "verify" was chosen as, in practice, there is likely to be a significant amount of work related to mobilization and integration that will need to be carried out by the certifying authority of the diving system. As a result, the RO for the ship does not need to carry out all of the scope directly. Rather, the RO for the ship is required to ensure that the said scope has been carried out.

4.2.4 To share this scope in practice means that the certifying authority of the diving system needs also to have the status of an RO under the ship's Administration.

4.2.5 Below is an example of the typical items that should be considered.

.1 Check if the certifying authority for the diving system is accepted as an RO by the Administration.

.2 Confirm if any alternatives listed in Part II are acceptable to the Administration.

.3 Consider if there are any specific Administration instructions that might impact Part II.

.4 Agree on the boundaries of survey during installation with the certifying authority of the diving system including deliveries and close out (see 2023 Diving Code 2.6.3.2).

.5 Verify the system installed is as per the DUSC Part II and no equipment is removed or additional.

.6 Agree on who will perform the systematic risk review within section 2.4 of the 2023 Code.

.7 Confirm that the ship ISM is updated to address the provisions of the 2023 Diving Code for the type of diving to be carried out (saturation or surface orientated).

.8 Have sight of bridging documentation/hyperbaric evacuation documentation/ last test records.

.9 Verify that the diving system Part II certificate is current, and any conditions or memos issued by the certifying authority are acceptable to the Administration.

.10 Verify that the required testing for the diving system after installation has been completed.

.11 Verify that the vessel can supply all the services required by the diving system, and that these have been tested.

.12 Ensure that the hyperbaric life-saving appliances are in order and integrated into the safety plan.

4.3 Certification of existing uncertified diving systems

4.3.1 Certain existing diving systems may not have been certified to the 1995 Diving Code or by a certifying authority acceptable to the Administration. As a result, it may be difficult to provide manufacturing records that would comply with paragraphs 2.1.3 and 2.1.4 of the 1995 Diving Code or paragraph 4.3.3 of the 2023 Diving Code. However, these uncertified systems may be considered suitable for continued service. When reviewing existing uncertified systems for certification, Administrations may accept industry standards for materials and components on such systems. For example, the following may be suitable standards:

.1 ISO 10474: 3.2 certificates for deck decompression chambers; and
.2 ISO 10474: 3.1 certificates for materials and other components.

4.3.2 For existing uncertified diving systems, the certification process should be completed within five years of the 2023 Diving Code coming into effect.

4.3.3 This approach is not to be used for any diving systems whose build is started after the 2023 Diving Code comes into effect.

5 Notes on the provision of alternative solutions to mandatory requirements within the 2023 Diving Code

5.1 *Means of escape*

5.1.1 Carrying divers in saturation fundamentally alters the escape plan as normally approved for a ship. When divers are in saturation, they cannot access the lifeboats provided under SOLAS. The 2023 Diving Code provides an alternative solution, with the provision of hyperbaric survival craft (HBSC) containing pressurized chambers to allow the divers to evacuate in an emergency.

5.1.2 In practice this means that a diving unit operates in two modes when it comes to evacuation, i.e. non-diving mode and saturation diving mode.

5.1.2.1 When divers are not in saturation, all persons on board including divers stay in regular accommodation and escape routes are available to them as per a normal escape plan. In such circumstances, the SOLAS-mandated lifeboats are able to accommodate all persons on board.

5.1.2.2 When the divers are in saturation they will need to use the HBSC. It should be noted that members of the ship's crew will need to assist with launching and then manning and operating the HBSC after launch.

5.1.3 As such the following is recommended (including for temporary saturation diving systems that may be on the main deck):

.1 Standard arrows are used to show escape routes when no divers are in saturation.

.2 Different coloured arrows are used to show the movement of crew to the HBSC and the divers to the HBSC in order to also assess these routes for suitability as a means of escape.

.3 The entrance to the HBSC for the relevant ship's personnel should be considered as a muster station.

.4 The HBSC should be documented as another life-saving appliance on the Record of Equipment.

5.1.4 Total persons should be documented in the Record of Equipment (see appendix 3 of this Guidance).

5.1.5 Note that as divers come out of saturation and return to normal accommodation, space within the regular lifeboats is required.

5.2 *Life-saving appliances (LSA)*

Given that the 2023 Diving Code applies the LSA Code as far as is practical for hyperbaric survival craft, certification against this Code should be considered acceptable for HBSC.

5.3 *Safety management system (SMS)*

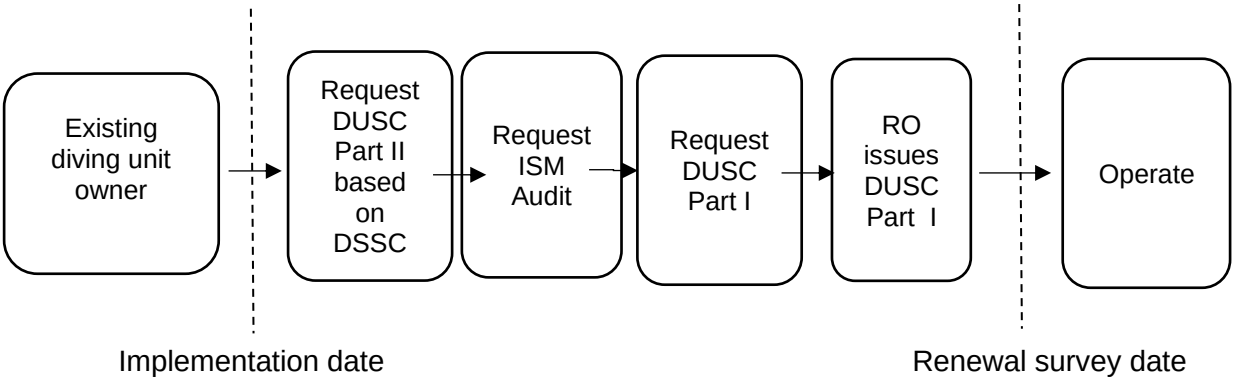
5.3.1 While diving should be considered as a shipboard operation regardless of application of the 2023 Diving Code, the 2023 Diving Code provides a useful framework for typical items to be considered when assessing diving as a shipboard operation.

5.3.2 Verification of alignment between the ship's safety management system and the diving organization's safety management system is required prior to issuance of a DUSC Part I. At present, a diving unit is not recorded as a specific ship type on the DUSC Part I certificate. It is therefore highly recommended that, should a company go through a process of verification that includes an audit against chapter 5 of the 2023 Diving Code, an audit report is provided to the company documenting this verification to simplify the process of issuing the DUSC.

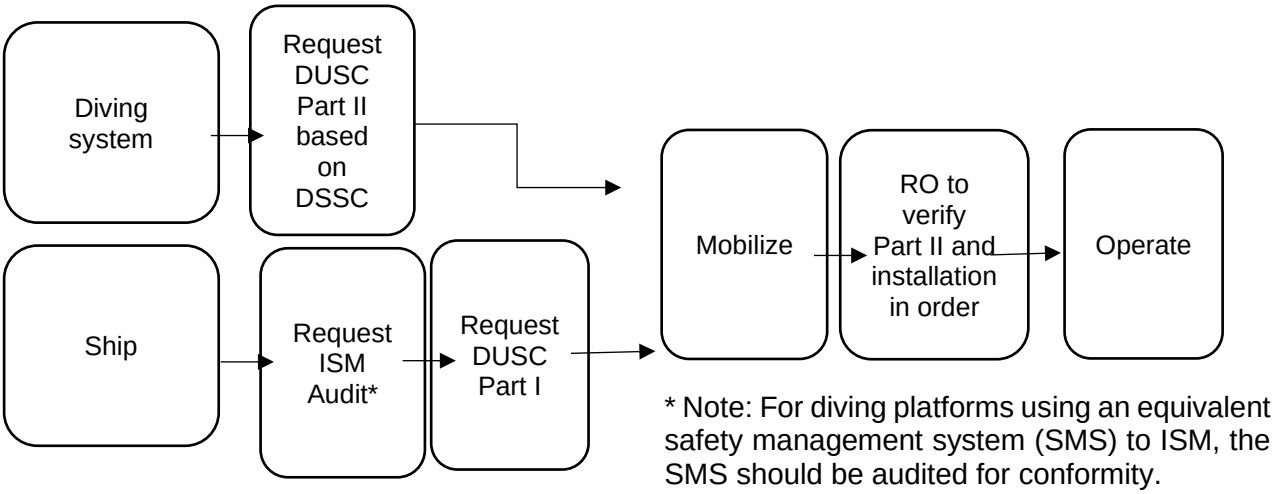
APPENDIX 1

CERTIFICATION EXAMPLES FOR EXISTING DIVING SYSTEMS

1 FIXED DIVING SYSTEM

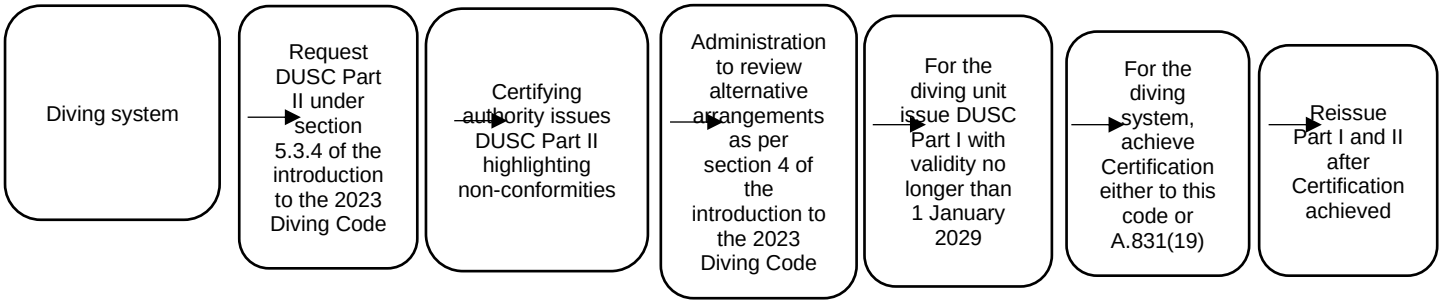


2 TEMPORARY SATURATION DIVING SYSTEM (SEPARATE ISSUERS OF DUSC PART I AND PART II)

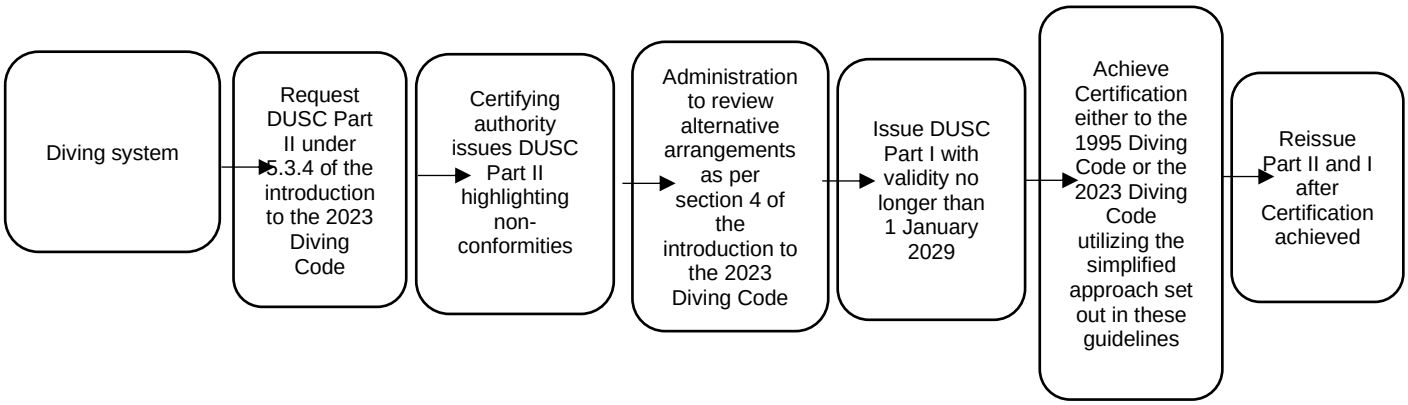


* Note: For diving platforms using an equivalent safety management system (SMS) to ISM, the SMS should be audited for conformity.

3 DIVING SYSTEM WITHOUT A DSSC BUT CERTIFIED TO A STANDARD ACCEPTABLE TO THE ADMINISTRATION



4 UNCERTIFIED DIVING SYSTEM



APPENDIX 2

EXAMPLE DIVING UNIT SAFETY CERTIFICATES

EXAMPLE A: UNCERTIFIED SATURATION DIVING SYSTEM (PRIOR TO 1 JANUARY 2029)

DIVING UNIT SAFETY CERTIFICATE

(DUSC)

(Official seal)

Issued in the pursuance of the

INTERNATIONAL CODE OF SAFETY FOR DIVING OPERATIONS

(2023 DIVING CODE)

PART II

Diving system details for consideration in issuance of Part I of the certificate and acceptance by an administration.

This certificate does not confer acceptance by an Administration nor provide complete certification against the 2023 Diving Code

(Adopted by resolution MSC.548(107))

Name of diving system: SAT 01

Identifying number of diving system: 01

Certifying Authority: Recognized Organization

Was diving system previously certified under the Code of Safety for Diving Systems, 1995 Diving Code Resolution A.831(19) prior to 1 January 2024 (No)

Date on which the diving system was certificated for the first time:

(Not certified)

Diving system details:

Main equipment	Design standard	Rating	Certificate number
DDC 1	ASME PVHO	300 m	ASME XXXX
DDC 2	ASME PVHO	300 m	ASME XXXX
DDC 3	ASME PVHO	300 m	ASME XXXX
LARS	In-house design	300 m	None

Diving system required and essential services including interface location:

Required supply	Rating	Essential yes/no	Emergency supply	Location of connection
Emergency power	900 kW	Yes	Yes	Switchboard machinery container

Diving system hyperbaric survival craft (HBSC)

Type	Self-Propelled Hyperbaric Lifeboat 12 man – Model No. XXXX	**Certificate:**	HBSC Cert XXXX
Launch limitations	None	**Test certificate: (Free fall)**	N/A – Davit-launched
Environmental limits	-5 °C to 55 °C	**Test certificate: (Environmental)**	XXXX

THIS IS TO CERTIFY:

1 That the above-mentioned diving system has been duly surveyed and tested in accordance with the applicable provisions of the 2023 Code of Safety for Diving Operations.

2 That the survey showed that the design, construction, equipment, fittings, communication system, arrangements and materials of the system and the conditions thereof are in all respects satisfactory and that the system complies with the relevant provisions of the 2023 Diving Code.

3. The following alternative arrangements under section 4 of the Introduction to the 2023 Diving Code:

> The dive system above is certified under 5.2.3.4.
>
> The pressure vessels for human occupancy (PVHO) have been built under ASME and U stamped.
>
> The system has not undergone design review.
>
> The remainder of the system has not been surveyed under construction or design approved.

are supported by the certification authority to be considered by the Administration when issuing Part I.

4. This certificate is valid until 1 January 2029

A system certified under 5.2.3.4 should not have a validity after this date. Subsequently it should be certified to the 1995 Diving Code or the 2023 Diving Code.

The known gaps in certification should be highlighted as alternative arrangements for consideration of the Administration issuing Part I.

EXAMPLE B: UNCERTIFIED SURFACE ORIENTATED DIVING SYSTEM (PRIOR TO 1 JANUARY 2029)

DIVING UNIT SAFETY CERTIFICATE

(DUSC)

(Official seal)

Issued in the pursuance of the

INTERNATIONAL CODE OF SAFETY FOR DIVING OPERATIONS

(2023 DIVING CODE)

PART II

Diving system details for consideration in issuance of Part I of the certificate and acceptance by an administration.

This certificate does not confer acceptance by an Administration nor provide complete certification against the 2023 Diving Code

(Adopted by resolution MSC.548(107))

Name of diving system: SURF 01

Identifying number of diving system: 01

Certifying Authority: Recognized Organization

Was diving system previously certified under the Code of Safety for Diving Systems, 1995 Diving Code resolution A.831(19) prior to 1 January 2024 (Not applicable)

Date on which the diving system was certificated

(Not certified)

(In both cases, details of the status of individual equipment are to be specified.)

Diving system details:

Main equipment	Design standard	Rating	Certificate number
DDC 1	ASME PVHO	50 m	ASME XXXX
LARS	In-house design	50 m	None

Diving system required and essential services including interface location:

Required supply	Rating	Essential yes/no	Emergency supply	Location of connection
Emergency power	400 kW	Yes	Yes	Switchboard machinery container

Diving system hyperbaric survival craft (HBSC)

Type	Not fitted	**Certificate:**	
Launch limitations	N/A	**Test certificate: (Free fall)**	
Environmental limits	N/A	**Test certificate: (Environmental)**	

THIS IS TO CERTIFY:

1 That the above-mentioned diving system has been duly surveyed and tested in accordance with the applicable provisions of the 2023 Code of Safety for Diving Operations.

2 That the survey showed that the design, construction, equipment, fittings, communication system, arrangements and materials of the system and the conditions thereof are in all respects satisfactory and that the system complies with the relevant provisions of the 2023 Diving Code.

3. The following alternative arrangements under section 4 of the Introduction to the 2023 Diving Code:

> The dive system above is certified under 5.2.3.4.
>
> The pressure vessels for human occupancy (PVHO) have been built under ASME and U stamped.
>
> The system has not undergone design review.
>
> The remainder of the system has not been surveyed under construction or design approved.

are supported by the certification authority to be considered by the Administration when issuing Part I.

4. This certificate is valid until 1 January 2029

A system certified under 5.2.3.4 should not have a validity after this date. Subsequently it should be certified to the 1995 Diving Code or the 2023 Diving Code.

The known gaps in certification should be highlighted as alternative arrangements for consideration of the Administration issuing Part I

APPENDIX 3

EXAMPLE RECORD OF EQUIPMENT*

2	**Details of life-saving appliances**		
1	Total number of persons for which life-saving appliances are provided: 120 crew + 12 saturation divers		
		Port side	**Starboard side**
2	Total number of davit-launched lifeboats	2	2
2.1	Total number of persons accommodated by them	120 + 12	120 + 12
2.2	Number of self-righting partially enclosed lifeboats (regulation III/43)	.....	.....
2.3	Number of totally enclosed lifeboats (regulation III/31 and LSA Code, section 4.6)	1	1
2.4	Number of lifeboats with a self-contained air support system (regulation III/31 and LSA Code, section 4.8)	.....	.....
2.5	Number of fire-protected lifeboats (regulation III/31 and LSA Code, section 4.9)	.....	.....
2.6	Other lifeboats		
2.6.1	Number	1	1
2.6.2	Type	Hyperbaric	Hyperbaric

* The SPS Record of Equipment should be completed in accordance with the example record shown.

***

ANNEX 36

IMO POSITION ON ITU WORLD RADIO CONFERENCE 2023 (WRC 23) AGENDA ITEMS CONCERNING MATTERS RELATING TO MARITIME SERVICES

General

Shipping plays a vital role in ensuring the flow of critical goods across supply chains and keeping world trade moving – over 80% of the world trade is transported by sea. Despite the disruption caused by the COVID-19 pandemic, the total volume of goods transported by the international maritime trade stands strong at 11 billion tonnes per year. Dry cargo (bulk, container or packaged) accounts for about 73% of these goods while crude oil and other petroleum products (e.g. gas and chemicals) claim 27%. The international maritime industry employs about 1.89 million seafarers working on approximately 103,000 ships of 100 gross tons and above. On the other hand, some specific incidents during the last two years that caused global supply chain crises have shown the high degree of the world's dependency on a functioning maritime trade.

While facilitating global trade, the safety and security of ships and protection of the marine environment remain core principles of the maritime industry. In this context, radiocommunication services are essential to ensure safe, secure and sustainable shipping. For this very reason, maritime spectrum should be maintained, protected and expanded further based on the needs of the maritime industry.

Agenda item 1.1

1.1 To consider, based on the results of ITU-R studies, possible measures to address, in the frequency band 4 800-4 990 MHz, protection of stations of the aeronautical and maritime mobile services located in international airspace and waters from other stations located within national territories, and to review the power flux-density (pfd) criteria in No.**5.441B** in accordance with resolution **223 (Rev.WRC-19)**;

Background

This agenda item addresses possible measures to ensure the protection of aeronautical and maritime mobile services, located either in international waters or airspace, from other stations located within national territories and operating in the frequency band 4 800-4 990 MHz. Additionally, the agenda item calls for the review of the pfd criteria contained in No.**5.441B**.

The frequency band 4 800-4 990 MHz is allocated to the maritime mobile service worldwide, as a subset of the mobile service, in accordance with the Table of Frequency Allocations.

Within the mobile services, this band could be used for some maritime applications.

IMO position

To ensure that any change to the regulatory provisions and technical conditions resulting from this agenda item do not adversely impact maritime communications.

Agenda item 1.2

1.2 To consider identification of the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with resolution **245 (WRC-19)**;

Background

Parts of the frequency bands 3 600-3 800 MHz (space-to-Earth) and 6 425-7 025 MHz (Earth-to-space) are used by one of the recognized mobile satellite service operators for the feeder links to support L-band maritime services, including those parts of the frequency bands which are used for the communications within the Global Maritime Distress and Safety System (GMDSS). There is a potential risk for interference from terrestrial IMT systems to receiving land earth stations using the frequency band 3 600-3 800 MHz, and to receiving space stations of one of the recognized mobile satellite service operators using the band 6 425-7 025 MHz. Interference to the space station could be received from multiple base stations deployed in many countries, and hence would be particularly challenging to resolve. Interference could harm the reliability of L-band services used daily on thousands of vessels for operational and welfare communications and could harm the reliability of GMDSS services to vessels.

IMO position

To ensure that any use of the frequency bands 3 600-3 800 MHz in Region 2 and 6 425-7 075 MHz in Region 1 by IMT would not affect the satellites and earth station receivers for the provision of mobile satellite service feeder links used by the GMDSS.

Agenda item 1.3

1.3 To consider primary allocation of the frequency band 3 600-3 800 MHz to the mobile service within Region 1 and take appropriate regulatory actions, in accordance with resolution **246 (WRC-19)**;

Background

Part of the frequency band 3 600-3 800 MHz (space-to-Earth) is used in MSS by a recognized mobile satellite service operator for the feeder links to support L-band maritime services, including the services used for the GMDSS. There is potential for interference from new mobile systems to receiving land earth stations using the frequency band 3 600-3 800 MHz. Interference could harm the reliability of L-band services used daily on thousands of vessels for operational and welfare communications and could harm the reliability of GMDSS services to vessels.

Inmarsat provides distress and safety satellite services as part of the GMDSS and has C-band feeder links in the frequency bands 3 550-3 700 MHz in all regions.

IMO position

To ensure that any use of the frequency band 3 600-3 800 MHz by the mobile service in Region 1 would not affect land earth stations using the same band for the provision of mobile satellite service feeder links used by the GMDSS.

To ensure protection of those services within the frequency band 3 600-3 800 MHz to which the frequency band is allocated on a primary basis and not to impose undue constraints on the existing services and their future development.

Agenda item 1.7

1.7 To consider a new aeronautical mobile-satellite (R) service (AMS(R)S) allocation in accordance with resolution **428 (WRC-19)** for both the Earth-to-space and space-to-Earth directions of aeronautical VHF communications in all or part of the frequency band 117.975-137 MHz, while preventing any undue constraints on existing VHF systems operating in the aeronautical mobile-satellite (R) service, the aeronautical radionavigation service, and in adjacent frequency bands;

Background

In the band 117.975-137 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies, based on the conditions in article 31 of the Radio Regulations, for distress and safety purposes with stations of the aeronautical mobile service. These frequencies are listed in Appendix 15 of the Radio Regulations.

IMO position

To ensure that any change to the regulatory provisions and spectrum allocation resulting from this agenda item do not adversely impact the use of the frequencies 123.1 MHz and 121.5 MHz for distress and safety communications for the GMDSS.

Agenda item 1.11

1.11 To consider possible regulatory actions to support the modernization of the Global Maritime Distress and Safety System (GMDSS) and the implementation of e-navigation, in accordance with resolution **361 (Rev.WRC-19)**;

Background

IMO efforts to implement the GMDSS modernization, including the introduction of additional mobile satellite systems, and e-navigation may need the cooperation of ITU in considering whether consequential modifications of the relevant parts in the Radio Regulations would be needed in order to accommodate advanced maritime communication systems and, if found necessary, how to implement them.

The Maritime Safety Committee, at its 105th session, completed the modernization of the GMDSS by adopting amendments to the 1974 SOLAS Convention, including consequential and related amendments to existing instruments, for their entry into force on 1 January 2024. In this regard, the use of HF NBDP and VHF EPIRB for distress communications is removed from SOLAS chapter IV and necessary flexibility for using new systems in the future (e.g. NAVDAT) is inserted into chapter IV.

The Maritime Safety Committee, at its ninety-ninth session, considered an application by China for the recognition of the BeiDou Message Service System (BDMSS) for use in the GMDSS, and consequently referred the application to the NCSR

Sub-Committee for evaluation of the detailed information to be provided in due course and authorized the Sub-Committee to invite IMSO to conduct the technical and operational assessment, as appropriate. NCSR 7 considered information provided by China on pre-assessment of BDMSS and invited IMSO to conduct the technical and operational assessment of BDMSS.

After evaluation of the application, the Committee, at its 106th session, adopted resolution MSC.529(106) on *Statement of Recognition of Maritime Mobile Satellite Services Provided by CTTIC through BDMSS*, subject to completion of identified implementation issues, including matters within the purview of WRC-23.

IMO position

To support regulatory actions that assist in the modernization of GMDSS (e.g. future digital data broadcasting by NAVDAT and continued use of the L-Band frequencies for maritime operations and GMDSS following removal of L-band EPIRBs) and implementation of e-navigation.

To support the introduction of additional satellite systems into the GMDSS and to safeguard the availability and full protection of the spectrum used by new and existing GMDSS satellite service providers.

Agenda item 1.15

1.15 To harmonize the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service globally, in accordance with resolution **172 (WRC-19)**;

Background

This band is increasingly being used for maritime communications and expected to be used for safety-related communications.

IMO position

To support the development of regulations to avoid any interferences to this band.

Agenda item 1.16

1.16 To study and develop technical, operational and regulatory measures, as appropriate, to facilitate the use of the frequency bands 17.7-18.6 GHz, 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) by non-geostationary fixed-satellite service earth stations in motion, while ensuring due protection of existing services in those frequency bands, in accordance with resolution **173 (WRC-19)**;

Background

Earth stations in motion (ESIMs) operating in these bands are used by large numbers of vessels for broadband connectivity at sea. Regulations exist to facilitate ESIMs operating in geostationary FSS networks in these bands. This agenda item aims to facilitate ESIMs operating in non-GSO FSS systems, which would benefit the provision of broadband services on ships, including those operating in the polar regions which may have no connection to GSO FSS satellites.

ESIMs are expected to be used for safety-related services such as the Fleet Data Automated Safety (FADS).

IMO position

To support the development of regulations for ESIMs operating in non-GSO systems while maintaining compatibility with GSO networks in the same bands.

Agenda item 1.17

1.17 To determine and carry out, on the basis of ITU-R studies in accordance with resolution **773 (WRC-19)**, the appropriate regulatory actions for the provision of inter-satellite links in specific frequency bands, or portions thereof, by adding an inter-satellite service allocation where appropriate;

Background

This agenda item addresses possible use of the bands 11.7-12.7 GHz, 18.1-18.6 GHz, 18.8-20.2 GHz and 27.5-30 GHz for inter-satellite links. The bands 18.1-18.6 GHz, 18.8-20.2 GHz and 27.5-30 GHz are used by ESIMs to provide broadband connectivity at sea to large numbers of vessels.

The frequency bands 19.3-19.7 GHz (space-to-Earth) and 29.1-29.5 GHz (Earth-to-space) are used by a recognized mobile-satellite service operator for the feeder links to support L-band maritime services, including the services used for the GMDSS. The ITU-R is studying whether inter-satellite service use, if permitted in the bands 19.3-19.7 GHz and 29.1-29.5 GHz, would cause interference to mobile-satellite service feeder links operations.

Iridium provides L-band distress and safety satellite services as part of the GMDSS. To support its L-band GMDSS and maritime mobile-satellite services (MMSS), Iridium operates Ka-band feeder links in the frequency bands 19.1-19.3 GHz and 29.1-29.5 GHz in all three ITU regions. Interference to mobile-satellite service (MSS) feeder links from inter-satellite service space stations communicating with fixed-satellite service systems in the Ka-band could harm the reliability of L-band GMDSS and MMSS to vessels.

IMO position

To ensure that systems providing service to maritime ESIMs and the inter-satellite link are not impacted by the use of the bands 18.1-18.6 GHz, 18.8-20.2 GHz and 27.5-30 GHz for inter-satellite links.

To ensure that if the frequency bands 19.3-19.7 GHz and 29.1-29.5 GHz are identified for inter-satellite links, the use of the bands for inter-satellite links would not affect the satellites and earth station receivers for the provision of mobile-satellite service feeder links used to support the GMDSS and other maritime mobile-satellite services.

Agenda item 2

2 To examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with further resolves of resolution **27 (Rev.WRC-19)**, and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with the principles contained in resolves of that resolution;

Background

There are a number of Recommendations incorporated by reference in the Radio Regulations. IMO has reviewed all these Recommendations.

IMO position

.1 IMO has studied the Recommendations of relevance and commented on each as given in annex 1.

.2 Incorporation by reference is of importance to IMO because of the close relationship between many of the ITU-R Recommendations related to GMDSS equipment and its operation, to IMO performance standards.

.3 IMO requests early indication of any changes proposed by ITU to the mechanism of incorporation by reference and to the list of incorporated Recommendations.

Agenda item 4

4 In accordance with resolution **95 (Rev.WRC-19)**, to review the resolutions and Recommendations of previous conferences with a view to their possible revision, replacement or abrogation;

Background

There are number of Resolutions and Recommendations in the Radio Regulations. IMO has reviewed all these Resolutions and Recommendations.

IMO position

IMO has studied the Resolutions and Recommendations of relevance and commented on each as given in annex 2.

Agenda item 9

9 to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with article 7 of the ITU Convention:

.1 on the activities of the ITU Radiocommunication Sector since WRC-19;

.2 on any difficulties or inconsistencies encountered in the application of the Radio Regulations; and

.3 on action in response to resolution **80 (Rev.WRC-07)**.

Agenda item 9.1, topic b)

Background

Under agenda item 9.1, topic b, ITU-R is invited to review the amateur service and the amateur-satellite service allocations in the frequency band 1 240-1 300 MHz to determine if additional measures are required to ensure protection of the radionavigation-satellite service (space-to-Earth) (RNSS) operating in the same band

in accordance with resolution **774 (WRC-19)**. The frequency band 1 240-1 300 MHz is used by the Global Navigation Satellite Systems (GNSS), recognized by IMO as components of the World-Wide Radio Navigation System (WWRNS) that provide World-wide Position, Navigation and Timing (PNT) determination services for ships.

IMO position

To ensure that the protection of RNSS (space-to-Earth) receivers is guaranteed after the possible technical and operational measures envisaged under this agenda item.

Agenda item 10

10 To recommend to the ITU Council items for inclusion in the agenda for the next world radiocommunication conference, and items for the preliminary agenda of future conferences, in accordance with article 7 of the Convention and resolution **804 (Rev.WRC-19)**,

Background information on digital voice in Radio Regulations appendix 18

Resolution 812 (Rev.WRC-19) on preliminary agenda for the 2027 World Radiocommunication Conference included, inter alia, the following item: "to consider improving the utilization of the VHF maritime frequencies in appendix 18, in accordance with resolution 363 (WRC-19)".

Digital technology is already widely used in land mobile communication. It is an established technology with known technical properties. Digital technology has the potential to accommodate more voice communication channels in the same amount of radio frequency spectrum than the currently established analogue technology. Digital technology may also offer new functionalities to improve safety. It is not expected that ship-to-ship communication by (digital) voice communication will be completely replaced by (written) data communication.

A transition scheme has to be developed to guarantee the smooth introduction of digital technology for voice communication and the envisaged entry into force of the amendments between 2035 and 2045.

However, the VHF channels 06, 13, 16, 70, AIS 1 (AIS-SART) and AIS 2 (AIS-SART) are used for GMDSS based on SOLAS and the ITU Radio Regulations. These channels and any other relevant channels could retain their current functionality. This is due to the operational and safety needs especially when navigating close to coastal waters or in-port areas, and considers the substantial number of non-SOLAS ships participating in the GMDSS.

In order to obtain the maximum benefit from a move towards digital technology for voice communication, IMO commits itself to the revision of the relevant regulatory framework, in particular, with a view to enhancing maritime safety by implementing new functionalities that may not be available with the current analogue voice communication technology and with DSC.

Background information on VDES R-Mode

Global shipping now heavily relies on global navigation satellite systems (GNSSs) for positioning, navigation and timing (PNT), however GNSS is vulnerable to natural or artificial interference such as solar flares, jamming and spoofing.

IMO position on digital voice in Radio Regulations appendix 18

IMO supports the introduction of digital technology for voice communication in the maritime mobile service, noting the need for a considered transition scheme, and related changes in appendix 18 and other relevant parts in the Radio Regulations in the agenda of WRC-31.

IMO position on VDES R-Mode

IMO supports the ranging mode using the VHF Data Exchange System (VDES R-Mode) as an independent resilient terrestrial PNT system for the backup of GNSS. IMO invites ITU to consider possible changes to the Radio Regulations for implementation of VDES R-Mode as a new maritime radionavigation service in the agenda of WRC-31.

IMO position on digital voice in Radio Regulations appendix 18 and VDES R-Mode

In light of the complexity of the aforementioned matters and direct involvement of IMO in addressing them, it is essential to establish two new work outputs under the IMO framework. Due to its programme of meetings, IMO's NCSR Sub-Committee is not expected to begin considering these matters until 2025. This time frame should provide sufficient opportunity to thoroughly study these issues, particularly the required transition scheme, prior to WRC-31.

To initiate work within ITU on the consideration of the relevant technical and regulatory implications of these two issues in a timely manner, IMO considers it necessary to propose two study questions in ITU-R Study Group 5 for the 2024-2027 study cycle and to suggest at WRC-23 the inclusion of the following items in the preliminary agenda for WRC-31:

.1 to consider the introduction of digital technology for VHF voice communications in the maritime mobile service and related changes to RR appendix 18 and other relevant provisions of the Radio Regulations; and

.2 to consider possible changes to the Radio Regulations for implementation of VDES R-Mode as a new application in the maritime radionavigation service.

IMO encourages ITU administrations and ITU-R sector members to support the establishment of these study questions, to actively contribute to the related studies and to support the inclusion of these issues in the preliminary agenda for WRC-31.

ANNEX 1

RECOMMENDATION ITU-R M.476-5
Direct-printing telegraph equipment in the maritime mobile service
(Question ITU-R 5/8)
(1970-1974-1978-1982-1986-1995)

Required by the maritime community.

RECOMMENDATION ITU-R M.489-2
Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz
(1974-1978-1995)

Needed by IMO to support the carriage requirements of SOLAS chapter IV and needed by the maritime community in general. Will likely be needed into the foreseeable future.

RECOMMENDATION ITU-R M.492-6
Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service
(Question ITU-R 5/8)
(1974-1978-1982-1986-1990-1992-1995)

Currently needed by IMO to support the NBDP carriage requirement in SOLAS chapter IV, although the system is little used.

RECOMMENDATION ITU-R M.541-10
Operational procedures for the use of digital selective-calling equipment in the maritime mobile service
(1978-1982-1986-1990-1992-1994-1995-1996-1997-2004-2015)

Needed by IMO. Likely to be needed into the foreseeable future.

RECOMMENDATION ITU-R M.585-8
Assignment and use of identities in the maritime mobile service
(1982-1986-1990-2003-2007-2009-2012-2015)

Required by the maritime community and useful to IMO.

RECOMMENDATION ITU-R M.625-4
Direct-printing telegraph equipment employing automatic identification in the maritime mobile service
(1986-1990-1992-1995-2012)

Currently needed by IMO to support the NBDP carriage requirement in SOLAS chapter IV, although the system is little used.

RECOMMENDATION ITU-R M.633-4
Transmission characteristics of a satellite emergency position-indicating radio beacon (satellite EPIRB) system operating through a satellite system in the 406 MHz band
(1986-1990-2000-2004-2010)

Used by IMO to support the performance standards for EPIRBs.

RECOMMENDATION ITU-R M.690-3

Technical characteristics of emergency position-indicating radio beacons operating on the carrier frequencies of 121.5 MHz and 243 MHz

(1990-1995-2012-2015)

Required by IMO to define the homing signal characteristics for the satellite EPIRB required by SOLAS chapter IV. Likely to be used by the maritime community for some time to come for EPIRBs and man overboard devices.

RECOMMENDATION ITU-R M.1084-5

Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service

(1994-1995-1997-1998-2001-2012)

Used by IMO for the description of VHF channels.

RECOMMENDATION ITU-R M.1171-0

Radiotelephony procedures in the maritime mobile service

(1995)

Required by IMO and the maritime community as long as coast stations offer a public correspondence service. The number of such coast stations is however declining.

RECOMMENDATION ITU-R M.1172-0

Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service

(1995)

Required by the maritime community.

RECOMMENDATION ITU-R M.1173-1

Technical characteristics of single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz

(1995 -2012)

Required by IMO and the maritime community and likely to be required into the foreseeable future.

RECOMMENDATION ITU-R M.1174-4

Technical characteristics of equipment used for onboard vessel communications in the bands between 450 and 470 MHz

(1995-1998- 2004-2015-2019)

Required by the maritime community and useful to IMO.

ANNEX 2

RESOLUTION 13 (REV.WRC-97)
Formation of call signs and allocation of new international series

Retain.

RESOLUTION 18 (REV.WRC-15)
Relating to the procedure for identifying and announcing the position of ships and aircraft of States not parties to an armed conflict

Retain.

RESOLUTION 205 (REV.WRC-19)
Protection of the systems operating in the mobile-satellite service in the frequency band 406-406.1 MHz

Retain.

RESOLUTION 207 (REV.WRC-15)
Measures to address unauthorized use of and interference to frequencies in the frequency bands allocated to the maritime mobile service and to the aeronautical mobile (R) service

Retain.

RESOLUTION 222 (REV.WRC-12)
Use of the frequency bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz by the mobile-satellite service, and procedures to ensure long-term spectrum access for the aeronautical mobile-satellite (R) service

Retain.

RESOLUTION 223 (REV.WRC-19)
Additional frequency bands identified for International Mobile Telecommunications

Retain.

RESOLUTION 331 (REV.WRC-12)
Operation of the Global Maritime Distress and Safety System

Retain.

RESOLUTION 339 (REV.WRC-07)
Coordination of NAVTEX services

Retain.

RESOLUTION 343 (REV.WRC-12)
Maritime certification for personnel of ship stations and ship earth stations for which a radio installation is not compulsory

Retain to ensure common operations between convention and non-convention ships.

RESOLUTION 344 (REV.WRC-19)
Management of the maritime identity numbering resource

Retain.

RESOLUTION 349 (REV.WRC-19)
Operational procedures for cancelling false distress alerts in the Global Maritime Distress and Safety System

Retain.

RESOLUTION 352 (WRC-03)
Use of the carrier frequencies 12 290 kHz and 16 420 kHz for safety-related calling to and from rescue coordination centres

Retain.

RESOLUTION 354 (WRC-07)
Distress and safety radiotelephony procedures for 2 182 kHz

Retain.

RESOLUTION 356 (REV. WRC-19)
ITU maritime service information registration

Retain.

RESOLUTION 361 (REV. WRC-19)
Consideration of possible regulatory provisions to support modernization of the Global Maritime Distress and Safety System and the implementation of e-navigation

Subject of agenda item 1.11.

RESOLUTION 363 (WRC-19)
Considerations to improve utilization of the VHF maritime frequencies in appendix 18

In the preliminary agenda for WRC-27.

RESOLUTION 612 (REV.WRC-12)
Use of the radiolocation service between 3 and 50 MHz to support oceanographic radar operations

Retain.

RECOMMENDATION 7 (REV.WRC-97)
Adoption of standard forms for ship station and ship earth station licences and aircraft station and aircraft earth station licences

Retain.

RECOMMENDATION 37 (WRC-03)
Operational procedures for earth stations on board vessels (ESVs) use

Retain.

RECOMMENDATION 316 (REV. WRC-19)
Use of ship earth stations within harbours and other waters under national jurisdiction

Retain.

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ANNEX 37

AMENDMENTS[10] TO THE ORGANIZATION AND METHOD OF WORK OF THE MARITIME SAFETY COMMITTEE AND THE MARINE ENVIRONMENT PROTECTION COMMITTEE AND THEIR SUBSIDIARY BODIES (MSC-MEPC.1/CIRC.5/REV.4)

6 PROCEDURES FOR PREPARATION AND SUBMISSION OF DOCUMENTS

Preparation of documents

Paragraph 6.2 is replaced with the following:

"6.2 To facilitate processing, meeting documents should be submitted through the Meeting Document Submission Portal, available on the IMODOCS homepage (https://docs.imo.org) under the "Submissions" tab.* All submissions through the Portal will be confirmed via notification to the submitter and their status can be checked on the Portal. For any queries relating to the Portal, please email the Secretariat at imodocs@imo.org."

* Refer to Circular Letter No.4662 of 16 December 2022.

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[1] Track changes were created using "strikeout" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text.

ANNEX 38

BIENNIAL STATUS REPORTS OF THE SUB-COMMITTEES[11]

2022-2023 BIENNIUM

Sub-Committee on Carriage of Cargoes and Containers (CCC)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.17 (New)	Review of IGC Code	2023	MSC	CCC		In progress		MSC 103/21, para.18.2; MSC 104/18, para 15.16, MSC 105/20, para 18.50
2. Integrate new and advancing technologies in the regulatory framework	2.3	Amendments to the IGF Code and development of guidelines for alternative fuels and related technologies	Continuous	MSC	HTW / PPR / SDC / SSE	CCC	Ongoing		MSC 94/21, paras.18.5 and 18.6; MSC 96/25, paras.10.1 to 10.3; MSC 97/22, para.19.2; PPR 6/20, para. 3.39; MSC 102/24, para 21.4; MSC 106/19, para 16.42. MSC 106/16/5
Notes:	MSC 106 changed description in order to accommodate the consideration of alternative fuels not having a low-flashpoint. This resulted the deletion of output 2.24 on “Development of guidelines for the safety of ships using ammonia as fuel” to avoid duplication.								
2. Integrate new and advancing technologies in the regulatory framework	2.22	Amendments to the IGC and IGF Codes to include high manganese austenitic steel and related guidance for approving alternative metallic material for cryogenic service	2023	MSC	CCC		Completed		MSC 96/25 para.23.4; MSC 98/23, annex 38; MSC 100/20 para.17.21; MSC 102/24, para.21.6; MSC 104/18, para 15.16; MSC 105/20, para 14.3; MSC 106/19, para 3.46; resolutions MSC.523(106) and MSC.524(106) CCC 8/18, section 4

[11] For details, refer to Organizational Planning module of GISIS.

Sub-Committee on Carriage of Cargoes and Containers (CCC)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.25 (New)	Revision of the Interim recommendations for carriage of liquefied hydrogen in bulk	2024	MSC	CCC		In progress		MSC 105/20, para 18.28 CCC 8/18, section 14.
4. Engage in ocean governance	4.4 (New)	Development of measures regarding the detection and mandatory reporting of containers lost at sea that may enhance the positioning, tracking and recovery of such containers	2023	MSC	NCSR	CCC	Completed		MSC 103/21, para.18.34 CCC 8/18, section 11; MSC 107/22, para 11.7
6. Address the human element	6.1	Role of the human element	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing		MSC 89/25, paras.10.10, 10.16 and 22.39 and annex 21; CCC 8/18, para.17.1
6. Address the human element	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	No work requested		MSC 100/20, paras.10.3 to 10.6 and 17.28; MSC 105/20, section 16, MSC 100/20, paras.10.3 to 10.6 and 17.28 CCC 6/14, sections 2 and 13
Notes:	Virtual meetings of three drafting groups took place during 2022, to consider draft model courses for validation at HTW 9.								
6. Address the human element	6.15	Revision of resolution A.1050(27) to ensure the safety of personnel entering enclosed spaces on board ships	2024	MSC	III / HTW / PPR / SDC / SSE	CCC	In progress		MSC 101/24, para.21.48; MSC 104/18, para 15.16; MSC 106/19, para 16.31.

Sub-Committee on Carriage of Cargoes and Containers (CCC)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
Notes:	MSC 106 expanded the scope of "Revision of the Revised recommendations for entering enclosed spaces aboard ships (resolution A.1050(27))" and modified the description, with a target completion year of 2024, assigning the CCC Sub-Committee as the coordinating organ, in association with the III, HTW, PPR, SDC and SSE Sub-Committees.								
7. Ensure regulatory effectiveness	7.1	Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions	Continuous	MSC / MEPC / FAL / LEG	III / PPR / CCC / SDC / SSE / NCSR		Ongoing		MSC 76/23, para.20.3; MSC 78/26, para.22.12; CCC 7/15, section 11; MSC 105/20, para 15.7; CCC 8/18, para.12.11
7. Ensure regulatory effectiveness	7.10	Amendments to the IMDG Code and supplements	Continuous	MSC	CCC		Ongoing		MSC 105/20, para 3.59 and 14.4 CCC 8/18, section 6
7. Ensure regulatory effectiveness	7.13	Amendments to the IMSBC Code and supplements	Continuous	MSC	CCC		Ongoing		MSC 105/20, para 14.4 and para 3.57; MSC 107/20, para 17.10 and para 17.12 CCC 8/18, section 5
7. Ensure regulatory effectiveness	7.15 (New)	Development of amendments to SOLAS chapter II-2 and the FSS Code concerning detection and control of fires in cargo holds and on the cargo deck of container ships	2025	MSC	CCC	SSE	No work requested		MSC 103/21, para.18.8; SSE 8/20, section 10; MSC 106/19, section 9; SSE 9/20, section 10

Sub-Committee on Carriage of Cargoes and Containers (CCC)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.25	Amendments to the International Code for the Safe Carriage of Grain in Bulk (resolution MSC.23(59)) to introduce a new class of loading conditions for special compartments	2023	MSC	CCC		Completed		MSC 104/18, para 15.16 MSC 104/18, para.15.16; CCC 8/18, para.7.6 and annex 5.
7. Ensure regulatory effectiveness	7.28	Consideration of reports of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas	Annual	MSC / MEPC	III	CCC	Completed		CCC 7/15, section 9 CCC 8/18, section 9

Sub-Committee on Human Element, Training and Watchkeeping (HTW)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.26	Revision of MARPOL Annex IV and associated guidelines to introduce provisions for record-keeping and measures to confirm the lifetime performance of sewage treatment plants	2023	MEPC	III / HTW	PPR	No work requested		MEPC 71/17, paras.14.8 and 14.9; MEPC 72/17, para.15.10; MEPC 73/19, para. 15.19; PPR 6/20, Section 14; and MEPC 74/18, para. 14.5; MEPC 78/17, para.14.11
Notes:	MEPC 74 agreed to expand the scope of existing output 1.26 and amend the title of the output from "Amendments to the 2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants (resolution MEPC.227(64)) to address inconsistencies in their application" to read "Revision of MARPOL Annex IV and associated guidelines to introduce provisions for record-keeping and measures to confirm the lifetime performance of sewage treatment plants".								
1. Improve implementation	1.32	Implementation of the STCW Convention	Continuous	MSC	HTW		Ongoing	Completed	MSC 101/24, para.15.7; MSC 102/24, para.13.14; MSC 107/20, para 17.71 HTW 9/15, section 6
Notes:	MSC 107 integrated this output into output 6.17 (Comprehensive review of the 1978 STCW Convention and Code)								
2. Integrate new and advancing technologies in the regulatory framework	2.3	Amendments to the IGF Code and development of guidelines for alternative fuels and related technologies	Continuous	MSC	HTW / PPR / SDC / SSE	CCC	No work requested		MSC 94/21, paras.18.5 and 18.6; MSC 96/25, paras.10.1 to 10.3; MSC 97/22, para.19.2; PPR 6/20, para. 3.39; MSC 102/24, para 21.4; MSC 106/19, para 16.42.
Notes:	MSC 106 changed description in order to accommodate the consideration of alternative fuels not having a low-flashpoint. This resulted the deletion of output 2.24 on “Development of guidelines for the safety of ships using ammonia as fuel” to avoid duplication.								

Sub-Committee on Human Element, Training and Watchkeeping (HTW)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.8	Development of guidelines for cold ironing of ships and consideration of amendments to SOLAS chapters II-1 and II-2	2023	MSC	III / HTW / SDC	SSE	Completed		MSC 98/23, para.20.36; SSE 7/21, section 11; HTW 8/16, section 15; SSE 8/20, section 18; SE 9/20, para.19.8 HTW 8/16, section 15
2. Integrate new and advancing technologies in the regulatory framework	2.10	Development of revisions and amendments to existing instruments relating to the amendments to the 1974 SOLAS Convention for modernization of the GMDSS	2022	MSC	HTW / SSE	NCSR	No work requested	Completed	MSC 105/20, paras.3.42, 3.52 to 3.55, 3.60 to 3.62, 3.63.1 and 3.63.2; resolution MSC.496(105), et al.; MSC 106/19, para.13.17, MSC.1/Circ.1656, MSC.1/Circ.1657, MSC.1/Circ.1658 and MSC.1/Circ.892/Rev.1 HTW 9/15, section 8
4. Engage in ocean governance	4.3	Follow-up work emanating from the Action Plan to address marine plastic litter from ships	2023	MEPC	III / HTW / PPR		Completed		HTW 8/16, section 8
6. Address the human element	6.1	Role of the human element	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing	Ongoing	MSC 89/25, paras.10.10, 10.16 and 22.39 and annex 21; HTW 9/15, section 4
6. Address the human element	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing	Ongoing	MSC 100/20, paras.10.3 to 10.6 and 17.28; MSC 105/20, section 16 HTW 9/15, section 3
Notes: Virtual meetings of three drafting groups took place during 2022, to consider draft model courses for validation at HTW 9.									

Sub-Committee on Human Element, Training and Watchkeeping (HTW)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
6. Address the human element	6.3	Reports on unlawful practices associated with certificates of competency	Annual	MSC	HTW		Completed	Completed	MSC 83/28, para.12.2; HTW 9/15, section 5
6. Address the human element	6.5	Development of measures to facilitate mandatory seagoing service required under the STCW Convention	2023	MSC	III	HTW	In progress	Completed	MSC 101/24, paras.21.29 and 21.30; MSC 107/20, para 17.71 HTW 8/16, section 11
Notes:	MSC 107 integrated this output into output 6.17 (Comprehensive review of the 1978 STCW Convention and Code)								
6. Address the human element	6.6	Development of measures to ensure quality of onboard training as part of the mandatory seagoing service required by the STCW Convention	2023	MSC	HTW		In progress	Completed	MSC 101/24, para.21.1; MSC 107/20, para 17.71 HTW 9/15, section 9
Notes:	MSC 107 integrated this output into output 6.17 (Comprehensive review of the 1978 STCW Convention and Code)								
6. Address the human element	6.11	Development of training provisions for seafarers related to the BWM Convention	2023	MEPC	HTW		In progress	Completed	MSC 107/20, para 17.71 HTW 9/15, section 11
Notes:	MSC 107 recommended, subject to the decision of MEPC, integration of this output into output 6.17 (Comprehensive review of the 1978 STCW Convention and Code)								
6. Address the human element	6.12	Comprehensive review of the 1995 STCW-F Convention	2023	MSC	HTW		In progress	Completed	MSC 95/22, para.19.3 and 19.4; MSC 96/25, para.12.3; HTW 9/15, section 8

Sub-Committee on Human Element, Training and Watchkeeping (HTW)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
6. Address the human element	6.13	Development of amendments to the Revised guidelines for the development, review and validation of model courses (MSC-MEPC.2/Circ.15/Rev.1)	2022	MSC	HTW		Completed		MSC 100/20, paras.17.7 and 17.8; MSC 106/19, para 10.2; MSC-MEPC.2/Circ.15/Rev.2 HTW 8/16, para.7.6
6. Address the human element	6.14	Development of amendments to the STCW Convention and Code for the use of electronic certificates and documents of seafarers	2023	MSC	III	HTW	Completed		MSC 100/20, para.17.12; MSC 106/19, paras 10.3 to 10.9; HTW 8/16, paras.9.7 to 9.10
Notes:	MSC 107 adopted amendments to STCW regulations I/1 and I/2, as well as section A-I/2 of the STCW Code, together with the Guidelines on the use of electronic certificates of seafarers.								
6. Address the human element	6.15	Revision of resolution A.1050(27) to ensure the safety of personnel entering enclosed spaces on board ships	2024	MSC	III / HTW / PPR / SDC / SSE	CCC	No work requested		MSC 101/24, para.21.48; MSC 104/18, para 15.16; MSC 106/19, para 16.31.
Notes:	MSC 106 expanded the scope of "Revision of the Revised recommendations for entering enclosed spaces aboard ships (resolution A.1050(27))" and modified the description, with a target completion year of 2024, assigning the CCC Sub-Committee as the coordinating organ, in association with the III, HTW, PPR, SDC and SSE Sub-Committees.								
6. Address the human element	6.17 (New)	Comprehensive review of the 1978 STCW Convention and Code	2026	MSC	HTW			In progress	MSC 105/20, para.18.13; MSC 107/20, para 17.71 HTW 9/15, section 7
Notes:	MSC 105 instructed the HTW Sub-Committee to develop and finalize, as a matter of priority as part of this output, STCW training provisions addressing bullying and harassment in the maritime sector, including sexual assault and sexual harassment, which have been approved at MSC 107. MSC 107 integrated outputs 1.32, 6.5, 6.6 and 6.11 into this output.								

Sub-Committee on Human Element, Training and Watchkeeping (HTW)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.32	Requirements for onboard lifting appliances and anchor handling winches	2022	MSC	HTW	SSE	No work requested		MSC 89/25, para.22.26; MSC 98/23, annex 38; SSE 8/20, section 9; MSC 106/19, section 11
7. Ensure regulatory effectiveness	7.33	Review of SOLAS chapter II-2 and associated codes to minimize the incidence and consequences of fires on ro-ro spaces and special category spaces of new and existing ro-ro passenger ships	2023	MSC	HTW / SDC	SSE	No work requested		MSC 97/22, para.19.19; MSC 98/23, para.12.42; MSC 106/19, para 16.55; SSE 9/20, section 6
7. Ensure regulatory effectiveness	7.42 (New)	Revision of the Interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369) and related circulars	2024	MSC	HTW / SSE	SDC		No work requested	MSC 103/21, para.18.31; MSC 105/20, paras 15.24.2 and 18.54

Sub-Committee on Implementation of IMO Instruments (III)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.4	Analysis of consolidated audit summary reports	Annual	Assembly	MSC / MEPC / LEG / TCC / III	Council	Ongoing		MEPC 61/24, para.11.14.1; MSC 88/26, para.10.8; C 120/D, paras.7.1 and 7.2; MSC 105, para.13.10; MSC 106, paras.14.11 and 16.37 III 8/19, section 8
1. Improve implementation	1.5	Non-exhaustive list of obligations under instruments relevant to the IMO Instruments Implementation Code (III Code)	Annual	MSC / MEPC	III		Ongoing		MEPC 64/23, para.11.49; MSC 91/22, para.10.30; MEPC 52/24, para.10.15. MEPC 72/17, para. 2.7.5; and MEPC 74/18, para.11.3; MSC 104/18, para.13.7.3, MSC 106/19 para.14.18 III 8/19, section 11
1. Improve implementation	1.11	Measures to harmonize port State control (PSC) activities and procedures worldwide	Continuous	MSC / MEPC	HTW / PPR / NCSR	III	Ongoing		MSC 101/24, para.21.48; MEPC 75/18, paras.11.10 and 11.11; MSC 104, para.13.7.1 III 8/19, section 5
1. Improve implementation	1.14 (New)	Development of guidance in relation to Mandatory IMO Member State Audit Scheme (IMSAS) to assist in the implementation of the III Code by Member States	2023	MSC / MEPC	III		In progress		MSC 103/21, para.18.38; MSC 106/19, paras.14.23 and 14.24 III 8/19, section 9

Sub-Committee on Implementation of IMO Instruments (III)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.18 (New)	Development of guidance on assessment and applications of remote surveys, ISM Code audits and ISPS Code verifications	2024	MSC / MEPC	III		In progress		MSC 104/18, para.15.5; MSC 106/19, para.14.16 III 8/19, section 12
1. Improve implementation	1.26	Revision of MARPOL Annex IV and associated guidelines to introduce provisions for record-keeping and measures to confirm the lifetime performance of sewage treatment plants	2023	MEPC	III / HTW	PPR	No work requested		MEPC 71/17, paras.14.8 and 14.9; MEPC 72/17, para.15.10; MEPC 73/19, para. 15.19; PPR 6/20, Section 14; and MEPC 74/18, para. 14.5; MEPC 78/17, para.14.11
Notes:	MEPC 74 agreed to expand the scope of the existing output 1.26 and amend the title of the output from "Amendments to the 2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants (resolution MEPC.227(64)) to address inconsistencies in their application" to read "Revision of MARPOL Annex IV and associated guidelines to introduce provisions for record-keeping and measures to confirm the lifetime performance of sewage treatment plants".								
2. Integrate new and advancing technologies in the regulatory framework	2.8	Development of guidelines for cold ironing of ships and consideration of amendments to SOLAS chapters II-1 and II-2	2023	MSC	III / HTW / SDC	SSE	No work requested		MSC 98/23, para.20.36; SSE 7/21, section 11; HTW 8/16, section 15; SSE 8/20, section 18; SSE 9/20, para.19.8
Notes:	SSE 9 finalized the output.								
~~2. Integrate new and advancing technologies in the regulatory framework~~	~~2.9 (New)~~	~~Development of amendments to VDR performance standards and carriage requirements~~	~~2023~~	~~MSC~~	~~III~~	~~NCSR~~	~~No work requested~~		~~MSC 101/24, paras.21.39 to 21.44; MSC 107/20, para.17.77.3~~

Sub-Committee on Implementation of IMO Instruments (III)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
Notes	MSC 107 deleted this output due to the absence of submissions for two consecutive sessions, in accordance with paragraph 5.12 of the Committees' method of work (MSC-MEPC.1/Circ.5/Rev.4).								
4. Engage in ocean governance	4.3	Follow-up work emanating from the Action Plan to address marine plastic litter from ships	2023	MEPC	III / HTW / PPR		In progress		III 8/19, section 14
6. Address the human element	6.1	Role of the human element	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	No work requested		MSC 89/25, paras.10.10, 10.16 and 22.39 and annex 21;
6. Address the human element	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing		MSC 100/20, paras.10.3 to 10.6 and 17.28; MSC 105/20, section 16 III 6/15, section 4; III 8/19, paras.5.20 to 5.29
Notes:	Virtual meetings of three drafting groups took place during 2022, to consider draft model courses for validation at HTW 9.								
6. Address the human element	6.5	Development of measures to facilitate mandatory seagoing service required under the STCW Convention	2023	MSC	III	HTW	No work requested		MSC 101/24, paras.21.29 and 21.30; MSC 107/20, para 17.71
Notes:	MSC 107 integrated this output into output 6.17 (Comprehensive review of the 1978 STCW Convention and Code)								
6. Address the human element	6.10	Development of an entrant training manual for PSC personnel	2025	MSC / MEPC	III		Postponed		MSC 103/21, para.18.36; MSC 106, para.16.46 III 8/19, section 6
Notes:	MSC 107 extended the target completion year to 2025. III 8 agreed that the output on development of an entrant training manual for PSC personnel should be developed after the finalization of the IMO Model Course 3.09 on port State control. III 9 to complete the work to be reported to MSC 108 in 2024.								

Sub-Committee on Implementation of IMO Instruments (III)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
6. Address the human element	6.14	Development of amendments to the STCW Convention and Code for the use of electronic certificates and documents of seafarers	2023	MSC	III	HTW	No work requested		MSC 100/20, para.17.12; MSC 106/19, paras 10.3 to 10.9
Notes:	MSC 107 adopted amendments to STCW regulations I/1 and I/2, as well as section A-I/2 of the STCW Code, together with the Guidelines on the use of electronic certificates of seafarers.								
6. Address the human element	6.15	Revision of resolution A.1050(27) to ensure the safety of personnel entering enclosed spaces on board ships	2024	MSC	III / HTW / PPR / SDC / SSE	CCC	No work requested		MSC 101/24, para.21.48; MSC 104/18, para 15.16; MSC 106/19, para 16.31.
Notes:	MSC 106 expanded the scope of "Revision of the Revised recommendations for entering enclosed spaces aboard ships (resolution A.1050(27))" and modified the description, with a target completion year of 2024, assigning the CCC Sub-Committee as the coordinating organ, in association with the III, HTW, PPR, SDC and SSE Sub-Committees.								
7. Ensure regulatory effectiveness	7.1	Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions	Continuous	MSC / MEPC / FAL / LEG	III / PPR / CCC / SDC / SSE / NCSR		Ongoing		MSC 76/23, para.20.3; MSC 78/26, para.22.12; III 8/19, section 13
7. Ensure regulatory effectiveness	7.4	Lessons learned and safety issues identified from the analysis of marine safety investigation reports	Annual	MSC / MEPC	III		Ongoing		MSC 92/26, para.22.29; MSC 106/19, paras.14.2 to 14.6 III 8/19, section 4

Sub-Committee on Implementation of IMO Instruments (III)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.5	Identified issues relating to the implementation of IMO instruments from the analysis of data	Annual	MSC / MEPC	III		Ongoing		MSC 96/25, para.23.13 ; MEPC 69/21, para.19.11; MSC 106/19, paras.14.12 and 16.46. III 8/19, section 7
Notes:	MSC 106 renamed output 7.5 from "Identified issues relating to the implementation of IMO instruments from the analysis of PSC data", thereby extending its scope.								
7. Ensure regulatory effectiveness	7.7	Consideration and analysis of reports on alleged inadequacy of port reception facilities	Annual	MEPC	III		Ongoing		MEPC 69/21, para.19.11; MEPC 73/19, paras. 8.3 and 8.11; MEPC 74/18, paras. 4.33, 4.34 and 8.22 III 8/19, section 3
7. Ensure regulatory effectiveness	7.14 (New)	Revision of ECDIS Guidance for good practice (MSC.1/Circ.1503/Rev.1) and amendments to ECDIS performance standards (resolution MSC.232(82))	2023	MSC	III	NCSR	No work requested		MSC 100/20, para.17.9; MSC 102/24, para.21.14; MSC 104/18, para.15.19; MSC 106/19, paras 13.36 and 13.43; MSC.1/Circ.1503/Rev.2 and resolution MSC.530(106)
7. Ensure regulatory effectiveness	7.27	Updated Survey Guidelines under the Harmonized System of Survey and Certification (HSSC)	Annual	MSC / MEPC	III		Ongoing		MEPC 68/21, paras.14.5 and 14.6; MSC 79/23, paras.9.19 and 9.20; MEPC 72/17, paras. 7.4 and 4.24 to 4.33; MSC 104, para.13.7.2; MSC 106/19, paras.14.13 to 14.18 III 8/19, section 10

Sub-Committee on Implementation of IMO Instruments (III)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.28	Consideration of reports of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas	Annual	MSC / MEPC	III	CCC	No work requested		CCC 7/15, section 9
7. Ensure regulatory effectiveness	7.31	Finalization of a non-mandatory instrument on regulations for non-convention ships	2022	MSC	III		Postponed		MSC 96/25, para.9.4; MSC 101/24, para.21.38; MSC 104, section 5; MSC 105, section 4; MSC 107/20, paras 19.9 and 19.10
Notes:	MSC 102, having considered that MSC 101 had included an item on "measures to improve domestic ferry safety", agreed that the III Sub-Committee should not proceed with the development of a model course (as instructed by MSC 96), pending further instructions from MSC taking into account the outcome of the work on measures to improve domestic ferry safety (MSC 102/24, para 14.10); MSC 107 extended target completion year and placed the item in the provisional agenda of MSC 108.								
7. Ensure regulatory effectiveness	7.45 (New)	Development of guidance to assist competent authorities in the implementation of the Cape Town Agreement of 2012	2024	MSC	III		No work requested		MSC 106/19, paras.16.17 and 16.46

Sub-Committee on Navigation, Communications and Search and Rescue (NCSR)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.3 (New)	Revision of the criteria for the provision of mobile satellite communication services in the Global Maritime Distress and Safety System (GMDSS) (resolution A.1001(25))	2024	MSC	NCSR		In progress	Extended	MSC 101/24, para.21.33; MSC 107/20, para 17.77.2; NCSR 9/24, section 11; NCSR 10/22, section 11
Notes:	MSC 107 extended the target completion year to 2024								
1. Improve implementation	1.11	Measures to harmonize port State control (PSC) activities and procedures worldwide	Continuous	MSC/ MEPC	HTW/PPR/ NCSR	III	No work requested	No work requested	MSC 101/24, para.21.48; MEPC 75/18, para.11.10 and 11.11; MSC 104/18, para.13.7.1
1. Improve implementation	1.20	Revision of the Guidelines on places of refuge for ships in need of assistance (resolution A.949(23))	2022	MSC	NCSR		Completed		MSC 100/20, para.17.1; MSC 104/18, para.15.19; MSC 106/19, para.13.12
Notes:	MSC 106 approved the draft Assembly resolution with a view to concurrent approval by LEG and MEPC, and adoption by A 33.								
1. Improve implementation	1.34	Development of global maritime SAR services, including harmonization of maritime and aeronautical procedures	Continuous	MSC	NCSR		Ongoing	Completed	MSC 107/20, para 17.78.1 NCSR 10/24, section 13; SAR.7/Circ.15 and COMSAR/Circ.60.
Notes:	MSC 107 renamed the output as "Development of global maritime SAR services, including harmonization of maritime and aeronautical procedures and amendments to the IAMSAR Manual"								

Sub-Committee on Navigation, Communications and Search and Rescue (NCSR)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.1	Response to matters related to the ITU-R Study Groups and ITU World Radiocommunication Conference	Continuous	MSC	NCSR		Ongoing	Completed	MSC 106/19, paras.13.28 to 13.33; NCSR 9/24, section 12 and annexes 18 to 20; NCSR 10/22, section 12 and annexes 8 to 13
~~2. Integrate new and advancing technologies in the regulatory framework~~	~~2.9 (New)~~	~~Development of amendments to VDR performance standards and carriage requirements~~	~~2023~~	~~MSC~~	~~III~~	~~NCSR~~	~~In progress~~	~~Deleted~~	~~MSC 101/24, paras.21.39 to 21.44 NCSR 9/24, section 17~~
Note:	MSC 107 deleted this output due to the absence of submissions for two consecutive sessions, in accordance with para.5.12 of the Committees' method of work (MSC-MEPC.1/Circ.5/Rev.4).								
2. Integrate new and advancing technologies in the regulatory framework	2.10	Development of revisions and amendments to existing instruments relating to the amendments to the 1974 SOLAS Convention for modernization of the GMDSS	2022	MSC	HTW / SSE	NCSR	Completed		MSC 105/20, paras.3.42, 3.52 to 3.55, 3.60 to 3.62, 3.63.1 and 3.63.2; res. MSC.496(105) through MSC.499(105), MSC.502(105) through MSC.517(105); MSC.1/Circ.803/Rev.1 and MSC.1/Circ.1645; MSC 106/19, para.13.17, MSC.1/Circ.1656, MSC.1/Circ.1657, MSC.1/Circ.1658 and MSC.1/Circ.892/Rev.1

Sub-Committee on Navigation, Communications and Search and Rescue (NCSR)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.11	Consideration of descriptions of Maritime Services in the context of e-navigation	2023	MSC	FAL / NCSR		In progress	Completed	FAL 43/20, para.7.21; MSC 101/24, paras.11.10 and 11.11; resolution MSC.467(101); MSC.1/Circ.1610; MSC 104/18, para.15.19; FAL 46/23, section 8; MSC 106/19, para 16.47.2.1 NCSR 9/24, section 7; NCSR 10/22, section 7 and annex 3
Notes:	Pending approval of the draft revision of MSC.1/Circ.1610 by MSC 108. MSC 107 transferred the output to the post-biennial agenda.								
2. Integrate new and advancing technologies in the regulatory framework	2.12	Development of generic performance standards for shipborne satellite navigation system receiver equipment	2023	MSC	NCSR		In progress	Completed	MSC 104/18, para 15.19; MSC 106/19, para 16.47.2.2 NCSR 9/24, section 5; NCSR 10/22, section 5; MSC 107/20, para 17.78.4
Notes:	MSC 107 agreed not to extend the target completion year of the output and moved output 2.12 to the post-biennial agenda.								
2. Integrate new and advancing technologies in the regulatory framework	2.14 (New)	Development of SOLAS amendments for mandatory carriage of electronic inclinometers on container ships and bulk carriers	2022	MSC	NCSR		Completed		MSC 101/24, paras.21.20 and 21.21; MSC 104/18, para.15.19; MSC 105/20, paras.13.7 and 13.8; MSC 106/19, para 13.46

Sub-Committee on Navigation, Communications and Search and Rescue (NCSR)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.27 (New)	Development of performance standards for a digital navigational data system (NAVDAT)	2024	MSC	NCSR		N/A	In progress	MSC 103/21, para.18.18; MSC 106/19, para.16.47.1.2; NCSR 10/22, section 8
2. Integrate new and advancing technologies in the regulatory framework	2.28 (New)	Development of amendments to SOLAS chapters IV and V and performance standards and guidelines to introduce VHF Data Exchange System (VDES)	2024	MSC	NCSR		N/A	In progress	MSC 103/21, para.18.12; MSC 106/19, para 16.47.1.1; NCSR 10/22, section 6
4. Engage in ocean governance	4.1	Identification and protection of Special Areas, Emission Control Areas and PSSAs and associated protective measures	Continuous	MEPC	NCSR		No work requested	Completed	NCSR 10/22, section 3 and annex 2
4. Engage in ocean governance	4.4 (New)	Development of measures regarding the detection and mandatory reporting of containers lost at sea that may enhance the positioning, tracking and recovery of such containers	2023	MSC	NCSR	CCC	No work requested	No work requested	MSC 103/21, para.18.34; MSC 107/22, para 11.7
6. Address the human element	6.1	Role of the human element	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing	Completed	MSC 89/25, paras.10.10, 10.16 and 22.39 and annex 21; NCSR 9/24, paras.23.6 and 23.7; NCSR 10/22, paras 21.7, 21.8 and 21.34

Sub-Committee on Navigation, Communications and Search and Rescue (NCSR)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
6. Address the human element	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing	Completed	MSC 100/20, paras.10.3 to 10.6 and 17.28; MSC 105/20, section 16 NCSR 7/23, section 19; NCSR 9/24, section 20; NCSR 10/22, section 18 and annex 14
7. Ensure regulatory effectiveness	7.1	Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions	Continuous	MSC / MEPC / FAL / LEG	III / PPR / CCC / SDC / SSE / NCSR		Ongoing	Completed	MSC 76/23, para.20.3; MSC 78/26, para.22.12; NCSR 7/23, section 18; NCSR 9/24, section 19; NCSR 10/22, section 17
7. Ensure regulatory effectiveness	7.2	Developments in GMDSS services, including guidelines on maritime safety information (MSI)	Continuous	MSC	NCSR		Ongoing	Completed	MSC 104/18, para 15.19; MSC 106/19, paras 13.24.3, 13.25 and 13.27; resolution MSC.529(106), MSC.1/Circ.1659, MSC.1/Circ.1403/Rev.2, COMSAR.1/Circ.59/Rev.1, MSC.1/Circ.1613/Rev.2; and NCSR 10/22, section 10 and annexes 5 to 7
7. Ensure regulatory effectiveness	7.14 (New)	Revision of ECDIS Guidance for good practice (MSC.1/Circ.1503/Rev.1) and amendments to ECDIS performance standards (resolution MSC.232(82))	2023	MSC	III	NCSR	Completed		MSC 100/20, para.17.9; MSC 102/24, para.21.14; MSC 104/18, para.15.19; MSC 106/19, paras 13.36 and 13.43; MSC.1/Circ.1503/Rev.2 and resolution MSC.530(106)
7. Ensure regulatory effectiveness	7.20	Amendments to the IAMSAR Manual	Continuous	MSC	NCSR		Ongoing	Completed	NCSR 9/24, section 14; NCSR 10/22, section 14; MSC 107/20, para 17.78.1
Note:	MSC 107 consolidated this output with 1.34 "Development of global maritime SAR services, including harmonization of maritime and aeronautical procedures".								

Sub-Committee on Navigation, Communications and Search and Rescue (NCSR)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.22	Routeing measures and ship reporting systems	Continuous	MSC	NCSR		Ongoing	Completed	MSC 106/19, paras.13.3 and 13.4; COLREG.2/Circ.78 and SN.1/Circ.342 NCSR 9/24, section 3 and annexes 1 and 2; NCSR 10/22, section 3 and annex 1; MSC 107/20, para 17.78.2
Note:	MSC 107 changed the title of this output from "Routeing measures and mandatory ship reporting systems"								
7. Ensure regulatory effectiveness	7.23	Updates to the LRIT system	Continuous	MSC	NCSR		Ongoing	Completed	MSC 106/19, paras.13.5 and 13.6; res. MSC.263(84)/Rev.1, MSC.1/Circ.1259/Rev.9, MSC.1/Circ.1307/Rev.1 and MSC.1/Circ.1376/Rev.5 NCSR 9/24, section 4 and annexes 3 to 6; NCSR 10/22, section 4
7. Ensure regulatory effectiveness	7.35	Safety measures for non-SOLAS ships operating in polar waters	2023	MSC	NCSR	SDC	Completed		MSC 98/23, paras.10.29, 20.31.1 and 20.31.2, and annex 38; MSC 99/22, paras.7.16 and 20.13.1; MSC 101/24, paras.7.6 and 7.9; MSC 102/24, paras.17.5 to 17.8; MSC 103/21, paras.15.1-15.4; MSC 105/20, para 18.54; MSC 106/19, para 13.9

Sub-Committee on Navigation, Communications and Search and Rescue (NCSR)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.37	Consequential work related to the new International Code for Ships Operating in Polar Waters	2022	MSC	SSE / NCSR	SDC	No work requested	No work requested	MSC 93/22, paras.10.44, 10.50 and 20.12; MSC 96/25, para.3.77; MSC 97/22, paras.8.32 and 19.25; MSC 101/24, paras.7.9 and 11.18, and annex 31; MSC.1/Circ.1612; MSC 102/24, para 19.3; SSE 8/20, section 4; MSC 106/19, section 11; MSC.1/Circ.1614/Rev.1
7. Ensure regulatory effectiveness	7.44 (New)	Revision of SOLAS regulation V/23 and associated instruments to improve the safety of pilot transfer arrangements	2024	MSC	NCSR		N/A	In progress	MSC 106/19, paras.16.12 to 16.14; NCSR 10/22, section 16
7. Ensure regulatory effectiveness	7.46 (New)	Amendments to ECDIS performance standards (resolution MSC.530(106)) to facilitate a standardized digital exchange of ships' route plans	2024	MSC	NCSR		N/A	Completed	MSC 105/20, paras.18.20 and 18.21, MSC 106/19, para 16.49; and NCSR 10/22, section 9 and annex 4
Notes:	Pending adoption of the draft revision of resolution MSC.530(106) by MSC 108.								
OW. Other work	OW 12 (New)	Guidance on the training on and operation of Emergency Personal Radio Devices in multiple casualty situations	2022	MSC	NCSR		Completed		MSC 100/20, para.17.5; MSC 106/19, para.13.35; MSC.1/Circ.1660

Sub-Committee on Ship Design and Construction (SDC)									
Reference to SD, if applicable	Output number	Description Target completion year		Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.12 (New)	Revision of the 1979, 1989 and 2009 MODU Codes and associated MSC circulars to prohibit the use of materials containing asbestos, including control of storage of such materials on board	2023	MSC	SDC		In progress	Completed	MSC 105/20, para 18.54; MSC 107/20, paras 12.10 and 12.11
1. Improve implementation	1.16 (New)	Review of the 2014 Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life (MEPC.1/Circ.833) (2014 Guidelines) and identification of next steps	2023	MEPC	SDC		In progress	Extended	MSC 105/20, par. 15.23; MSC 107/20, par. 12.24 SDC 8/18, section 14 and annex 11; SDC 9/16, section 5
2. Integrate new and advancing technologies in the regulatory framework	2.3	Amendments to the IGF Code and development of guidelines for alternative fuels and related technologies	Continuous	MSC	HTW / PPR / SDC / SSE	CCC	No work requested		MSC 94/21, paras.18.5 and 18.6; MSC 96/25, paras.10.1 to 10.3; MSC 97/22, para.19.2; PPR 6/20, para. 3.39; MSC 102/24, para 21.4; MSC 106/19, para 16.42.
Notes:	MSC 106 changed description in order to accommodate the consideration of alternative fuels not having a low-flashpoint. This resulted the deletion of output 2.24 on “Development of guidelines for the safety of ships using ammonia as fuel” to avoid duplication.								
2. Integrate new and advancing technologies in the regulatory framework	2.4	Further development of the IP Code and associated guidance	2025	MSC	SDC		Completed	Extended	MSC 104/18, para. 11.5; MSC 105/20, section 15, MSC 106/19, section 3; new SOLAS chapter XV (MSC.521(106)) and IP Code (MSC.527(106)); (MSC 107/20, proposed biennial agenda 2024-25)

Sub-Committee on Ship Design and Construction (SDC)									
Reference to SD, if applicable	Output number	Description Target completion year		Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
									SDC 5/15, section 7; SDC 6/13, section 6; SDC 7/16, section 6, SDC 8/18, section 4 and annexes 1 and 2
Notes:	MSC 107 agreed to extend the target completion year to 2025 (MSC 107/20, proposed biennial agenda 2024-25)								
2. Integrate new and advancing technologies in the regulatory framework	2.5	Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapter II-1	2024	MSC	SSE	SDC	Extended	In progress	MSC 82/24, para.3.92; MSC 98/23, annex 38; MSC 102/24, para 19.16. MSC 105/20, para. 15.13 and 18.54 SDC 8/18, section 9; SDC 9/16, section 7
Notes:	MSC 105 retitled the output to: "Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapter II-1" and extended the TCY to 2024.								
2. Integrate new and advancing technologies in the regulatory framework	2.6	Development of Explanatory Notes to the Interim guidelines on second generation intact stability criteria	2022	MSC	SDC		Completed		MSC 85/26, paras.12.7 and 23.42; MSC 102/24, para.21.20 and annex 26), MSC 105/20, section 15, MSC.1/Circ.1652 SDC 5/15, section 6; SDC 6/13, section 5; SDC 7/16, section 5, SDC 8/18, par. 5.16 and annex 4
2. Integrate new and advancing technologies in the regulatory framework	2.8	Development of guidelines for cold ironing of ships and consideration of amendments to SOLAS chapters II-1 and II-2	2023	MSC	III / HTW / SDC	SSE	No work requested		MSC 98/23, para.20.36; SSE 7/21, section 11; HTW 8/16, section 15; SSE 8/20, section 18; SSE 9/20, para.19.8

Sub-Committee on Ship Design and Construction (SDC)									
Reference to SD, if applicable	Output number	Description Target completion year		Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.20 (New)	Development of Guidelines for emergency towing arrangements for ships other than tanker	2023	MSC	SDC		In progress	Extended	MSC 107/20, par. 12.12 SDC 8/18, section 12; SDC 9/16, paras. 9.15 and 9.16
Notes:	MSC 107 approved draft amendments to SOLAS regulation II-1/3-4 (MSC 107/20, par. 12.12) and agreed to an expansion of the output so as to develop a complete new set of guidelines for emergency towing arrangements on new ships other than tankers, based on, or as a revision of, resolution MSC.35(63), taking into account the justification for the work prepared by SDC 9 (SDC 9/16, para.9.15).								
6. Address the human element	6.1	Role of the human element	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	No work requested		MSC 89/25, paras.10.10, 10.16 and 22.39 and annex 21;
6. Address the human element	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	No work requested		MSC 100/20, paras.10.3 to 10.6 and 17.28; MSC 105/20, section 16
Notes:	Virtual meetings of three drafting groups took place during 2022, to consider draft model courses for validation at HTW 9.								
6. Address the human element	6.15	Revision of resolution A.1050(27) to ensure the safety of personnel entering enclosed spaces on board ships	2024	MSC	III / HTW / PPR / SDC / SSE	CCC	No work requested		MSC 101/24, para.21.48; MSC 104/18, para 15.16; MSC 106/19, para 16.31.
Notes:	MSC 106 expanded the scope of "Revision of the Revised recommendations for entering enclosed spaces aboard ships (resolution A.1050(27))" and modified the description, with a target completion year of 2024, assigning the CCC Sub-Committee as the coordinating organ, in association with the III, HTW, PPR, SDC and SSE Sub-Committees.								
7. Ensure regulatory effectiveness	7.1	Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions	Continuous	MSC / MEPC / FAL / LEG	III / PPR / CCC / SDC / SSE / NCSR		Ongoing	Ongoing	MSC 76/23, para.20.3; MSC 78/26, para.22.12; SDC 8/18, section 10; SDC 9/16, section 10

Sub-Committee on Ship Design and Construction (SDC)									
Reference to SD, if applicable	Output number	Description Target completion year		Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.21	Amendments to the 2011 ESP Code	Continuous	MSC	SDC		Ongoing	Ongoing	MSC 92/26, para.13.31; MSC 107/20, par. 12.2 SDC 8/18, section 6 and annex 5; SDC 9/16, section 6 and annex 3
Notes:	Regular updates to the 2011 ESP Code agreed by MSC 92 (MSC 92/26, para.13.31)								
7. Ensure regulatory effectiveness	7.33	Review of SOLAS chapter II-2 and associated codes to minimize the incidence and consequences of fires on ro-ro spaces and special category spaces of new and existing ro-ro passenger ships	2023	MSC	HTW / SDC	SSE	No work requested		MSC 97/22, para.19.19; MSC 98/23, para.12.42; MSC 106/19, para 16.55; SSE 9/20, section 6
7. Ensure regulatory effectiveness	7.35	Safety measures for non-SOLAS ships operating in polar waters	2023	MSC	NCSR	SDC	In progress	Completed	MSC 98/23, paras.10.29, 20.31.1 and 20.31.2, and annex 38; MSC 99/22, paras.7.16 and 20.13.1; MSC 101/24, paras.7.6 and 7.9; MSC 102/24, paras.17.5 to 17.8; MSC 103/21, paras.15.1-15.4; MSC 105/20, para 18.54; MSC 106/19, para 13.9 SDC 6/13, section 8; SDC 7/16, section 4; SDC 8/18, section 3; SDC 9/16, section 3
7. Ensure regulatory effectiveness	7.37	Consequential work related to the new International Code for Ships Operating in Polar Waters	2022	MSC	SSE / NCSR	SDC	No work requested		MSC 93/22, paras.10.44, 10.50 and 20.12; MSC 96/25, para.3.77; MSC 97/22, paras.8.32 and 19.25; MSC 101/24, paras.7.9 and

Sub-Committee on Ship Design and Construction (SDC)									
Reference to SD, if applicable	Output number	Description Target completion year		Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
									11.18, and annex 31; MSC.1/Circ.1612; MSC 102/24, para 19.3; SSE 8/20, section 4; MSC 106/19, section 11; MSC.1/Circ.1614/Rev.1
7. Ensure regulatory effectiveness	7.38	Revision of the Performance standards for water level detectors on bulk carriers and single hold cargo ships other than bulk carriers (resolution MSC.188(79))	2023	MSC	SSE	SDC	Completed	Completed	MSC 102/24, para.17.23; resolution MSC.188(79)/Rev.1 SDC 7/16, para.7.10; SDC 8/18, section 13 and annex 10; SDC 9/16, par. 12.4 and annex 13
7. Ensure regulatory effectiveness	7.42 (New)	Revision of the Interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369) and related circulars	2024	MSC	HTW / SSE	SDC		In progress	MSC 103/21, para.18.31; MSC 105/20, paras 15.24.2 and 18.54 SDC 8/18, para 15.6; SDC 9/16, section 11 and annexes 14 and 15

Sub-Committee on Ship Systems and Equipment (SSE)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.30	Review of the 2014 Standard specification for shipboard incinerators (resolution MEPC.244(66)) regarding fire protection requirements for incinerators and waste stowage spaces	2022	MEPC	SSE		Completed		SSE 8/20, para.19.7
Notes:	MEPC 77/16/Add.1; SSE 8 completed and MSC 106 noted the completion.								
2. Integrate new and advancing technologies in the regulatory framework	2.8	Development of guidelines for cold ironing of ships and consideration of amendments to SOLAS chapters II-1 and II-2	2023	MSC	III / HTW / SDC	SSE	In progress	Completed	MSC 98/23, para.20.36; SSE 7/21, section 11; HTW 8/16, section 15; SSE 8/20, section 18; SSE 9/20, para.19.8
2. Integrate new and advancing technologies in the regulatory framework	2.16	Revision of SOLAS chapter III and the International Life-Saving Appliance (LSA) Code	2024	MSC	SSE		Ongoing	Ongoing	SSE 7/21, section 5;SSE 8/20, section 5; SSE 9/20, section 5
Notes:	To remove gaps, inconsistencies and ambiguities based on the safety objectives, functional requirements and expected performance for SOLAS chapter III								
6. Address the human element	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing	Ongoing	MSC 100/20, paras.10.3 to 10.6 and 17.28; MSC 105/20, section 16

Sub-Committee on Ship Systems and Equipment (SSE)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
Notes:	Virtual meetings of three drafting groups took place during 2022, to consider draft model courses for validation at HTW 9.								
7. Ensure regulatory effectiveness	7.1	Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions	Continuous	MSC / MEPC / FAL / LEG	III / PPR / CCC / SDC / SSE / NCSR		Ongoing	Ongoing	MSC 76/23, para.20.3; MSC 78/26, para.22.12; SSE 7/21, section 16; SSE 9/20, section 14
7. Ensure regulatory effectiveness	7.15 (New)	Development of amendments to SOLAS chapter II-2 and the FSS Code concerning detection and control of fires in cargo holds and on the cargo deck of container ships	2025	MSC	CCC	SSE	Ongoing	Ongoing	MSC 103/21, para.18.8; SSE 8/20, section 10; MSC 106/19, section 9; SSE 9/20, section 10
7. Ensure regulatory effectiveness	7.19	Revision of the Code of safety for diving systems (resolution A.831(19)) and the Guidelines and specifications for hyperbaric evacuation systems (resolution A.692(17))	2024	MSC	SSE		Extended	Completed	MSC 99/22, para.20.26; SSE 8/20, section 14; MSC 106/19, paras 11.31 and .32; SSE 9/20, section 12
Notes:	MSC 107 noted the action taken by the Sub-Committee to develop a new instrument in parallel to the existing 1995 Diving Code, given the need to address both diving safety and the specifications for hyperbaric evacuation systems in a single instrument and to expand on the industry's specific needs, as already noted by MSC 106 (MSC 106/19, para.11.31, and SSE 9/20, para.12.16)								
7. Ensure regulatory effectiveness	7.32	Requirements for onboard lifting appliances and anchor handling winches	2022	MSC	HTW	SSE	Completed	Completed	MSC 89/25, para.22.26; MSC 98/23, annex 38; SSE 8/20, section 9; MSC 106/19, section 11
7. Ensure regulatory effectiveness	7.33	Review of SOLAS chapter II-2 and associated codes to minimize the incidence and consequences of fires on ro-ro spaces and special	2023	MSC	HTW / SDC	SSE	In progress	Completed	MSC 97/22, para.19.19; MSC 98/23, para.12.42; MSC 106/19, para 16.55; SSE 9/20, section 6

Sub-Committee on Ship Systems and Equipment (SSE)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
		category spaces of new and existing ro-ro passenger ships							
7. Ensure regulatory effectiveness	7.34	Amendments to Guidelines for the approval of fixed dry chemical powder fire-extinguishing systems for the protection of ship carrying liquefied gases in bulk (MSC.1/Circ.1315)	2022	MSC	SSE		Completed		MSC 98/23, para.20.37; SSE 7/21, section 7; SSE 8/20, section 7; MSC 106/19, section 11; MSC.1/Circ.1315/Rev.1
7. Ensure regulatory effectiveness	7.36	New requirements for ventilation of survival craft	2024	MSC	SSE		In progress	Extended	MSC 97/22, para.19.22; SSE 8/20, section 3; MSC 106/19, section 11; MSC 107/20, section 14
Notes:	MSC 107 extended the TCY to 2024 in order for SSE 10 to consider compelling need for ventilation requirements for partially enclosed lifeboats and liferafts.								
7. Ensure regulatory effectiveness	7.37	Consequential work related to the new International Code for Ships Operating in Polar Waters	2022	MSC	SSE / NCSR	SDC	Completed		MSC 93/22, paras.10.44, 10.50 and 20.12; MSC 96/25, para.3.77; MSC 97/22, paras.8.32 and 19.25; MSC 101/24, paras.7.9 and 11.18, and annex 31; MSC.1/Circ.1612; MSC 102/24, para 19.3; SSE 8/20, section 4; MSC 106/19, section 11; MSC.1/Circ.1614/Rev.1 SSE 7/21, section 4;SSE 8/20, section 4
7. Ensure regulatory effectiveness	7.39	Development of amendments to the LSA Code and resolution MSC.81(70) to address the in-water performance of SOLAS lifejackets	2023	MSC	SSE		In progress	Completed	MSC 101/24, para.21.6; MSC 102/24, para.21.19; SSE 9/20, section 8; MSC 107/20, section 14,

Sub-Committee on Ship Systems and Equipment (SSE)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
									SSE 7/21, para.20.20; SSE 8/20, section 8
Notes:	SSE 9 completed this output. MSC 107 endorsed the Sub-Committee's recommendation to place output 7.39 on "Development of amendments to the LSA Code and resolution MSC.81(70) to address the in-water performance of SOLAS lifejackets" on the Committee's post-biennial agenda, noting that additional testing requirements were currently under development and new requirements might need to be incorporated in the future (MSC 107/20, para.14.24).								
7. Ensure regulatory effectiveness	7.40	Development of amendments to SOLAS chapter II-2 and MSC.1/Circ.1456 addressing fire protection of control stations on cargo ships	2023	MSC	SSE		In progress	Completed	MSC 101/24, para.21.3; MSC 102/24, para.21.19; SSE 8/20, section 11; SSE 9/20, section 11
7. Ensure regulatory effectiveness	7.41	Development of provisions to consider prohibiting the use of fire-fighting foams containing fluorinated substances, in addition to PFOS for fire-fighting on board ships	2025	MSC	SSE		Extended	In progress	MSC 101/24, para.21.27; MSC 102/24, paras 19.31 and 21.19; SSE 8/20, section 12; MSC 106/19, section 11; SSE 9/20, section 15; MSC 107/20, section 14
Notes:	MSC 107 endorsed the change of scope of the related output and the revision of its title to "Development of provisions to consider prohibiting the use of fire-fighting foams containing fluorinated substances, in addition to PFOS, for fire-fighting on board ships", based on the justification agreed by the Sub-Committee								
7. Ensure regulatory effectiveness	7.42 (New)	Revision of the Interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369) and related circulars	2024	MSC	HTW / SSE	SDC		No work requested	MSC 103/21, para.18.31; MSC 105/20, paras 15.24.2 and 18.54
7. Ensure regulatory effectiveness	7.47 (New)	Amendments to the LSA Code concerning single fall and hook systems with on-load release capability	2023	MSC	SSE			Completed	MSC 106/19, section 11; SSE 9/20, section 16

Sub-Committee on Ship Systems and Equipment (SSE)									
Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.48 (New)	Development of amendments to the LSA Code to revise the lowering speed of survival craft and rescue boats for cargo ships	2024	MSC	SSE			Completed	MSC 99/22, para.20.15; SSE 9/20, section 4; MSC 107/20, section 14
Notes:	MSC 107 endorsed the expansion of the output to include addressing the maximum lowering speed for passenger ships by amending paras.6.1.2.8 and 6.1.2.10 of the LSA Code.								
OW. Other work	OW 13 (New)	Revision of the provisions for helicopter facilities in SOLAS and the MODU Code	2024	MSC	SSE			Extended	
Notes:	MSC 86/26, para.23.39; SSE 9/20, section 9; MSC 107 extended target completion year to 2024.								
OW. Other work	OW 14 (New)	Amendments to the LSA Code for thermal performance of immersion suits	2024	MSC	SSE			In progress	MSC 92/26, para.13.34; SSE 9/20, section 7

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ANNEX 39

PROVISIONAL AGENDAS FOR THE FORTHCOMING SESSIONS OF THE SUB-COMMITTEES[12]

PROVISIONAL AGENDA FOR CCC 9

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Amendments to the IGF Code and development of guidelines for alternative fuels and related technologies (2.3)

4 Review of the IGC Code (1.17)

5 Amendments to the IMSBC Code and supplements (7.13)

6 Amendments to the IMDG Code and supplements (7.10)

7 Revision of the Interim recommendations for carriage of liquefied hydrogen in bulk (2.25)

8 Revision of resolution A.1050(27) to ensure the safety of personnel entering enclosed spaces on board ships (6.23)

9 Consideration of reports of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas (7.28)

10 Unified interpretation of provisions of IMO safety, security, and environment-related conventions (7.1)

11 Biennial status report and provisional agenda for CCC 10

12 Election of the Chair and Vice-Chair for 2024

13 Any other business

14 Report to the Committees

[12] New output numbers to be confirmed by the Council in due course.

PROVISIONAL AGENDA FOR HTW 10

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Validated model training courses (6.2)

4 Role of the human element (6.1)

5 Reports on unlawful practices associated with certificates of competency (6.3)

6 Comprehensive review of the 1978 STCW Convention and Code (6.17)

7 Biennial status report and provisional agenda for HTW 11

8 Election of Chair and Vice-Chair for 2025

9 Any other business

10 Report to the Maritime Safety Committee

PROVISIONAL AGENDA FOR III 9

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Consideration and analysis of reports on alleged inadequacy of port reception facilities (7.7)

4 Lessons learned and safety issues identified from the analysis of marine safety investigation reports (7.4)

5 Measures to harmonize port State control (PSC) activities and procedures worldwide (1.11)

6 Validated model training courses (6.2)

7 Identified issues relating to the implementation of IMO instruments from the analysis of data (7.5)

8 Analysis of consolidated audit summary reports (1.4)

9 Development of guidance in relation to IMSAS to assist in the implementation of the III Code by Member States (1.14)

10 Updated Survey Guidelines under the Harmonized System of Survey and Certification (HSSC) (7.27)

11 Non-exhaustive list of obligations under instruments relevant to the IMO Instruments Implementation Code (III Code) (1.5)

12 Development of guidance on assessments and applications of remote surveys, ISM Code audits and ISPS Code verifications (1.18)

13 Unified interpretation of provisions of IMO safety, security and environment-related conventions (7.1)

14 Follow-up work emanating from the Action Plan to Address Marine Plastic Litter from Ships (4.3)

15 Development of guidance to assist competent authorities in the implementation of the Cape Town Agreement of 2012

16 Biennial agenda and provisional agenda for III 10

17 Election of Chair and Vice-Chair for 2024

18 Any other business

19 Report to the Committees

PROVISIONAL AGENDA FOR NCSR 11

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Routeing measures and ship reporting systems (7.22)

4 Updates to the LRIT system (7.23)

5 Developments in GMDSS services, including guidelines on maritime safety information (MSI) (7.2)

6 Response to matters related to the ITU-R Study Groups and ITU World Radiocommunication Conference (2.1)

7 Development of global maritime SAR services, including harmonization of maritime and aeronautical procedures and amendments to the IAMSAR Manual (1.34)

8 Development of performance standards for a digital navigational data system (NAVDAT) (2.27)

9 Development of amendments to SOLAS chapters IV and V and performance standards and guidelines to introduce VHF Data Exchange System (VDES) (2.28)

10 Review of the appropriateness and effectiveness of SOLAS regulation IV/5 (Provision of radiocommunication services)(1.[…])

11 Revision of the *Criteria for the provision of mobile satellite communication services in the Global Maritime Distress and Safety System (GMDSS)* (resolution A.1001(25)) (1.3)

12 Development of guidelines for the use of electronic nautical publications (ENP) (7.[…])

13 Revision of SOLAS regulation V/23 and associated instruments to improve the safety of pilot transfer arrangements (7.44)

14 Identification of measures to improve the security and integrity aspects of AIS (7.[…])

15 Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions (7.1)

16 Biennial status report and provisional agenda for NCSR 12

17 Election of Chair and Vice-Chair for 2025

18 Any other business

19 Report to the Maritime Safety Committee

PROVISIONAL AGENDA FOR SDC 10

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Development of Guidelines for emergency towing arrangements for ships other than tankers (2.20)

4 Further development of the IP Code and associated guidance (2.4)

5 Review of the 2014 Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life (MEPC.1/Circ.833) (2014 Guidelines) and identification of next steps (1.16)

6 Amendments to the 2011 ESP Code (6.22)

7 Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapter II-1 (2.5)

8 Revision of SOLAS chapters II-1 (part C) and V, and related instruments regarding steering and propulsion requirements, to address both traditional and non-traditional propulsion and steering systems (2.[..])

9 Amendments to the Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation (MSC.1/Circ.1331) concerning the rigging of safety netting on accommodation ladders and gangways (7.[..])

10 Unified interpretation of provisions of IMO safety, security, and environment-related conventions (7.1)

11 Amendment to regulation 25 of the of the 1988 Load Line Protocol regarding the requirement for setting of guard rails on the deck structure (7[..])

12 Guidelines for use of fibre-reinforced plastics (FRP) within ship structures (2.[..])

13 Revision of the Interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369) and related circulars (7.42)

14 Biennial status report and provisional agenda for SDC 11

13 Election of Chair and Vice-Chair for 2025

15 Any other business

16 Report to the Maritime Safety Committee

PROVISIONAL AGENDA FOR SSE 10

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 New requirements for ventilation of survival craft (7.36)

4 Development of design and prototype test requirements for the arrangements used in the operational testing of free-fall lifeboat release systems without launching the lifeboat ([…])

5 Revision of SOLAS chapter III and the LSA Code (2.16)

6 Amendments to SOLAS chapter III and chapter IV of the LSA Code to require the carriage of self-righting or canopied reversible liferafts for new ships ([…])

7 Development of amendments to paragraph 8.3.5 and annex 1 of the 1994 and 2000 HSC Codes ([…])

8 Revision of the 2010 FTP Code to allow for new fire protection systems and materials ([…])

9 Revision of the provisions for helicopter facilities in SOLAS and the MODU Code (OW 13)

10 Development of amendments to SOLAS chapter II-2 and the FSS Code concerning detection and control of fires in cargo holds and on the cargo deck of containerships (7.15)

11 Validated model training courses (6.2)

12 Unified interpretation of provisions of IMO safety, security and environment-related conventions (7.1)

13 Development of provisions to consider prohibiting the use of fire-fighting foams containing fluorinated substances, in addition to PFOS, for fire fighting on board ships (7.41)

14 Comprehensive review of the *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear* (resolution MSC.402(96)) to address challenges with their implementation (7.[..])

15 Development of amendments to the LSA Code for thermal performance of immersion suits (OW 14)

16 Evaluation of adequacy of fire protection, detection and extinction arrangements in vehicle, special category and ro-ro spaces in order to reduce the fire risk of ships carrying new energy vehicles ([…])

17 Biennial status report and provisional agenda for SSE 11

18 Election of Chair and Vice-Chair for 2025

19 Any other business

20 Report to the Maritime Safety Committee

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ANNEX 40

BIENNIAL STATUS REPORT OF THE MARITIME SAFETY COMMITTEE[13]

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.3 (New)	Revision of the criteria for the provision of mobile satellite communication services in the Global Maritime Distress and Safety System (GMDSS) (resolution A.1001(25))	2024	MSC	NCSR		In progress	Extended	MSC 101/24, para.21.33; MSC 107/20, para 17.77.2
Notes:	MSC 107 extended target completion year to 2024								
1. Improve implementation	1.4	Analysis of consolidated audit summary reports	Annual	Assembly	MSC / MEPC / LEG / TCC / III	Council	Ongoing		MEPC 61/24, para.11.14.1; MSC 88/26, para.10.8; C 120/D, paras.7.1 and 7.2; MSC 105, para.13.10; MSC 106, paras.14.11 and 16.37
1. Improve implementation	1.5	Non-exhaustive list of obligations under instruments relevant to the IMO Instruments Implementation Code (III Code)	Annual	MSC / MEPC	III		Ongoing		MEPC 64/23, para.11.49; MSC 91/22, para.10.30; MEPC 52/24, para.10.15. MEPC 72/17, para. 2.7.5; and MEPC 74/18, para.11.3; MSC 104/18, para.13.7.3, MSC 106/19 para.14.18
1. Improve implementation	1.7	Identify thematic priorities within the area of maritime safety and security, marine environmental protection, facilitation of maritime traffic and maritime legislation	Annual	TCC	MSC / MEPC / FAL / LEG		No work requested	Completed	MSC 107/20, para 19.4

[13] For details, refer to Organizational Planning module of GISIS.

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.11	Measures to harmonize port State control (PSC) activities and procedures worldwide	Continuous	MSC / MEPC	HTW / PPR / NCSR	III	Ongoing		MSC 101/24, para.21.48; MEPC 75/18, paras.11.10 and 11.11; MSC 104, para.13.7.1
1. Improve implementation	1.12 (New)	Revision of the 1979, 1989 and 2009 MODU Codes and associated MSC circulars to prohibit the use of materials containing asbestos, including control of storage of such materials on board	2023	MSC	SDC		In progress	Completed	MSC 105/20, para 18.54; MSC 107/20, paras 12.10 and 12.11
1. Improve implementation	1.13	Review of mandatory requirements in the SOLAS, MARPOL and Load Line Conventions and the IBC and IGC Codes regarding watertight doors on cargo ships	2022	MSC / MEPC			Completed		MSC work was completed at MSC 104 with the adoption of amendments to the 1988 Load Line Protocol and the IGC Code
1. Improve implementation	1.14 (New)	Development of guidance in relation to Mandatory IMO Member State Audit Scheme (IMSAS) to assist in the implementation of the III Code by Member States	2023	MSC / MEPC	III		In progress		MSC 103/21, para.18.38; MSC 106/19, paras.14.23 and 14.24
1. Improve implementation	1.17 (New)	Review of IGC Code	2023	MSC	CCC		In progress		MSC 103/21, para.18.2; MSC 104/18, para 15.16, MSC 105/20, para 18.50
1. Improve implementation	1.18 (New)	Development of guidance on assessment and applications of remote surveys, ISM Code audits and ISPS Code verifications	2024	MSC / MEPC	III		Ongoing		MSC 104/18, para.15.5; MSC 106/19, para.14.16

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1. Improve implementation	1.20	Revision of the Guidelines on places of refuge for ships in need of assistance (resolution A.949(23))	2022	MSC	NCSR		Completed		MSC 100/20, para.17.1; MSC 104/18, para.15.19; MSC 106/19, para.13.12
Notes:	MSC 106 approved the draft Assembly resolution with a view to concurrent approval by LEG and MEPC, and adoption by A 33.								
1. Improve implementation	1.29	Development of further measures to enhance the safety of ships relating to the use of fuel oil	2023	MSC			In progress	Completed	MSC 100/20, paras.8.13 and 8.14; MSC 103/21, para.6.26; MSC 105/20, section 5; MSC 107/20, section 6.
1. Improve implementation	1.32	Implementation of the STCW Convention	Continuous	MSC	HTW		Ongoing	Completed	MSC 101/24, para.15.7; MSC 102/24, para.13.14; MSC 107/20, para 17.71
Notes:	MSC 107 integrated this output into output 6.17 (Comprehensive review of the 1978 STCW Convention and Code)								
1. Improve implementation	1.34	Development of global maritime SAR services, including harmonization of maritime and aeronautical procedures and amendments to the IAMSAR Manual	Continuous	MSC	NCSR		Ongoing	Completed	MSC 107/20, para 17.78.1
Notes:	MSC 107 renamed the output as "Development of global maritime SAR services, including harmonization of maritime and aeronautical procedures and amendments to the IAMSAR Manual"								
2. Integrate new and advancing technologies in the regulatory framework	2.1	Response to matters related to the ITU-R Study Groups and ITU World Radiocommunication Conference	Continuous	MSC	NCSR		Ongoing	Completed	MSC 106/19, paras.13.28 to 13.33 MSC 107/20, paras 15.4 and 15.5 and annex 36

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.3	Amendments to the IGF Code and development of guidelines for alternative fuels and related technologies	Continuous	MSC	HTW / PPR / SDC / SSE	CCC	Ongoing		MSC 94/21, paras.18.5 and 18.6; MSC 96/25, paras.10.1 to 10.3; MSC 97/22, para.19.2; PPR 6/20, para. 3.39; MSC 102/24, para 21.4; MSC 106/19, para 16.42
Notes:	MSC 106 changed description in order to accommodate the consideration of alternative fuels not having a low-flashpoint. This resulted the deletion of output 2.24 on “Development of guidelines for the safety of ships using ammonia as fuel” to avoid duplication.								
2. Integrate new and advancing technologies in the regulatory framework	2.4	Further development of the IP Code and associated guidance	2025	MSC	SDC		Completed	Extended	MSC 104/18, par. 11.5; MSC 105/20, section 15, MSC 106/19, section 3; new SOLAS chapter XV (MSC.521(106)) and IP Code (MSC.527(106)); (MSC 107/20, proposed biennial agenda 2024-25)
Notes:	MSC 105 renamed the output from “Mandatory instrument and/or provisions addressing safety standards for the carriage of more than 12 industrial personnel on board vessels engaged on international voyages”; MSC 107 extended the target completion year to 2025 (MSC 107/20, proposed biennial agenda 2024-25)								
2. Integrate new and advancing technologies in the regulatory framework	2.5	Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapter II-1	2024	MSC	SSE	SDC	Extended	In progress	MSC 82/24, para.3.92; MSC 98/23, annex 38; MSC 102/24, para 19.16. MSC 105/20, para. 15.13 and 18.54
Notes:	MSC 105 retitled the output to: "Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapter II-1" and extended the TCY to 2024.								

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.6	Development of Explanatory Notes to the Interim guidelines on second generation intact stability criteria	2022	MSC	SDC		Completed		MSC 85/26, paras.12.7 and 23.42; MSC 102/24, para.21.20 and annex 26), MSC 105/20, section 15, MSC.1/Circ.1652
2. Integrate new and advancing technologies in the regulatory framework	2.8	Development of guidelines for cold ironing of ships and consideration of amendments to SOLAS chapters II-1 and II-2	2023	MSC	III / HTW / SDC	SSE	In progress	Completed	MSC 98/23, para.20.36; SSE 7/21, section 11; HTW 8/16, section 15; SSE 8/20, section 18; SSE 9/20, para.19.8
Notes:	SSE 9 finalized the output.								
~~2. Integrate new and advancing technologies in the regulatory framework~~	~~2.9 (New)~~	~~Development of amendments to VDR performance standards and carriage requirements~~	~~2023~~	~~MSC~~	~~III~~	~~NCSR~~	~~In progress~~	Deleted	~~MSC 101/24, paras.21.39 to 21.44; MSC 107/20, para 17.77.3~~
Notes:	MSC 107 deleted this output due to the absence of submissions for two consecutive sessions, in accordance with paragraph 5.12 of the Committees' method of work (MSC-MEPC.1/Circ.5/Rev.4).								

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.10	Development of revisions and amendments to existing instruments relating to the amendments to the 1974 SOLAS Convention for modernization of the GMDSS	2022	MSC	HTW / SSE	NCSR	Completed		MSC 105/20, paras.3.42, 3.52 to 3.55, 3.60 to 3.62, 3.63.1 and 3.63.2; resolutions MSC.496(105) through MSC.499(105), MSC.502(105) through MSC.517(105); MSC.1/Circ.803/Rev.1 and MSC.1/Circ.1645; MSC 106/19, para.13.17, MSC.1/Circs.1656, 1657, 1658 and 892/Rev.1
2. Integrate new and advancing technologies in the regulatory framework	2.11	Consideration of descriptions of Maritime Services in the context of e-navigation	2023	MSC	FAL / NCSR		In progress	Completed	FAL 43/20, para.7.21; MSC 101/24, paras.11.10 and 11.11; resolution MSC.467(101); MSC.1/Circ.1610; MSC 104/18, para.15.19; FAL 46/23, section 8; MSC 106/19, para 16.47.2.1; NCSR 10/22, section 7; MSC 107/20, para 17.77.1
Notes:	Pending approval of the draft revision of MSC.1/Circ.1610 by MSC 108. MSC 107 transferred the output to the post-biennial agenda.								
2. Integrate new and advancing technologies in the regulatory framework	2.12	Development of generic performance standards for shipborne satellite navigation system receiver equipment	2023	MSC	NCSR		In progress	Completed	MSC 104/18, para 15.19; MSC 106/19, para 16.47.2.2; MSC 107/20, paras 17.76 and 17.78.4
Notes:	MSC 107 agreed not to extend the target completion year of the output and moved output 2.12 to the post-biennial agenda.								

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.14 (New)	Development of SOLAS amendments for mandatory carriage of electronic inclinometers on container ships and bulk carriers	2022	MSC	NCSR		Completed		MSC 101/24, paras.21.20 and 21.21; MSC 104/18, para.15.19; MSC 105/20, paras.13.7 and 13.8; MSC 106/19, para 13.46
2. Integrate new and advancing technologies in the regulatory framework	2.16	Revision of SOLAS chapter III and the International Life-Saving Appliance (LSA) Code	2024	MSC	SSE		In progress	In progress	
Notes:	To remove gaps, inconsistencies and ambiguities based on the safety objectives, functional requirements and expected performance for SOLAS chapter III								
2. Integrate new and advancing technologies in the regulatory framework	2.17	Consideration of development of goal-based ship construction standards for all ship types	2023	MSC / MEPC			In progress	Extended	MSC 107/20, section 4
2. Integrate new and advancing technologies in the regulatory framework	2.20 (New)	Development of Guidelines for emergency towing arrangements for ships other than tanker	2025	MSC	SDC		In progress	Extended	MSC 107/20, par. 12.12

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
Notes:	MSC 107 approved draft amendments to SOLAS regulation II-1/3-4 (MSC 107/20, par. 12.12) and agreed to an expansion of the output so as to develop a complete new set of guidelines for emergency towing arrangements on new ships other than tankers, based on, or as a revision of, resolution MSC.35(63), taking into account the justification for the work prepared by SDC 9 (SDC 9/16, para.9.15).								
2. Integrate new and advancing technologies in the regulatory framework	2.21	Review of Formal Safety Assessment (FSA) studies by the FSA Experts' Group	Continuous	MSC			Ongoing	Completed	MSC 105/20, section 11; MSC 106/19, section 9; MSC 107/20, section 10
2. Integrate new and advancing technologies in the regulatory framework	2.22	Amendments to the IGC and IGF Codes to include high manganese austenitic steel and related guidance for approving alternative metallic material for cryogenic service	2023	MSC	CCC		Completed		MSC 96/25 para.23.4; MSC 98/23, annex 38; MSC 100/20 para.17.21; MSC 102/24, para.21.6; MSC 104/18, para 15.16; MSC 105/20, para 14.3; MSC 106/19, para 3.46; resolutions MSC.523(106) and MSC.524(106)
2. Integrate new and advancing technologies in the regulatory framework	2.23 (New)	Development of a goal-based instrument for maritime autonomous surface ships (MASS)	2025	MSC			In progress	In progress	MSC 104/18, para15.9.2; MSC 105/20, section 7; MSC 106/19, section 5; MSC 107/20, section 5
2. Integrate new and advancing technologies in the regulatory framework	2.25 (New)	Revision of the Interim recommendations for carriage of liquefied hydrogen in bulk	2024	MSC	CCC		In progress		MSC 105/20, para 18.28

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2. Integrate new and advancing technologies in the regulatory framework	2.27 (New)	Development of performance standards for a digital navigational data system (NAVDAT)	2024	MSC	NCSR			In progress	MSC 103/21, para.18.18; MSC 106/19, para.16.47.1.2
2. Integrate new and advancing technologies in the regulatory framework	2.28 (New)	Development of amendments to SOLAS chapters IV and V and performance standards and guidelines to introduce VHF Data Exchange System (VDES)	2024	MSC	NCSR			In progress	MSC 103/21, para.18.12; MSC 106/19, para 16.47.1.1
4. Engage in ocean governance	4.2	Input to the ITCP on emerging issues relating to sustainable development and achievement of the SDGs	Continuous	TCC	MSC / MEPC / FAL / LEG		No work requested	No work requested	MEPC 72/17, section 12; MEPC 73/19, section 13; MEPC 74/18, section 12
4. Engage in ocean governance	4.4 (New)	Development of measures regarding the detection and mandatory reporting of containers lost at sea that may enhance the positioning, tracking and recovery of such containers	2023	MSC	NCSR	CCC	Completed		MSC 103/21, para.18.34; MSC 107/22, para 11.7
Notes:	MSC 107 approved amendments to SOLAS chapter V prepared by CCC 8.								
5. Enhance global facilitation and security of international trade	5.2	Guidelines and guidance on the implementation and interpretation of SOLAS chapter XI-2 and the ISPS Code	Annual	MSC			Completed	Completed	

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
5. Enhance global facilitation and security of international trade	5.3	Consideration and analysis of reports on piracy and armed robbery against ships	Annual	MSC			Completed	Completed	MSC 105/20, para 9.1; MSC 106/19, section 7; MSC 107/20, section 7
5. Enhance global facilitation and security of international trade	5.4	Revised guidance relating to the prevention of piracy and armed robbery to reflect emerging trends and behaviour patterns	Annual	MSC	LEG		Completed	Completed	MSC 105/20, para 9.1; MSC 106/19. para 7.7; MSC 107/20, section 7
5. Enhance global facilitation and security of international trade	5.13	IMO's contribution to addressing unsafe mixed migration by sea	2025	FAL / LEG / MSC			In progress	Extended	FAL 41/17, para.7.15; MSC 98/23, para.16.14; FAL 43, para.10.7; MSC 101/24, para.19.8; MSC 104/18, para9.5; MSC 105/20, section 10; FAL 46/24, para.11.4, MSC106/19, section 8; resolution MSC.528(106); MSC 107/20, section 9
Notes:	MSC 107 extended the target completion year to 2025.								.
6. Address the human element	6.1	Role of the human element	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing	Ongoing	MSC 89/25, paras.10.10, 10.16 and 22.39 and annex 21;
6. Address the human element	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing	Ongoing	MSC 100/20, paras.10.3 to 10.6 and 17.28; MSC 105/20, section 16

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
Notes:	Virtual meetings of three drafting groups took place during 2022, to consider draft model courses for validation at HTW 9.								
6. Address the human element	6.3	Reports on unlawful practices associated with certificates of competency	Annual	MSC	HTW		Completed	Completed	MSC 83/28, para.12.2;
6. Address the human element	6.5	Development of measures to facilitate mandatory seagoing service required under the STCW Convention	2023	MSC	III	HTW	In progress	Completed	MSC 101/24, paras.21.29 and 21.30; MSC 107/20, para 17.71
Notes:	MSC 107 integrated this output into output 6.17 (Comprehensive review of the 1978 STCW Convention and Code)								
6. Address the human element	6.6	Development of measures to ensure quality of onboard training as part of the mandatory seagoing service required by the STCW Convention	2023	MSC	HTW		In progress	Completed	MSC 101/24, para.21.1; MSC 107/20, para 17.71
Notes:	MSC 107 integrated this output into output 6.17 (Comprehensive review of the 1978 STCW Convention and Code)								
6. Address the human element	6.10	Development of an entrant training manual for PSC personnel	2025	MSC / MEPC	III		Postponed		MSC 103/21, para.18.36; MSC 106, para.16.46
Notes:	III 8 agreed that the output on development of an entrant training manual for PSC personnel should be developed after the finalization of the IMO Model Course 3.09 on port State control. III 9 to complete the work to be reported to MSC 108 in 2024.								
6. Address the human element	6.12	Comprehensive review of the 1995 STCW-F Convention	2023	MSC	HTW		In progress	Completed	MSC 95/22, para.19.3 and 19.4; MSC 96/25, para.12.3; MSC 107/20, paras.13.18 and 13.19.
6. Address the human element	6.13	Development of amendments to the Revised guidelines for the development, review and validation of model courses (MSC-MEPC.2/Circ.15/Rev.1)	2022	MSC	HTW		Completed		MSC 100/20, paras.17.7 and 17.8; MSC 106/19, para 10.2; MSC-MEPC.2/Circ.15/Rev.2

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
6. Address the human element	6.14	Development of amendments to the STCW Convention and Code for the use of electronic certificates and documents of seafarers	2023	MSC	III	HTW	Ongoing	Completed	MSC 100/20, para.17.12; MSC 106/19, paras 10.3 to 10.9; MSC 107/20, paras 13.22 and .23; resolution MSC.541(107), MSC.1/Circ.1665
6. Address the human element	6.15	Revision of resolution A.1050(27) to ensure the safety of personnel entering enclosed spaces on board ships	2024	MSC	III / HTW / PPR / SDC / SSE	CCC	In progress		MSC 101/24, para.21.48; MSC 104/18, para 15.16; MSC 106/19, para 16.31.
Notes:	MSC 106 expanded the scope of "Revision of the Revised recommendations for entering enclosed spaces aboard ships (resolution A.1050(27))" and modified the description, with a target completion year of 2024, assigning the CCC Sub-Committee as the coordinating organ, in association with the III, HTW, PPR, SDC and SSE Sub-Committees.								
6. Address the human element	6.17 (New)	Comprehensive review of the 1978 STCW Convention and Code	2026	MSC	HTW			In progress	MSC 105/20, para.18.13; MSC 107/20, para 17.71
Notes:	MSC 105 instructed the HTW Sub-Committee to develop and finalize, as a matter of priority as part of this output, STCW training provisions addressing bullying and harassment in the maritime sector, including sexual assault and sexual harassment, which have been approved at MSC 107. MSC 107 integrated outputs 1.32, 6.5, 6.6 and 6.11 into this output.								
7. Ensure regulatory effectiveness	7.1	Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions	Continuous	MSC / MEPC / FAL / LEG	III / PPR / CCC / SDC / SSE / NCSR		Ongoing	Ongoing	MSC 76/23, para.20.3; MSC 78/26, para.22.12;

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.2	Developments in GMDSS services, including guidelines on maritime safety information (MSI)	Continuous	MSC	NCSR		Ongoing	Completed	MSC 104/18, para 15.19; MSC 106/19, para 13.24.3, 13.25 and 13.27; resolution MSC.529(106), MSC.1/Circ.1659, MSC.1/Circ.1403/Rev.2, COMSAR.1/Circ.59/Rev.1 and MSC.1/Circ.1613/Rev.2
7. Ensure regulatory effectiveness	7.4	Lessons learned and safety issues identified from the analysis of marine safety investigation reports	Annual	MSC / MEPC	III		Ongoing		MSC 92/26, para.22.29; MSC 106/19, paras.14.2 to 14.6
7. Ensure regulatory effectiveness	7.5	Identified issues relating to the implementation of IMO instruments from the analysis of data	Annual	MSC / MEPC	III		Ongoing		MSC 96/25, para.23.13; MEPC 69/21, para.19.11; MSC 106/19, paras.14.12 and 16.46.
Notes:	MSC 106 renamed output 7.5 from "Identified issues relating to the implementation of IMO instruments from the analysis of PSC data", thereby extending its scope.								
7. Ensure regulatory effectiveness	7.6	Consideration and analysis of reports and information on persons rescued at sea and stowaways	Annual	MSC / FAL			Postponed	Postponed	
7. Ensure regulatory effectiveness	7.10	Amendments to the IMDG Code and supplements	Continuous	MSC	CCC		Ongoing		MSC 105/20, para 3.59 and 14.4
7. Ensure regulatory effectiveness	7.13	Amendments to the IMSBC Code and supplements	Continuous	MSC	CCC		Ongoing		MSC 105/20, para 14.4 and para 3.57; MSC 107/20, para 17.10 and para 17.12

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.14 (New)	Revision of ECDIS Guidance for good practice (MSC.1/Circ.1503/Rev.1) and amendments to ECDIS performance standards (resolution MSC.232(82))	2023	MSC	III	NCSR	Completed		MSC 100/20, para.17.9; MSC 102/24, para.21.14; MSC 104/18, para.15.19; MSC 106/19, paras 13.36 and 13.43; MSC.1/Circ.1503/Rev.2 and resolution MSC.530(106)
7. Ensure regulatory effectiveness	7.15 (New)	Development of amendments to SOLAS chapter II-2 and the FSS Code concerning detection and control of fires in cargo holds and on the cargo deck of container ships	2025	MSC	CCC	SSE	In progress	In progress	MSC 103/21, para.18.8; SSE 8/20, section 10; MSC 106/19, section 9; SSE 9/20, section 10
7. Ensure regulatory effectiveness	7.19	Revision of the Code of safety for diving systems (resolution A.831(19)) and the Guidelines and specifications for hyperbaric evacuation systems (resolution A.692(17))	2024	MSC	SSE		In progress	Completed	MSC 99/22, para.20.26; SSE 8/20, section 14; MSC 106/19, paras 11.31 and .32; SSE 9/20, section 12
Notes:	MSC 107 noted the action taken by the Sub-Committee to develop a new instrument in parallel to the existing 1995 Diving Code, given the need to address both diving safety and the specifications for hyperbaric evacuation systems in a single instrument and to expand on the industry's specific needs, as already noted by MSC 106 (MSC 106/19, paragraph 11.31, and SSE 9/20, paragraph 12.16)								
7. Ensure regulatory effectiveness	7.20	Amendments to the IAMSAR Manual	Continuous	MSC	NCSR		Ongoing	Completed	MSC 107/20, para 17.78.1
Notes:	MSC 107 consolidated this output with 1.34 "Development of global maritime SAR services, including harmonization of maritime and aeronautical procedures".								
7. Ensure regulatory effectiveness	7.21	Amendments to the 2011 ESP Code	Continuous	MSC	SDC		Ongoing	Ongoing	MSC 92/26, para.13.31; MSC 107/20, par. 12.2
Notes:	Regular updates to the 2011 ESP Code agreed by MSC 92 (MSC 92/26, paragraph 13.31)								

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.22	Routeing measures and ship reporting systems	Continuous	MSC	NCSR		Ongoing	Completed	MSC 106/19, paras.13.3 and 13.4; COLREG.2/Circ.78 and SN.1/Circ.342; MSC 107/20, para 17.78.2
Notes:	MSC 107 changed the title of this output from "Routeing measures and mandatory ship reporting systems"								
7. Ensure regulatory effectiveness	7.23	Updates to the LRIT system	Continuous	MSC	NCSR		Ongoing	Completed	MSC 106/19, paras.13.5 and 13.6; resolution MSC.263(84)/Rev.1, MSC.1/Circ.1259/Rev.9, MSC.1/Circ.1307/Rev.1 and MSC.1/Circ.1376/Rev.5
7. Ensure regulatory effectiveness	7.24	Verified goal-based new ship construction standards for tankers and bulk carriers	Continuous	MSC			Ongoing	Ongoing	MSC 106/19, section 4; MSC 107/20, section 4
7. Ensure regulatory effectiveness	7.25	Amendments to the International Code for the Safe Carriage of Grain in Bulk (resolution MSC.23(59)) to introduce a new class of loading conditions for special compartments	2023	MSC	CCC		Completed		MSC 104/18, para 15.16; MSC 107/20, para 11.5
7. Ensure regulatory effectiveness	7.26	Reports to the MSC on information communicated by STCW Parties	Annual	MSC			Completed		MSC.1/Circ.1164/Rev.26
7. Ensure regulatory effectiveness	7.27	Updated Survey Guidelines under the Harmonized System of Survey and Certification (HSSC)	Annual	MSC / MEPC	III		Ongoing		MEPC 68/21, paras.14.5 and 14.6; MSC 79/23, paras.9.19 and 9.20; MEPC 72/17, paras. 7.4 and 4.24 to 4.33; MSC 104, para.13.7.2; MSC 106/19, paras.14.13 to 14.18

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.28	Consideration of reports of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas	Annual	MSC / MEPC	III	CCC	Completed		CCC 7/15, section 9
7. Ensure regulatory effectiveness	7.31	Finalization of a non-mandatory instrument on regulations for non-convention ships	2025	MSC	III		Postponed		MSC 96/25, para.9.4; MSC 101/24, para.21.38; MSC 104, section 5; MSC 105, section 4; MSC 107/20, paras.9.9 and 9.10
Notes:	MSC 102, having considered that MSC 101 had included an item on "measures to improve domestic ferry safety", agreed that the III Sub-Committee should not proceed with the development of a model course (as instructed by MSC 96), pending further instructions from the MSC taking into account the outcome of the work on measures to improve domestic ferry safety (MSC 102/24, para 14.10); MSC 107 extended target completion year to 2025.								
7. Ensure regulatory effectiveness	7.32	Requirements for onboard lifting appliances and anchor handling winches	2022	MSC	HTW	SSE	Completed		MSC 89/25, para.22.26; MSC 98/23, annex 38; SSE 8/20, section 9; MSC 106/19, section 11
7. Ensure regulatory effectiveness	7.33	Review of SOLAS chapter II-2 and associated codes to minimize the incidence and consequences of fires on ro-ro spaces and special category spaces of new and existing ro-ro passenger ships	2023	MSC	HTW / SDC	SSE	In progress	Completed	MSC 97/22, para.19.19; MSC 98/23, para.12.42; MSC 106/19, para 16.55; SSE 9/20, section 6
Notes:	MSC 106 extended TCY to 2023								

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.34	Amendments to Guidelines for the approval of fixed dry chemical powder fire-extinguishing systems for the protection of ship carrying liquefied gases in bulk (MSC.1/Circ.1315)	2022	MSC	SSE		Completed		MSC 98/23, para.20.37; SSE7/21, section 7; SSE /20, section 7; MSC 106/19, section 11; MSC.1/Circ.1315/Rev.1
7. Ensure regulatory effectiveness	7.35	Safety measures for non-SOLAS ships operating in polar waters	2023	MSC	NCSR	SDC	Completed		MSC 98/23, paras.10.29, 20.31.1 and 20.31.2, and annex 38; MSC 99/22, paras.7.16 and 20.13.1; MSC 101/24, paras.7.6 and 7.9; MSC 102/24, paras.17.5 to 17.8; MSC 103/21, paras.15.1-15.4; MSC 105/20, para 18.54; MSC 106/19, para 13.9
7. Ensure regulatory effectiveness	7.36	New requirements for ventilation of survival craft	2024	MSC	SSE		In progress	Extended	MSC 97/22, para.19.22; SSE 8/20, section 3; MSC 106/19, section 11; MSC 107/20, section 14
Notes:	MSC 106 extended TCY to 2023. MSC 106 approved the draft amendments to the LSA Code for totally enclosed lifeboats as a matter of priority; and agreed to keep the agenda item on the agenda for SSE 9 for consideration of any compelling need for ventilation requirements for partially enclosed lifeboats and liferafts, for inclusion in both the LSA Code and resolution MSC.81(70). MSC 107 extended the TCY to 2024 in order for SSE 10 to consider compelling need for ventilation requirements for partially enclosed lifeboats and liferafts.								

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.37	Consequential work related to the new International Code for Ships Operating in Polar Waters	2022	MSC	SSE / NCSR	SDC	Completed		MSC 93/22, paras.10.44, 10.50 and 20.12; MSC 96/25, para.3.77; MSC 97/22, paras.8.32 and 19.25; MSC 101/24, paras.7.9 and 11.18, and annex 31; MSC.1/Circ.1612; MSC 102/24, para 19.3; SSE 8/20, section 4; MSC 106/19, section 11; MSC.1/Circ.1614/Rev.1
7. Ensure regulatory effectiveness	7.38	Revision of the Performance standards for water level detectors on bulk carriers and single hold cargo ships other than bulk carriers (resolution MSC.188(79))	2023	MSC	SSE	SDC	Completed	Completed	MSC 102/24, para.17.23; resolution MSC.188(79)/Rev.1
7. Ensure regulatory effectiveness	7.39	Development of amendments to the LSA Code and resolution MSC.81(70) to address the in-water performance of SOLAS lifejackets	2023	MSC	SSE		In progress	Completed	MSC 101/24, para.21.6; MSC 102/24, para.21.19; SSE 9/20, section 8; MSC 107/20, section 14
Notes:	SSE 9 completed this output. MSC 107 endorsed the Sub-Committee's recommendation to place output 7.39 on "Development of amendments to the LSA Code and resolution MSC.81(70) to address the in-water performance of SOLAS lifejackets" on the Committee's post-biennial agenda, noting that additional testing requirements were currently under development and new requirements might need to be incorporated in the future (MSC 107/20, paragraph 14.24).								
7. Ensure regulatory effectiveness	7.40	Development of amendments to SOLAS chapter II-2 and MSC.1/Circ.1456 addressing fire protection of control stations on cargo ships	2023	MSC	SSE		In progress	Completed	MSC 101/24, para.21.3; MSC 102/24, para.21.19; SSE 8/20, section 11; SSE 9/20, section 11

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.41	Development of provisions to consider prohibiting the use of fire-fighting foams containing fluorinated substances, in addition to PFOS for fire-fighting on board ships	2025	MSC	SSE		Extended	In progress	MSC 101/24, para.21.27; MSC 102/24, paras 19.31 and 21.19; SSE 8/20, section 12; MSC 106/19, section 11; SSE 9/20, section 15; MSC 107/20, section 14
Notes:	MSC 107 endorsed the change of scope of the related output and the revision of its title to "Development of provisions to consider prohibiting the use of fire-fighting foams containing fluorinated substances, in addition to PFOS, for fire-fighting on board ships", based on the justification agreed by the Sub-Committee								
7. Ensure regulatory effectiveness	7.42 (New)	Revision of the Interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369) and related circulars	2024	MSC	HTW / SSE	SDC		In progress	MSC 103/21, para.18.31; MSC 105/20, paras 15.24.2 and 18.54
7. Ensure regulatory effectiveness	7.44 (New)	Revision of SOLAS regulation V/23 and associated instruments to improve the safety of pilot transfer arrangements	2024	MSC	NCSR			In progress	MSC 106/19, paras.16.12 to 16.14
7. Ensure regulatory effectiveness	7.45 (New)	Development of guidance to assist competent authorities in the implementation of the Cape Town Agreement of 2012	2024	MSC	III		No work requested		MSC 106/19, paras.16.17 and 16.46
7. Ensure regulatory effectiveness	7.46 (New)	Amendments to ECDIS performance standards (resolution MSC.530(106)) to facilitate a standardized digital exchange of ships' route plans	2024	MSC	NCSR			Completed	MSC 105/20, paras.18.20 and 18.21, MSC 106/19, para 16.49; NCSR 10/22, para 9.8
Notes:	Pending adoption of the draft revision of resolution MSC.530(106) by MSC 108.								

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7. Ensure regulatory effectiveness	7.47 (New)	Amendments to the LSA Code concerning single fall and hook systems with on-load release capability	2023	MSC	SSE			Completed	MSC 106/19, section 11; SSE 9/20, section 16; MSC 107/20, para.14.8
7. Ensure regulatory effectiveness	7.48 (New)	Development of amendments to the LSA Code to revise the lowering speed of survival craft and rescue boats for cargo ships	2024	MSC	SSE			Completed	MSC 99/22, para.20.15; SSE 9/20, section 4; MSC 107/20, section 14
Notes:	MSC 107 endorsed the expansion of the output to include addressing the maximum lowering speed for passenger ships by amending paragraphs 6.1.2.8 and 6.1.2.10 of the LSA Code.								
8. Ensure organizational effectiveness	8.1	Endorsed proposals for the development, maintenance and enhancement of information systems and related guidance (GISIS, websites, etc.)	Continuous	Council	MSC / MEPC / FAL / LEG / TCC		Ongoing	Ongoing	
8. Ensure organizational effectiveness	8.9	Revised documents on organization and method of work, as appropriate	2023	Council	MSC / MEPC / FAL / LEG / TCC		In progress	Completed	MSC-MEPC.1/Circ.5/Rev.5, subject to MEPC's concurrent approval
OW. Other work	OW 3	Endorsed proposals for new outputs for the 2022-2023 biennium as accepted by the Committees	Annual	Council	MSC / MEPC / FAL / LEG / TCC		Ongoing	Completed	MSC 107/20, section 17
OW. Other work	OW 8	Cooperate with the United Nations on matters of mutual interest, as well as provide relevant input/guidance	2023	Assembly	MSC / MEPC / FAL / LEG / TCC	Council	In progress	Completed	C 120/D, paras.17(a).1-17(a).5

Reference to SD, if applicable	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
OW. Other work	OW 9	Cooperate with other international bodies on matters of mutual interest, as well as provide relevant input/guidance	2023	Assembly	MSC / MEPC / FAL / LEG / TCC	Council	In progress	Completed	C 120/D, paras.17(a).1-17(a).5
OW. Other work	OW 12 (New)	Guidance on the training on and operation of Emergency Personal Radio Devices in multiple casualty situations	2022	MSC	NCSR		Completed		MSC 100/20, para.17.5; MSC 106/19, para.13.35; MSC.1/Circ.1660
OW. Other work	OW 13 (New)	Revision of the provisions for helicopter facilities in SOLAS and the MODU Code	2024	MSC	SSE			Extended	MSC 107/20, para 14.25.
Notes:	MSC 86/26, paragraph 23.39; SSE 9/20, section 9; MSC 107 extended target completion year to 2024.								
OW. Other work	OW 14 (New)	Amendments to the LSA Code for thermal performance of immersion suits	2024	MSC	SSE			Ongoing	MSC 92/26, para.13.34; SSE 9/20, section 7

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ANNEX 41

PROPOSED BIENNIAL AGENDA OF THE MARITIME SAFETY COMMITTEE FOR THE 2024-2025 BIENNIUM*

MARITIME SAFETY COMMITTE						
Reference to SD, if applicable	**Output number**	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ**
1	1.2	Input on identifying emerging needs of developing countries, in particular SIDS and LDCs to be included in the ITCP	Continuous	TCC	MSC / MEPC / FAL / LEG	
1	1.3	Revision of the criteria for the provision of mobile satellite communication services in the Global Maritime Distress and Safety System (GMDSS) (resolution A.1001(25))	2024	MSC	NCSR	
1	1.4	Analysis of consolidated audit summary reports	Annual	Assembly	MSC / MEPC / LEG / TCC / III	Council
1	1.5	Non-exhaustive list of obligations under instruments relevant to the IMO Instruments Implementation Code (III Code)	Annual	MSC / MEPC	III	
1	1.7	Identify thematic priorities within the area of maritime safety and security, marine environmental protection, facilitation of maritime traffic and maritime legislation	Annual	TCC	MSC / MEPC / FAL / LEG	
1	1.11	Measures to harmonize port State control (PSC) activities and procedures worldwide	Continuous	MSC / MEPC	HTW /PPR/ NCSR	III
1	1.14	[Development of guidance in relation to Mandatory IMO Member State Audit Scheme (IMSAS) to assist in the implementation of the III Code by Member States]	[2023]	MSC / MEPC	III	
Note:	III 9 to consider in August 2023.					
1	1.17	[Review of IGC Code]	[2023]	MSC	CCC	
Note:	CCC 9 to consider in September 2023.					

* For details, refer to Organizational Planning module of GISIS.

MARITIME SAFETY COMMITTE						
Reference to SD, if applicable	**Output number**	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ**
1	1.18	Development of guidance on assessment and applications of remote surveys, ISM Code audits and ISPS Code verifications	2024	MSC / MEPC	III	
1	1.32	Implementation of the STCW Convention	Continuous	MSC	HTW	
1	1.34	Development of global maritime SAR services, including harmonization of maritime and aeronautical procedures and amendments to the IAMSAR Manual	Continuous	MSC	NCSR	
1	1.[..]	Review of the appropriateness and effectiveness of SOLAS regulation IV/5 (*Provision of radiocommunication services*)	2025	MSC	NCSR	
2	2.1	Response to matters related to the ITU-R Study Groups and ITU World Radiocommunication Conference	Continuous	MSC	NCSR	
2	2.3	Amendments to the IGF Code and development of guidelines for alternative fuels and related technologies	Continuous	MSC	HTW/ PPR/ SDC / SSE	CCC
2	2.4	Further development of the IP Code and associated guidance	2025	MSC	SDC	
2	2.5	Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapter II-1	2024	MSC	SSE	SDC
2	2.16	Revision of SOLAS chapter III and the International Life-Saving Appliance (LSA) Code	2024	MSC	SSE	
2	2.20	Development of Guidelines for emergency towing arrangements for ships other than tanker	2025	MSC	SDC	
2	2.21	Review of Formal Safety Assessment (FSA) studies by the FSA Experts' Group	Continuous	MSC		
2	2.23	Development of a goal-based instrument for maritime autonomous surface ships (MASS)	2025	MSC		
2	2.25	Revision of the Interim recommendations for carriage of liquefied hydrogen in bulk	2024	MSC	CCC	
2	2.27	Development of performance standards for a digital navigational data system (NAVDAT)	2024	MSC	NCSR	
2	2.28	Development of amendments to SOLAS chapters IV and V and performance standards and guidelines to introduce VHF Data Exchange System (VDES)	2024	MSC	NCSR	

MARITIME SAFETY COMMITTE						
Reference to SD, if applicable	**Output number**	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ**
2	[2…..]	Guidelines for use of Fibre Reinforced Plastics (FRP) within ship structures	2025	MSC	SDC	
2	[2…..]	Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels	Continuous	MSC	CCC, HTW, III, SDC, SSE, and [MEPC]	MSC
2	[2…..]	Revision of the *Guidelines on Maritime Cyber Risk Management* (MSC-FAL.1/Circ.3/Rev.2) and identification of next steps to enhance maritime cybersecurity	2024	MSC	[FAL]	[MSC]
2	[2…..]	Revision of SOLAS chapters II-1 (part C) and V, and related instruments regarding steering and propulsion requirements, to address both traditional and non-traditional propulsion and steering systems	2025	MSC	SSE	SDC
4	4.2	Input to the ITCP on emerging issues relating to sustainable development and achievement of the SDGs	Continuous	TCC	MSC / MEPC / FAL / LEG	
5	5.2	Guidelines and guidance on the implementation and interpretation of SOLAS chapter XI-2 and the ISPS Code	Annual	MSC		
5	5.3	Consideration and analysis of reports on piracy and armed robbery against ships	Annual	MSC		
5	5.4	Revised guidance relating to the prevention of piracy and armed robbery to reflect emerging trends and behaviour patterns	Annual	MSC	LEG	
5	5.13	IMO's contribution to addressing unsafe mixed migration by sea	2025	FAL / LEG / MSC		
6	6.1	Role of the human element	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW
6	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW

MARITIME SAFETY COMMITTE						
Reference to SD, if applicable	**Output number**	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ**
6	6.3	Reports on unlawful practices associated with certificates of competency	Annual	MSC	HTW	
6	6.10	Development of an entrant training manual for PSC personnel	2025	MSC / MEPC	III	
Note:	III 9 to complete the work to be reported to MSC 108 in 2024. MSC 107 extended the target completion year. MSC 106 endorsed the recommendation of III 8 that this output should be undertaken after the finalization of the IMO Model Course 3.09 on port State control (expected 2024).					
6	6.15	Revision of resolution A.1050(27) to ensure the safety of personnel entering enclosed spaces on board ships	2024	MSC	III / HTW / PPR / SDC	CCC
6	6.17	Comprehensive review of the 1978 STCW Convention and Code	2026	MSC	HTW	
Note:	MSC 107 integrated existing outputs 6.5, 6.6 and 6.11 into this output.					
7	7.1	Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions	Continuous	MSC / MEPC / FAL / LEG	III / PPR / CCC /SDC/ SSE/NCSR	
7	7.2	Developments in GMDSS services, including guidelines on maritime safety information (MSI)	Continuous	MSC	NCSR	
7	7.4	Lessons learned and safety issues identified from the analysis of marine safety investigation reports	Annual	MSC / MEPC	III	
7	7.5	Identified issues relating to the implementation of IMO instruments from the analysis of data	Annual	MSC / MEPC	III	
7	7.6	Consideration and analysis of reports and information on persons rescued at sea and stowaways	Annual	MSC / FAL		
7	7.10	Amendments to the IMDG Code and supplements	Continuous	MSC	CCC	
7	7.13	Amendments to the IMSBC Code and supplements	Continuous	MSC	CCC	
7	7.15	Development of amendments to SOLAS chapter II-2 and the FSS Code concerning detection and control of fires in cargo holds and on the cargo deck of container ships	2025	MSC	CCC	SSE

MARITIME SAFETY COMMITTE						
Reference to SD, if applicable	**Output number**	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ**
7	7.21	Amendments to the 2011 ESP Code	Continuous	MSC	SDC	
7	7.22	Routeing measures and ship reporting systems	Continuous	MSC	NCSR	
7	7.23	Updates to the LRIT system	Continuous	MSC	NCSR	
7	7.24	Verified goal-based new ship construction standards for tankers and bulk carriers	Continuous	MSC		
7	7.26	Reports to the MSC on information communicated by STCW Parties	Annual	MSC		
7	7.27	Updated Survey Guidelines under the Harmonized System of Survey and Certification (HSSC)	Annual	MSC / MEPC	III	
7	7.28	Consideration of reports of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas	Annual	MSC / MEPC	III	CCC
7	7.31	Finalization of a non-mandatory instrument on regulations for non-convention ships	2025	MSC	III	
Note:	MSC 107 considered the outcome of TCC 72 (para 2.19.3 of TCC 72/16), in particular in the context of "Measures to improve domestic ferry safety", the need for development of an explanatory manual for the model regulations on domestic ferry safety and related online training material; extended target completion year and placed the item in the provisional agenda of MSC 108.					
7	7.36	New requirements for ventilation of survival craft	2024	MSC	SSE	
Note:	MSC 107 extended the target completion year to 2024 in order for SSE 10 to consider compelling need for ventilation requirements for partially enclosed lifeboats and liferafts.					
7	7.41	Development of provisions to consider prohibiting the use of fire-fighting foams containing fluorinated substances, in addition to PFOS, for fire-fighting on board ships	2025	MSC	SSE	
Note:	MSC 107 changed the scope and renamed the title.					
7	7.42	Revision of the Interim explanatory notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369) and related circulars	2024	MSC	HTW / SSE	SDC
7	7.44	Revision of SOLAS regulation V/23 and associated instruments to improve the safety of pilot transfer arrangements	2024	MSC	NCSR	
7	7.45	Development of guidance to assist competent authorities in the implementation of the Cape Town Agreement of 2012	2024	MSC	III	

MARITIME SAFETY COMMITTE						
Reference to SD, if applicable	**Output number**	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ**
7	[7…]	Revision of the provisions for helicopter facilities in SOLAS and the MODU Code	2024	MSC	SSE	
7	[7….]	Amendments to the LSA Code for thermal performance of immersion suits	2024	MSC	SSE	
7	[7….]	Develop measures to prevent the loss of containers at sea	2025	MSC	SDC, NCSR, HTW, III	CCC
7	[7….]	Amendment to regulation 25 of the of the 1988 Load Line Protocol regarding the requirement for setting of guard rails on the deck structure	2024	MSC	SDC	
7	[7….]	Comprehensive review of the *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear* (resolution MSC.402(96)) to address challenges with their implementation	2025	MSC	SSE	
7	[7….]	Identification of measures to improve the security and integrity aspects of AIS	2025	MSC	NCSR	
7	[7….]	Amendments to SOLAS chapter III and chapter IV of the LSA Code to require the carriage of self-righting or canopied reversible liferafts for new ships	2025	MSC	SSE	
7	[7….]	Development of amendments to paragraph 8.3.5 and annex 1 of the 1994 and 2000 HSC Codes	2024	MSC	SSE	
7	[7….]	Development of design and prototype test requirements for the arrangements used in the operational testing of free fall lifeboat release systems without launching the lifeboat	2025	MSC	SSE	
7	[7….]	Revision of the 2010 FTP Code to allow for new fire protection systems and materials	2026	MSC	SSE	
7	[7….]	Development of guidelines for the use of electronic nautical publications (ENP)	2025	MSC	NCSR	
7	[7….]	Amendments to the Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation (MSC.1/Circ.1331) concerning the rigging of safety netting on accommodation ladders and gangways	2024	MSC	SSE	SDC
7	[7….]	Evaluation of adequacy of fire protection, detection and extinction arrangements in vehicle, special category and ro-ro spaces in order to reduce the fire risk of ships carrying new energy vehicles	2027	MSC	SSE	

MARITIME SAFETY COMMITTE						
Reference to SD, if applicable	**Output number**	**Description**	**Target completion year**	**Parent organ(s)**	**Associated organ(s)**	**Coordinating organ**
8	8.1	Endorsed proposals for the development, maintenance and enhancement of information systems and related guidance (GISIS, websites, etc.)	Continuous	Council	MSC / MEPC / FAL / LEG / TCC	
8	8.9	Revised documents on organization and method of work, as appropriate	Annual	Council	MSC / MEPC / FAL / LEG / TCC	
OW	OW 3	Endorsed proposals for new outputs for the 2024-2025 biennium as accepted by the Committees	Annual	Council	MSC / MEPC / FAL / LEG / TCC	
OW	OW 8	Cooperate with the United Nations on matters of mutual interest, as well as provide relevant input/guidance	Continuous	Assembly	MSC / MEPC / FAL / LEG / TCC	Council
OW	OW 9	Cooperate with other international bodies on matters of mutual interest, as well as provide relevant input/guidance	Continuous	Assembly	MSC / MEPC / FAL / LEG / TCC	Council

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ANNEX 42

POST-BIENNIAL AGENDA OF THE MARITIME SAFETY COMMITTEE[14]

MARITIME SAFETY COMMITTEE (MSC)								
Number	**Biennium** (when the output was placed on the post-biennial agenda)	**Reference** (to Strategic Direction, if applicable)	**Description**	**Parent organ(s)**	**Associated organs(s)**	**Coordinating organ(s)**	**Timescale (sessions)**	**References**
185	2022-2023	1	Development of amendments to chapter 6 of the 2009 MODU Code regarding electrical equipment capable of operation after shutdown	MSC	SSE		1	MSC 105/20, paragraph 18.3
194	2022-2023	1	Development of measures to ensure the safe operation of elevators on board ships	MSC	SSE		4	MSC 106/19, paragraphs 16.25 and .26
[To be allocated]	2022-2023	1	Development of amendments to paragraph 2.1.2.5 of chapter 5 of the FSS Code on construction requirement for gaskets	MSC	SSE		1	MSC 107/20, para 17.16
[To be allocated]	2022-2023	2	Consideration of descriptions of Maritime Services in the context of e-navigation	MSC	NCSR		1	MSC 107/20, para 17.77.1
[To be allocated]	2022-2023	2	Development of generic performance standards for shipborne satellite navigation system receiver equipment	MSC	NCSR		1	MSC 107/20, para 17.76
[To be allocated]	2022-2023	2	Development of procedures and requirements for the recognition of augmentation systems in the World-wide radionavigation system	MSC	NCSR		1	MSC 107/20, para 17.58.1

[14] For details, refer to Organizational Planning module of GISIS.

MARITIME SAFETY COMMITTEE (MSC)								
Number	**Biennium** (when the output was placed on the post-biennial agenda)	**Reference** (to Strategic Direction, if applicable)	**Description**	**Parent organ(s)**	**Associated organs(s)**	**Coordinating organ(s)**	**Timescale (sessions)**	**References**
[To be allocated]	2022-2023	2	Development of performance standards for dual frequency multi-constellation satellite-based augmentation systems (DFMC SBAS) and advanced receiver autonomous integrity monitoring (ARAIM) in shipborne radionavigation receivers	MSC	NCSR		2	MSC 107/20, para 17.58.2
[To be allocated]	2022-2023	2	Development of guidelines for software maintenance of shipboard navigation and communication equipment and systems	MSC	NCSR		2	MSC 107/20, para 17.33
[To be allocated]	2022-2023	2	Development of guidelines for EPIRB which implement the two-way communication service via the SAR/Galileo Return Link service as a complement to EPIRB performance standards (resolution MSC.471(101))	MSC	NCSR		2	MSC 107/20, para 17.35
[To be allocated]	2022-2023	2	Revision of the Performance standards for gyro-compasses (resolution A.424(XI)) and Guidance for navigation and communication equipment intended for use on ships operating in polar waters (MSC.1/Circ.1612)	MSC	NCSR		2	MSC 107/20, para 17.47
[To be allocated]	2022-2023	2	Revision of the *Performance Standards for Shipborne BeiDou Satellite Navigation System (BDS) Receiver Equipment* (resolution MSC.379(93))	MSC	NCSR		1	MSC 107/20, para 17.55

MARITIME SAFETY COMMITTEE (MSC)								
Number	**Biennium** (when the output was placed on the post-biennial agenda)	**Reference** (to Strategic Direction, if applicable)	**Description**	**Parent organ(s)**	**Associated organs(s)**	**Coordinating organ(s)**	**Timescale (sessions)**	**References**
[To be allocated]	2022-2023	5	Review and update of the *Code of Practice for Atmospheric Oil Mist Detectors* (MSC/Circ.1086)	MSC	SSE		2	MSC 107/20, para 17.39
191	2022-2023	6	Scoping exercise and enhancement of the effectiveness of provisions on fatigue and seafarers' hours of work and rest	MSC	III	HTW	2	MSC 105/20, paragraph 18.31
[To be allocated]	2022-2023	6	Development of guidance to address time pressure and related organizational factors	MSC	III	HTW	1	MSC 107/20, para 17.23
[To be allocated]	2022-2023	6	Revision of the IMO Standard Marine Communication Phrases (resolution A.918(22))	MSC	HTW	NCSR	2	MSC 107/20, para 17.53
186	2022-2023	7	Development of amendments to chapter 15 of the FSS Code on enclosed spaces containing a nitrogen receiver or a buffer tank of nitrogen generator systems	MSC	SSE		2	MSC 105/20, paragraphs 18.5 and 18.6
187	2022-2023	7	Review and update SOLAS regulation II-2/9 on containment of fire to incorporate existing guidance and clarify requirements	MSC	SSE		2	MSC 105/20, paragraphs 18.8 and 18.9
192	2022-2023	7	Revision of the Guidelines for the application of plastic pipes on ships (resolution A.753(18))	MSC	SSE		1	MSC 105/20, paragraph 18.40

MARITIME SAFETY COMMITTEE (MSC)								
Number	**Biennium** (when the output was placed on the post-biennial agenda)	**Reference** (to Strategic Direction, if applicable)	**Description**	**Parent organ(s)**	**Associated organs(s)**	**Coordinating organ(s)**	**Timescale (sessions)**	**References**
[To be allocated]	2022-2023	7	Revision of the Revised guidelines for the preparation of the cargo securing manual (MSC.1/Circ.1353/Rev.2) to include a harmonized performance standard for lashing software to permit lashing software as a supplement to the Cargo Securing Manual	MSC	CCC		2	MSC 107/20, para 17.25
[To be allocated]	2022-2023	7	Development of guidelines for harmonizing the date format of various certificates issued under IMO instruments	MSC/FAL	III		2	MSC 107/20, para 17.41
[To be allocated]	2022-2023	7	Revision of appendices A and B of the Revised guidance on shipboard towing and mooring equipment (MSC.1/Circ.1175/Rev.1)	MSC	SDC		1	MSC 107/20, para 17.15
[To be allocated]	2022-2023	7	Revision of the Revised guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing systems (MSC.1/Circ.1318/Rev.1) to clarify the testing and inspection provisions for CO_2 cylinders	MSC	SSE		1	MSC 107/20, para 17.60

MARITIME SAFETY COMMITTEE (MSC)								
Number	**Biennium** (when the output was placed on the post-biennial agenda)	**Reference** (to Strategic Direction, if applicable)	**Description**	**Parent organ(s)**	**Associated organs(s)**	**Coordinating organ(s)**	**Timescale (sessions)**	**References**
[To be allocated]	2018-2019 then 2022-2023	7	Development of amendments to the LSA Code and resolution MSC.81(70) to address the in-water performance of SOLAS lifejackets	MSC	SSE		2	MSC 101/24, paragraph 21.6; SSE 9/20, paragraph 8.19; MSC 107/20, para 14.24
Note:	Former output 7.39. SSE 9 completed the output, however MSC 107 placed back on the post-biennial agenda.							
42	2012-2013	OW	Review of the 2009 Code on Alerts and Indicators	MSC	NCSR	SSE	2	MSC 89/25, paragraph 22.25

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ANNEX 43

SUBSTANTIVE ITEMS FOR INCLUSION IN THE AGENDAS OF MSC 108 AND MSC 109

108th session of the Committee (15 to 24 May 2024)

Decisions of other IMO bodies

Amendments to mandatory instruments

Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels

Development of a goal-based instrument for maritime autonomous surface ships (MASS)

Measures to enhance maritime security

Revision of the *Guidelines on Maritime Cyber Risk Management* (MSC-FAL.1/Circ.3/Rev.2) and identification of next steps to enhance maritime cybersecurity

Piracy and armed robbery against ships

Unsafe mixed migration by sea

Formal safety assessment

Implementation of IMO instruments (Report of the ninth session of the Sub-Committee)

Navigation, communications and search and rescue (Report of the tenth session of the Sub-Committee)

Carriage of cargoes and containers (Report of the ninth session of the Sub-Committee)

Ship design and construction (Report of the tenth session of the Sub-Committee)

Human element, training and watchkeeping (Report of the tenth session of the Sub-Committee)

Domestic ferry safety

Application of the Committee's method of work

Work programme

Any other business

109th session of the Committee (2 to 6 December 2024)

Decisions of other IMO bodies

Amendments to mandatory instruments

Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels

[Goal-based new ship construction standards]

Development of a goal-based instrument for maritime autonomous surface ships (MASS)

Measures to enhance maritime security

[Revision of the *Guidelines on Maritime Cyber Risk Management* (MSC-FAL.1/Circ.3/Rev.2) and identification of next steps to enhance maritime cybersecurity]

Piracy and armed robbery against ships

Unsafe mixed migration by sea

Formal safety assessment

Implementation of IMO instruments (Report of the ninth session of the Sub-Committee)

Ship systems and equipment (Report of the tenth session of the Sub-Committee)

Navigation, communications and search and rescue (Report of the eleventh session of the Sub-Committee)

Carriage of cargoes and containers (Urgent matters emanating from the tenth session of the Sub-Committee)

[Domestic ferry safety]

Application of the Committee's method of work

Work programme

Election of Chair and Vice-Chair for 2025

Any other business

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ANNEX 44*

DRAFT AMENDMENTS TO RESOLUTIONS MSC.215(82) AND MSC.288(87)

DRAFT AMENDMENTS TO THE PERFORMANCE STANDARDS FOR PROTECTIVE COATINGS FOR DEDICATED SEAWATER BALLAST TANKS (RESOLUTION MSC.215(82))

6 COATING INSPECTION REQUIREMENTS

6.1 General

1 The existing paragraph 6.1.1 is amended, as follows:

"6.1.1 To ensure compliance with this Standard, the following shall be carried out by qualified coating inspectors certified to ~~NACE Coating Inspector Level 2~~ AMPP Certified Coatings Inspector, FROSIO Inspector Level III or equivalent as verified by the Administration."

DRAFT AMENDMENTS TO THE PERFORMANCE STANDARD FOR PROTECTIVE COATINGS FOR CARGO OIL TANKS OF CRUDE OIL TANKERS (RESOLUTION MSC.288(87))

6 COATING INSPECTION REQUIREMENTS

6.1 General

1 The existing paragraph 6.1.1 is amended, as follows:

"6.1.1 To ensure compliance with this Standard, the following shall be carried out by qualified coating inspectors certified to ~~NACE Coating Inspector Level 2~~ AMPP Certified Coatings Inspector, FROSIO Inspector Level III or equivalent as verified by the Administration."

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* Modifications are indicated in grey shading.

ANNEX 45

THEMATIC PRIORITIES FOR THE ITCP COVERING THE 2024-2025 BIENNIUM

1 Fostering the effective implementation and enforcement of conventions and other mandatory instruments, with emphasis on the SOLAS 1974, SAR 1979 and STCW 1978 Conventions and the ISM Code, in particular providing assistance and training to developing countries to effectively implement and enforce those instruments, as well as addressing human element-related matters and implementation of provisions related thereto.

2 Promoting the continued establishment and strengthening of effective ship and port facility security measures (SOLAS chapter XI-2 and ISPS Code), including support for LRIT implementation, the enhancement of safety and security of the ship/port interface, in accordance with the relevant IMO standards and recommendations, and promoting and enhancing maritime security aspects relating to piracy and armed robbery against ships, including facilitation and effective implementation of resolutions A.1159(32) on *Prevention and Suppression of Piracy, Armed Robbery Against Ships and Illicit Maritime Activity in the Gulf of Guinea* and A.1025(26) on *Code of Practice for the Investigation of Crimes of Piracy and Armed Robbery against Ships.*

3 Supporting maritime administrations to strengthen their human resource capabilities in the discharge of their rights, duties and responsibilities as flag, port and coastal States, in particular with regard to the implementation of the *IMO Instruments Implementation Code (III Code)*, the *Casualty Investigation Code* and the *Code for Recognized Organizations,* while promoting the global harmonization of port State control, in cooperation with PSC regimes, taking into account the outcome of the analysis of consolidated audit summary reports (CASRs) from audits conducted under the IMO Member State Audit Scheme (IMSAS), as appropriate.

4 Supporting IMO Member States to strengthen their services dedicated to safety of navigation, monitoring of maritime traffic, implementation of effective ships' routeing measures, and search and rescue.

5 Supporting maritime administrations through capacity-building to strengthen their capabilities to implement the provisions of the IMDG and IMSBC Codes, to improve implementation as well as to promote good practice when dealing with these mandatory instruments.

6 Supporting maritime administrations through capacity-building and as a facilitator for international co-operation to enhance their capabilities and to share and provide them with best practices on the implementation of SOLAS chapter XIV (Safety measures for ships operating in polar waters) and the Polar Code, including relevant training and associated recently approved guidelines.

7 Promoting the ratification and implementation of the 2012 Cape Town Agreement and the 1995 STCW-F Convention as well as proactive safety measures relating to fishing vessels and their personnel and the fight against Illegal, Unreported and Unregulated (IUU) Fishing, in cooperation with FAO and ILO, including promoting and enhancing maritime safety aspects relating to small fishing vessels.

8 Promoting and enhancing maritime safety aspects relating to ships not covered by SOLAS chapter I (so called non-convention ships), in particular in relation to all aspects of domestic ferry safety.

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ANNEX 46

DRAFT ASSEMBLY RESOLUTION

RECOMMENDATIONS EMANATING FROM THE JOINT ACTION GROUP TO REVIEW THE IMPACT OF THE COVID-19 PANDEMIC ON THE WORLD'S TRANSPORT WORKERS AND THE GLOBAL SUPPLY CHAIN (JAG-TSC)

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to recommending to Members provisions for adoption,

NOTING that the transport sector plays a vital, and often insufficiently recognized, role in ensuring the movement of people and goods during public health emergencies of international concern (PHEIC), including through the efficient operation of both domestic and global supply chains,

COGNIZANT that the COVID-19 pandemic has presented the transport sector, in particular mobile workers, including seafarers, truckers, railway workers and air crew, with considerable and, at times, intolerable challenges, threatening the sectors' sustainability, as well as the lives and livelihoods of its workers,

RECALLING that Governments, during the pandemic, were compelled to implement public health and social measures, including international travel-related measures, often in a precautionary manner and in the context of scientific uncertainty, to control and reduce the spread of COVID-19 and ensure the sustained performance of health systems' functions. Some of the most stringent measures implemented by national authorities led to the override of international obligations by States to protect the rights of transport workers, including those concerning their fundamental principles and rights at work and, in particular for seafarers, the Maritime Labour Convention, 2006, as amended (MLC, 2006),

APPRECIATING that United Nations (UN) bodies and agencies issued a large range of recommendations, including key legal, policy and technical guidance, as well as joint statements and declarations to address the challenges posed by the pandemic to the transport industry, and have highlighted that additional, country-level concrete means of action are needed to tackle them,

NOTING that the Joint Action Group to review the impact of the COVID-19 pandemic on the world's transport workers and the global supply chain (JAG-TSC), consisting of representatives of ICAO, ILO, IMO, WHO, the International Air Transport Association (IATA), the International Chamber of Shipping (ICS), the International Organization of Employers (IOE), the International Road Transport Union (IRU), the International Transport Workers' Federation (ITF) and International Union of Railways (UIC), discussed serious and urgent challenges faced by transport workers resulting from the COVID-19 pandemic, with a view to minimizing adverse impacts on transport workers, their families, global trade and supply chains, while at the same time ensuring that public health needs are fully safeguarded, and local communities are protected,

NOTING ALSO that the UN Secretary-General's Executive Committee established a UN inter-agency Task Force on the impact of COVID-19 on seafarers, which has been requested to take into account, as appropriate, the outcomes of the JAG-TSC, and, inter alia, has

requested ILO and IMO to advise the UN Development Cooperation Office (DCO) and UN Resident Coordinators (UNRCs) on potential targeted and coordinated outreach efforts to better inform national decisionmakers and the general public on the challenges posed by health emergencies to seafarers, including gender-specific threats, shipping and supply chains,

RECOGNIZING the pivotal role of the UNRCs, among others, to ensure inter-agency coordination and foster whole-of-government and whole-of-society engagement and decision making at the country level supports of the Sustainable Development Goals, including Goals 3 (Ensure healthy lives and promote well-being for all at all ages), 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) and 16 (Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels),

AWARE of the need to improve the means by which UN bodies and agencies and transport sector organizations can quickly and efficiently share information and coordinate actions to address the impact, or potential impact, of recommendations during Public Health Emergencies of International Concern (PHEICs) and related measures on transport sectors and their workers, and to encourage improved coordination at the national level with affected countries,

HAVING CONSIDERED the recommendations of the JAG-TSC to provide more effective means of action to the ongoing issues affecting the transportation sector during the COVID-19 pandemic and in similar future PHEICs and having noted, in particular, the recommendation for involved UN agencies to submit to their appropriate governance structures the group's recommendations to obtain a mandate to ensure action,

1 ENDORSES the recommendations by the JAG-TSC that all its members should:

(a) set up a rapid-response group for immediate activation in the event of a WHO declared PHEIC. Its terms of reference should include standing arrangements to support crisis resilience, an annual (virtual) meeting and its membership should consist of senior representatives of all JAG-TSC members. Regional government representatives should also be invited, as appropriate;

(b) establish focal points with a view to facilitate inter-agency communication, collaboration and coordination during PHEICs, with respect to the needs and concerns of international transport organizations;

2 RESOLVES that the Organization recognize, take into consideration and ensure policy coherence within the UN system collaborations already in place that were established to deal with PHEICs or that will ensure in the future improved pandemic preparedness;

3 NOTES the recommendations by the JAG-TSC that WHO in particular should:

(a) engage relevant stakeholders from the transport sectors in the development of policy documents, technical guidance and tools, related to international travel-related measures during PHEIC, including pandemics, in line with WHO rules of engagement in order to take into account relevant operational considerations;

(b) communicate and share relevant information on PHEICs, including pandemics, that affect cross-border transport workers, with transport

authorities, the transportation industry and relevant UN agencies as appropriate (i.e. through sector-specific technical briefings and webinars, and other existing communication platforms);

(c) continue to update, through appropriate channels, other UN agencies, the transport industry, including employers' and workers' organizations, and civil society, on the process of developing a future WHO convention, agreement or other international instrument on pandemic prevention, preparedness and response, and inform them of the modalities of engagement for relevant stakeholders in the work of the Intergovernmental Negotiating Body, as well as on the process of making potential amendments to the International Health Regulations (IHR (2005));

4 ENDORSES the recommendations by the JAG-TSC that the Organization, ICAO and ILO should, in particular:

(a) use opportunities provided to them to contribute to WHO guidance to mainstream the rights, needs and challenges of workers and employers in the transport sectors during PHEICs;

(b) disseminate to their constituents WHO information and guidance through appropriate channels and help ensure that it reaches transport organizations, including employers and workers organizations, at the international and national level;

(c) voice and mainstream workers' and industry's needs and challenges by engaging in the development of a future WHO convention, agreement or other international instrument on pandemic prevention, preparedness and response, as well as to potential amendments to the IHR (2005) in line with the modalities of engagement for relevant stakeholders;

(d) voice and address transport workers' needs and challenges during PHEICs in UN Country Teams (UNCTs) and with UNRCs to ensure the highest level of coordinated UN involvement within the country and seek multisectoral solutions in consultation with the national level emergency response commanding body and other relevant national authorities;

5 NOTES the recommendations by the JAG-TSC that its member international transport organizations, including both international employers and workers organizations, should:

(a) use the modalities provided to engage in the ongoing intergovernmental processes at WHO in relation to a future WHO Convention, agreement or other international instrument on pandemic prevention, preparedness and response, as well as for potential amendments to the IHR (2005);

(b) identify contact points for coordination and rapid action with respect to COVID-19 and future PHEICs and the related work of the UN agencies;

(c) protect and promote the health of workers, including by encouraging their members at the national level to voice their concerns and needs, through the appropriate national mechanisms, on matters related to PHEICs and actions to address them;

(d) engage in effective social dialogue with global, regional and national transport employers and workers and their organizations in recognition that social dialogue is an effective means to improve the living and working conditions of mobile and cross-border transport workers and transport facilitation across international borders.

6 ALSO NOTES the recommendations by the JAG-TSC that the United Nations system should:

(a) convene a tripartite, international and interministerial meeting to discuss transport, health and the common concerns and interests of the transport sector in order to identify the different approaches required to safeguard and respect the rights of workers and employers during PHEICs;

(b) through the UNDCO (and with the support of the UN system specialized agencies):

(i) involve more systematically and proactively UNRCs and UNCTs to address the challenges of the transport sectors and their workers with respect to issues specific to the COVID-19 pandemic, as well as future PHEICs;

(ii) encourage enhanced coordination among national ministries to respond expeditiously and efficiently to the challenges faced by these sectors, including through consultations with employers' and workers' organizations;

(iii) share good practices of countries with respect to actions taken during the COVID-19 pandemic, as well as future PHEICs;

7 ENDORSES the recommendations by the JAG-TSC that Member Governments, with the support of the UNRCs and UNCTs, and in their pursuit of reaching the goals of the relevant SDGs, should take immediate, effective and sustainable action to ensure that all relevant ministries, agencies and other government institutions:

(a) recognize the key role played by transport workers during PHEICs, in particular mobile and cross-border transport workers that serve the sustainment of essential supply chains, and, if not having already done so, designate them as "key workers";

(b) fully understand and continue to comply with the obligations of their governments with respect to international instruments to which they are parties, including those concerning public health and social measures, and following recommendations issued by WHO during PHEICs, including any with respect to sunsetting and relaxation of restrictions;

(c) follow legal, policy and technical guidance developed by UN agencies which is risk-based and aligned with the public health evidence at the time, keeping in mind the systematic review commissioned by WHO, which suggests that there has not been enough evidence to support the effectiveness of syndromic screening at land borders and international rivers in preventing the transmission of SARS-CoV-2;

(d) establish or enhance mechanisms to ensure coordination and collaboration among labour, health, transport, migration, police, and other relevant authorities, including with those of other countries, as necessary, and within the highest level of government with a view to promoting harmonization and transparency of measures;

(e) engage in effective social dialogue with transport employers and workers and their organizations in recognition that social dialogue is an effective means to improve the living and working conditions of mobile and cross-border transport workers and transport facilitation across international borders;

(f) draw upon good practices of other countries in the above matters.

8 REQUESTS the Secretary-General of the Organization to circulate copies of the present resolution to all Members of the Organization.

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ANNEX 47

STATEMENTS BY DELEGATIONS AND OBSERVERS[15]

AGENDA ITEM 2

Statements by the delegation of the United States

Paragraph 2.9

"The United States is fully aligned with the statement of the distinguished delegation of Japan. As co-sponsor of MSC 107/2/2 the United States supports the proposals therein, including the proposal for this Committee to adopt the draft resolution presented in the annex of the document.
The increasing frequency of unannounced missile launches from the DPRK place the world, including mariners at sea, at growing risk, and is a threat to peace, security and safety at sea. Despite repeated condemnation of its blatant disregard for the safety of seafarers and commercial vessels and calls from this and other IMO bodies for it to conform to international norms, the DPRK continues its reckless course.
The United States rejects outright document 107/2/4 submitted by the DPRK. This paper is simply an attempt by the DPRK to evade its responsibilities under SOLAS and Assembly Resolution A.706 (17).
Its evasion of UN sanctions and the repeated launches of ballistic missiles by the DPRK are in violation of UN Security Council Resolutions and constitute a threat to the peace and security of the region and the international community.
Furthermore, this paper is an affront to the many member states that have joined in calling on the DPRK to respect the safety of seafarers and commercial vessels and cease its illegal and reckless unannounced missile launches.
The United States again condemns these acts by the DPRK and commits to continue its work with others to implement the international regime to its fullest extent."

Paragraph 2.26

"The United States condemns in the strongest possible terms the Russian Federation's unprovoked and illegal war against Ukraine. Russia's war against Ukraine is a blatant violation of the United Nations Charter and is inconsistent with the purposes of the IMO as set out in Article 1 of the IMO Convention which seek to provide for "co-operation among governments" in matters related to shipping and in "adoption of the highest practicable standards" for, among other things, maritime safety. We recall that the Council in its 35th Extraordinary Session strongly condemned Russia's February 2022 full-scale invasion of Ukraine, and we note that in resolution MSC.495(105) the Maritime Safety Committee called on Russia to cease its war against Ukraine immediately and unconditionally.
The United States deplores Russia's war of choice and rejects its illegitimate efforts to redraw the map of Europe by force to meet Putin's imperial fantasies. The United States does not, and will never, recognize any of the Kremlin's claims to sovereignty over parts of Ukraine that it seized by force, continues to occupy with brutality, and now purports to incorporate into Russia.
The United States thanks the distinguished delegation of Ukraine for its submission of document MSC 107/2/3. The United States is sympathetic to and sees merit in the proposals

[15] Statements have been included in this annex in the order in which they are listed in the report, sorted by agenda items, and in the language of submission (including translation into any other language if such translation was provided).

therein. This document highlights the Russian Federation's unlawful actions that, among other things, preclude Ukraine from fully exercising its coastal State rights and from carrying out its obligations under applicable treaties and instruments, including the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers.
We note that the reply of the Russian Federation in MSC 107/2/5 is nothing more than a despicable attempt to cast its actions following its unlawful invasion as "business as usual." We cannot allow Moscow to continue this disingenuous narrative. We are far from anything remotely resembling business as usual. This position from Moscow is reprehensible and is not the position of a responsible member of this organization or the international community. The United States calls again for this Committee to condemn Russia's unlawful war and call on the Russian Federation to immediately and unconditionally cease its war against Ukraine and withdraw all of its forces from Ukrainian territory, extending to its territorial waters."

Statement by the delegation of South Africa

"Just like other delegations that spoke before us, this delegation hereby conveys its sincere condolences to the delegation of Germany and the family of Mr Ivan Nikolov for his untimely passing.
We also thank the delegation of the Philippines for sponsoring the morning tea and all the goodies that came with it.
On the matter before us Chair, this delegation thanks the submitters of documents MSC107/2/2 submitted by Australia et. al. and MSC107/2/4 submitted by the Democratic People's Republic of Korea, reacting to document MSC107/2/2.
Having noted all matters raised in the two documents honourable Chair and esteemed Delegates, and as we progress work on the matter at hand, this delegation wishes to make the following intervention:

> That the matter at hand has significant political connotations, consequently, as an organisation, we need to continue assessing whether the IMO as one of the UN institutions must deal with this issue in its entirety. We make this point Chair based on recent comments made when dealing with matters of this nature here at the IMO, where it is abundantly clear to us that there are conflicting views and/or understanding on what matters are to be deemed political in nature and therefore potentially fall outside the scope of work of the IMO. This evidently grey area needs to be resolved honourable Chair to enable all of us to move forward collectively. We should also be reminded that the matter at hand is on the UN Security Council Agenda and the UN Secretary General has issued a statement on it **"strongly condemning the military satellite launch conducted by the DPRK"**, which the Secretary General noted is contrary to relevant Security Council resolutions.
>
> Our plea therefore Chair is that we must continue to ensure that we are always acting within the scope and mandate of the IMO, as in the events where we do not, we run a risk of slowly venturing into the political arena, where before we know it, even technical decisions might be influenced by political considerations, which will be a great shame for this glorious organisation."

Statements by the delegation of Canada

Paragraph 2.12

"As a co-sponsor of MSC 107/2/2, Canada fully aligns with the statement of Japan, Sweden, France, the UK, the US and others and strongly condemns the repeated launches of ballistic missiles without any prior notification by the Democratic People's Republic of Korea, which are in clear violation of the UN Security Council Resolutions, the SOLAS convention and

associated Resolutions. These actions constitute a clear threat to the peace and security of the region, and to international shipping, which is clearly in the purview of this committee.

We join other delegations in calling on the DPRK to comply with relevant IMO Conventions and Resolutions, and strongly urge the committee to adopt the resolution set out in MSC 107/2/2."

Paragraph 2.26

"Canada reiterates its solidarity with Ukraine and condemns in the strongest possible terms Russia's unprovoked, unjustifiable, and egregious attack on Ukraine, which constitutes a clear attack on international law, democracy, human rights and the territorial sovereignty of the Ukraine. The invasion severely threatens the safety and security of merchant shipping, the protection of the marine environment, and the lives and safety of seafarers.
Canada wishes to align itself with the statements by Sweden, UK, US and others, and requests that this Committee denounce Russia's illegal unilateral actions in the occupied territories of Ukraine, including its unauthorized and unlawful practices associated with certificates of competency and seafarers' identity documents, and urges member states to develop guidance to support port and flag state control inspections in the identification of fraudulent documents."

Statements by the delegation of France

Paragraph 2.12

"En tant que co auteur du document MSC 107/2/2, la France apporte son entier soutien au projet de résolution MSC relatif aux tirs répétés de missiles effectués par la République populaire démocratique de Corée, et aux déclarations faites par la Suède, le Japon, et la Corée notamment.
Le nombre sans précédent de tirs de missiles effectués en 2022, y compris de multiples missiles balistiques intercontinentaux, et l'intention déclarée de la RPDC, au début de 2023, de poursuivre et d'intensifier ces actions, constituent une menace pour la paix et la sécurité internationales et régionales. Les lancements illégaux de missiles constituent un danger grave pour la sécurité de la navigation et pour le commerce international.
La France condamne fermement le lancement illégal par la RPDC de missiles balistiques en violation des résolutions pertinentes du Conseil de sécurité des Nations unies et en particulier la tentative de lancement le 31 mai d'un satellite militaire. La RPDC doit immédiatement respecter les obligations qui lui incombent en vertu des résolutions du Conseil de sécurité des Nations unies en abandonnant toutes ses armes nucléaires, ses autres armes de destruction massive, ses programmes de missiles balistiques et ses programmes nucléaires existants d'une manière complète, vérifiable et irréversible."

Paragraph 2.26

"La France apporte son entier soutien à la déclaration qui a été faite par le délégué de la Suède, (et par d'autres délégations ?), en appui aux déclarations du délégué de l'Ukraine.
Cette délégation souhaite exprimer une nouvelle fois sa pleine solidarité avec l'Ukraine et le peuple ukrainien, dont la vie a été affectée par la guerre d'agression de la Russie que nous condamnons avec la plus grande fermeté possible. Cette guerre est conduite depuis bien plus d'un an en totale violation de la Charte des Nations unies.
La France condamne avec la plus grande fermeté les vagues de frappes russes de missiles et de drones qui ont de nouveau visé Kiev au cours de ces derniers jours. Ces actes inacceptables sont constitutifs de crimes de guerre et ne peuvent rester impunis. La France poursuivra son aide à l'Ukraine pour résister face à cette agression illégale, au plan militaire comme humanitaire, aussi longtemps que nécessaire.

Cette délégation remercie la délégation de l'Ukraine pour son document MSC/107/2/3, auquel nous apportons aussi notre soutien."

Statements by the delegation of Germany

Paragraph 2.12

"Once again, Germany strongly condemns the illegal launch by DPRK of intercontinental ballistic missiles over the recent period. The unlawful missile launches continuously violate the relevant United Nations Security Council resolutions and pose a clear danger to the peace and security in the region and worldwide as well as the safety of shipping in international trade.
Germany urges the DPRK to comply with relevant United Nations Security Council resolutions and not to conduct further launches. We, moreover, call on the DPRK to comply with the IMO's relevant regulation and resolution in order to ensure maritime safety.
Lastly, the current system, which requires prior notification of information that may affect the navigational safety of ships, was resolved by the IMO Assembly and has been operated by IMO member states for many years.
Mme Chair, we wish to thank Japan for document MSC 107/2/2. As a co-sponsor of the document, we would like to outline that we fully support Japan's proposal regarding the adoption of an MSC resolution to "Strengthening measures for ensuring the safety of international shipping".
Moreover, like Republic of Korea, Sweden, France and others, Germany fully aligns itself with the statement given by Japan."

Paragraph 2.26

"We thank the Ukraine for document 107/2/3, which we fully support and align our views with Sweden on behalf of the member states of the European union, UK, USA, and others.
Once again, Germany expresses its full solidarity with Ukraine and its people – and condemns Russia's war of aggression against Ukraine in the strongest possible terms, which grossly violates international law and the United Nations Charter, and undermines international security and stability."

Statements by the delegation of Italy

Paragraph 2.12

"Italy, as co-sponsoring country of this document, wishes to express in the clearest and firmest possible manner its concern about the launching of numerous missiles, including ballistic missiles by DPRK, with unprecedented frequency in sea areas used by international shipping, without any prior notification and which constitute a clear violation of the relevant United Nations Security Council resolutions.
In line with the obligations and procedures listed in the Navigational Warnings Concerning Operations Endangering the Safety of Navigation (MSC.1/Circ.1551) and IMO Assembly Resolution A.706 (17), the communication of the Governments of Japan, the Republic of Korea and the United States, circulated by Circular Letter No.4649 on 1 November 2022, Italy strongly believes in the need to adopt a draft MSC Resolution showing a Committee's opposition to any action that threatens maritime safety.
Italy urgently calls upon the DPRK to comply with the relevant provisions of the SOLAS Convention and the recommendations contained in the IMO Assembly Resolution in order to ensure the safety of international maritime transport and to urgently cease illegal ballistic missile launches on international sea lanes.
Furthermore, Madam President, as already stated by other distinguished delegations, the ICAO Assembly, at its forty-first session, also strongly condemned the DPRK for unannounced

missile launches. Both IMO and ICAO have common challenges due to the DPRK's unannounced missile launches. Therefore, we agree that IMO should work with other relevant international organisations, including ICAO, to address these mutual challenges."

Paragraph 2.26

"Once again, this delegation decided to ask for the floor to raise its voice against the invasion of Ukraine, a sovereign state of Europe, whose people are unjustly paying for the atrocities of a deliberate and unjustified military attack. More than a year has passed since the conflict has started, but I can assure that the Italian delegation will not give in, to the strategy of addictiveness. Again, our voice condemns with the same determination the violence against our brothers in Ukraine. Italy has always been and will always be on the side of the Ukrainian people and Ukraine.
We are extremely concerned about Russia's unauthorized and unlawful practices associated with certificates of competency and seafarers' identity documents. Therefore, Italy will make every effort to verify in the most scrupulous manner what is described in detail in paragraph 20 of this document.
Italy, as well, demand that the Russian Federation immediately cease its military actions and fully respect the territorial integrity, sovereignty and independence of Ukraine within its internationally recognised borders.
Mme Chair, we as well would seize this occasion to thank the Secretary General and the IMO for their important role in this complicated and critical scenario. At the same time, we ask that this monitoring and vigilance effort be continued by keeping the Member States informed."

Statements by the delegation of Japan

Paragraph 2.12

"On behalf of the co-sponsors, Japan would like to introduce our joint submission MSC 107/2/2, to draw the Committee's serious attention to the ongoing threat to the safety of shipping. The document is submitted in response to the invitation from the Council 128th session, to propose the MSC resolution showing the Committee's firm determination to object to any action which threatens maritime safety, such as repeated missile launches by the DPRK.
The repeated launches of ballistic missiles by the DPRK are in violation of relevant UN Security Council Resolutions and constitute a threat to the peace and security of the region and the international community. They have also posed grave threats to the safety of international shipping due to launches without proper prior notification. The Co-sponsors strongly condemn these actions by the DPRK and urge the DPRK not to conduct further launches. IMO Assembly resolution A.706 (17) as amended, on the World-wide Navigational Warning Service requires Members of the Organization to provide prior notification of incidents, which might affect the safety of shipping, including missile launches, via transmission as NAVAREA warning. However, the DPRK has continued to launch missiles without prior notification, and even after the decision concerning this issue at C 128, the DPRK has launched numerous number of missiles, which has increased the threat to maritime safety to an unprecedented degree.
The co-sponsors request the MSC, as a Committee dealing with maritime safety, to strongly condemn the DPRK for its missile launches without proper prior notification, to urgently call upon the DPRK to comply with relevant regulation of SOLAS Convention and recommendations contained in IMO Assembly Resolution in order to ensure the safety of international shipping and to urgently call upon the DPRK to cease its unlawful and unannounced ballistic missiles launches across international shipping lanes. Furthermore, the issue of missile launches by the DPRK is not only one for the IMO but also for the International Civil Aviation Organization (ICAO), which deals with international civil aviation. Both the IMO and ICAO are faced with common challenges due to missile launches without prior notification by the DPRK, and the IMO should work together with other relevant international organizations

including ICAO to address these common challenges. Therefore, the co-sponsors request the Secretary-General to take appropriate and practicable actions to establish close and cooperative relationships with relevant other international organizations including ICAO and to report an update to Members of the Organization and relevant maritime stakeholders. The draft MSC resolution, containing all these proposals are set out in annex to the document. The co-sponsors would like to once again urge this Committee to adopt the resolution to show its determination to ensure the safety of shipping.
Comment on MSC107/2/4. Regarding document 107/2/4, Japan would like to point out as follows. In the first place, ballistic missiles launches by the DPRK are in clear violation of relevant UN Security Council Resolutions. The Co-sponsors strongly urge the DPRK to fully implement the obligations arising from these resolutions and not to conduct further launches. The DPRK has repeatedly launched ballistic missiles with unprecedented frequency and new manners, including the launches of ICBM-class ballistic missiles three times this year alone including one that landed in Japan's Exclusive Economic Zone (EEZ). These launches constitute a grave and imminent threat to the security of the region, and are clear and serious challenges to the international community. Secondly, in paragraph 4.2.1.3.13 of the resolution A.706(17), as amended, on the World-wide Navigational Warning Service, missile launches fall under "special operations which might affect the safety of shipping" and NAVAREA warnings concerning missile launches should be issued not less than five days in advance of the special operations. Therefore, missile launches are subject to prior notification. Lastly, the current system, which requires prior notification of information that may affect the navigational safety of ships, was resolved by the IMO Assembly and has been operated by Members of the Organization for many years. It is crucial for ensuring the navigational safety of ships. For all these reasons, this delegation cannot accept those missile launches by North Korea, and object to the proposals and arguments in document MSC 107/2/4."

Paragraph 2.26

"Japan urges Russia to cease its ongoing aggression and to withdraw its troops and military equipment immediately, completely and unconditionally from the entire internationally recognized territory of Ukraine.
Russia's aggression against Ukraine is an attempt of unilateral change of the status quo by force and an infringement of Ukraine's sovereignty and territorial integrity, which constitutes a clear violation of international law, and is a grave breach of the United Nations Charter. All these actions that shake the very foundation of international order are absolutely unacceptable, and Japan condemns Russia's actions in the strongest terms.
This delegation appreciates Ukraine's input containing the information on documents which should be should be recognized as fraudulent, and may be found during flag and port State control inspections or on application for recognition of certificates.
We agree that we should duly bear in mind those information, agree with the actions requested."

Statement by the delegation of the Republic of Korea

"To begin with, I'd like to express my sincere condolence to the German delegation for the passing away of Mr. Ivan Nicolov. I also thank Philippine for coffee and mango in the morning break.
Regarding document MSC 107/2/2, first of all, the Republic of Korea would like to emphasize the fact that the DPRK's so-called satellite launch is a serious violation of UN Security Council resolutions, which prohibit launch of any object using ballistic missile technology, and is also an obvious unlawful act that cannot be justified for any reason. The Republic of Korea strongly urges the DPRK to immediately withdraw its any further plan of launching so-called satellite.
According to Regulation 4 of Chapter 5 of SOLAS Convention, and the IMO assembly resolution A 706 at the 17th session, all contracting governments need to notify an issue

including missile firings that can affect maritime safety in order to alert the countries, ships and persons concerned.
However, the DPRK did not comply with those provisions last year by launching 80 missiles including 8 inter-continental ballistic missiles without any proper prior notification.
While the DPRK notified on May 29 of its so-called satellite launch, this fact ironically proves the DPRK's deliberate ignorance of relevant IMO provisions so far. It also confirms the effectiveness of our efforts that resulted in the IMO documents including MSC.1/Circ.1551, Circular Letter 4648, and decision C128 that call on the DPRK to observe IMO provisions.
Therefore, the Republic of Korea hopes for the Maritime Safety Committee at this 107th session to show our determination to oppose activities that endanger maritime safety by adopting the draft MSC resolution annexed to the document, MSC 107/2/2.
Also, the Republic of Korea would like to highlight the DPRK's serious violation of the UN Security Council resolution by launching a so-called satellite, regardless of its prior notification. In particular, threatening peace and stability in the region, the DPRK has launched more than 100 missiles since last year without proper prior notification. By adopting the resolution, we need to show the international community's united response in order for the DPRK to observe its obligations including those in the UN Security Council resolutions.
Failure to follow the provisions about navigational warnings directly endangers the safety of ships and life, which is one of the IMO's priorities. Moreover, it hinders the development of international shipping. Therefore, the DPRK's missile launch without proper prior notification harms the objective of the IMO and the values that the member states want to promote by the IMO. So, member states should stand tough on it.
The Republic of Korea believes that it is strongly requested for us to make all member states observe their obligation in the IMO provisions about navigational warnings."

Statements by the delegation of Spain

Paragraph 2.12

"España se suma a las muestras de condolencias expresadas a favor de la Delegación de Alemania por el triste y repentino fallecimiento de Sr. Ivan Nikolov.
Como coautores del documento MSC 107/2/2, España muestra su firme oposición a cualquier acto que amenace la seguridad marítima, como los repetidos lanzamientos de misiles sin la debida notificación previa por parte de la República Popular Democrática de Corea, que, además, son incompatibles con las resoluciones pertinentes del Consejo de Seguridad de las Naciones Unidas y que amenazaban gravemente la seguridad de la gente de mar y del transporte marítimo internacional.
Por ello, apoya totalmente la adopción del proyecto de resolución que se adjunta como anexo del citado documento."

Paragraph 2.26

"España apoya en su totalidad la intervención de la delegación de Suecia en nombre de la Unión Europea, en la que se condena la agresión militar no provocada e injustificada de la Federación de Rusia contra Ucrania.
Aprovechamos esta oportunidad para volver a expresar nuestro compromiso y solidaridad con el pueblo ucraniano ante la agresión de la que está siendo objeto por parte de la Federación de Rusia.
Al igual que otras delegaciones, compartimos las preocupaciones relacionadas con la expedición recurrente no autorizada e ilícita de títulos de competencia y documentos de identidad de la gente de mar en ciertas partes de las regiones de Ucrania ocupadas temporalmente por la Federación de Rusia y apoyamos en su totalidad las recomendaciones propuestas por Suecia al respecto."

Statements by the delegation of Sweden

Paragraph 2.12

"Sweden is in full alignment with the statement of the delegation of Japan. We also wish to thank Japan for document MSC 107/2/2.
The repeated launches of ballistic missiles by the Democratic People's Republic of Korea are in violation of UN Security Council Resolutions and also in contravention of IMO General Assembly Resolution A.706(17) which provides for Member States to give notice of incidents which might affect safety of navigation, including the launch of missiles, so that navigational warning and maritime safety information may be transmitted to the ships in the sea area concerned.
DPRK's unannounced missile launches constitute a threat to the peace and security of the region and to the freedom and safety of navigation.
Sweden joins others in expressing our grave concern over the recent actions undertaken by the DPRK and calls for a resolution the situation through peaceful, diplomatic and political means.
We also note the decisions by Council 128; the communication by Japan, Republic of Korea and United States disseminated through Circular Letter No.4649; the grave concerns expressed by many IMO Member States at MSC 106 (including Sweden) and condemnations of the practices to launch ballistic missiles contrary to various UN Security Council Resolutions, and without adhering to SOLAS regulation V/4 and the recommendations of resolution A.706(17).
And we therefore, as regards Japan's proposal in para 11 of document **MSC 107/2/2**, support the adoption of an MSC resolution to *Strengthening measures for ensuring the safety of international shipping*, as set out in the annex to the said document."

Paragraph 2.26

"On behalf of the Member States of the European Union, which are all members of the IMO, Sweden wish to express the EU's and its MS' full solidarity with Ukraine and the Ukrainian people.
We condemn in the strongest possible terms Russia's unprovoked and unjustified act of aggression against Ukraine, which grossly violates international law and the UN Charter, and undermines international security and stability.
We demand that Russia immediately cease its military actions, withdraw all its troops from the entire territory of Ukraine and fully respect Ukraine's territorial integrity, sovereignty and independence within its internationally recognised borders and abide by UN General Assembly resolution titled "Aggression against Ukraine" supported by 141 states at the 11th emergency special session.
We resolutely support Ukraine's inherent right of self-defence and the Ukrainian armed forces' efforts to defend Ukraine's territorial integrity and population in accordance with Article 51 of the UN Charter. Russia must respect its obligations under international law at all times, including international humanitarian and human rights law, including with respect to the protection of civilians, women and children. Russia also needs to stop its disinformation campaign and cyber-attacks.
Furthermore, we strongly reject and unequivocally condemn Russia's attempted illegal annexation of the Ukrainian regions of Donetsk, Luhansk, Zaporizhzhia and Kherson. Following these decisions, the European Union adopted on 6 October sanction measures against Russian maritime transport of hydrocarbons.
To continue, we wish to thank Ukraine for document MSC 107/2/3 in which they follow up on decisions taken by HTW 9 with regards to further consider the possibility to develop guidance to address the matters of unauthorized and unlawful practices associated with issuance of

fraudulent certificates of competency and seafarers' identity documents, performed by the Russian Federation in the temporarily occupied territories (see para 12 of MSC 107/2/3).
And we agree that IMO MS should do their utmost in denouncing Russia's illegal unilateral actions in the temporarily occupied territories of Ukraine, including its unauthorized and unlawful practices associated with certificates of competency and seafarers' identity documents."

Statement by the delegation of Ukraine

"Let me join other delegations in expressing our sincere condolences to the German delegation and the family of Mr. Ivan Nikolov over his sad passing.
Ukraine wishes to align itself with others unequivocally condemning the illicit activities undertaken by the DPRK, which persist in an provocative pursuit of ballistic missile tests. Such actions not only escalate the security risks to maritime shipping in the region but also pose significant threats to security and stability beyond the confines of the Korean peninsula.
The continuous launches of missiles by Pyongyang flagrantly violate international law, pertinent resolutions of the United Nations Security Council concerning the North Korean missile program, as well as the SOLAS Convention and corresponding resolutions and circulars of the International Maritime Organization (IMO).
In this context, Ukraine has joined as a co-sponsor the document MSC 107/2/2 presented by Japan and fully endorses the imperative of adopting a robust resolution by the Maritime Safety Committee to address the DPRK's unlawful actions."

Statements by the delegation of the United Kingdom

Paragraph 2.12

"As a co-sponsor to MSC 107/2/2, the UK [aligns itself with the comments made by Japan and] firmly supports the adoption of the draft resolution in the annex to the document.
The UK continues to strongly condemn the Democratic People's Republic of Korea's repeated missile launches. These are reckless acts and a blatant violation of UN Security Council resolutions.
We urge the Committee to approve the proposed resolution in order to show the Organization's determination to object to any action which threatens maritime safety."

Paragraph 2.26

"The United Kingdom reiterates its unwavering support for Ukraine and continues to condemn Russia's unprovoked and illegal invasion of Ukraine.
We once again call upon Russia to de-escalate and withdraw its troops. It must be held accountable and stop undermining democracy, global stability, and international law.
Alongside our international partners, the United Kingdom has continued to increase the pressure on Russia and hold perpetrators to account for their crimes. Our aim remains clear: we will support Ukraine to succeed. And we will do everything we can to ensure that happens.
The UK would like to thank Ukraine for MSC 107/2/3 regarding the unlawful issuance of seafarers' documents in temporarily occupied territories of Ukraine, and we support the actions requested in general. The UK also wishes to categorically oppose the arguments presented in MSC 107/2/5 submitted by the Russian Federation."

Statements by the delegation of the Democratic People's Republic of Korea

Paragraph 2.21

“In response to the previous interventions, this delegation would like to make statements as follows.
Regarding implementation of UN Security Council sanction resolutions against the DPR Korea, we have never acknowledged the partial and illegal "resolutions" which were cooked up by the United States by abusing the UN Security Council.
In any international laws including the UN Charter, UN General Assembly resolutions, NPT, Outer Space Treaty, there is no provision which stipulates that nuclear test or satellite and ballistic missile launches constitute a threat to international peace and security.
Furthermore, although the other countries including the United States conducted nuclear tests, and launched satellites and ballistic missiles, no UN Security Council resolution against those States has been adopted.
The UN Security Council resolution against the DPR Korea seriously infringes upon the right to existence and development of sovereign state.
The missile launches by the DPR Korea are the justified exercises of a sovereign country’s legitimate right in order to defend the destiny of the country and strengthen its national defense capability in cope with the aggressive threats by the U.S.
Even this year, the United States and south Korea has staged several joint military exercises against the DPR Korea, including joint military exercises “Freedom Shield” and the “Ssangyong” combined landing drills.
In particular, at this time, they are conducting the largest-ever "combined joint fire annihilation drill" from 25 May to 15 June.
No one can affirm that the current combined drill of the U.S. and south Korea will not lead to the all-out armed invasion of the DPR Korea.
The international community still remembers the inhuman crimes committed by the U.S. which invaded Iraq and killed hundreds of thousands of the civilians 20 years ago.
In this context, the DPR Korea takes this opportunity to condemn the United States and south Korea in the strongest possible terms, and urges them to stop their on-going joint aggressive military exercises against the DPR Korea, which are the greatest potential danger to the safety of international shipping in Korean peninsula waters.”

Paragraph 2.21

“In document MSC 107/2/4 submitted by the DPR Korea, the DPR Korea demonstrates the unreasonableness of "prior notification" issue of its missile launches which was raised in document MSC 107/2/2.
Firstly, the DPR Korea is not in position to be able to provide prior notification of missile launches in special security environment on the Korean peninsula technically still at war, like in other regions in conflict or at war worldwide.
It is well known that the Korean peninsula is still under ceasefire and the Korean War did not end yet.
Since 1953, the U.S. together with south Korea has conducted thousand rounds of aggressive large scale joint military exercises against the DPR Korea.
Furthermore, the U.S. openly threatened to intercept the satellites for peaceful purposes, if the DPR Korea launched them.
From the situation on the Korean peninsula, it absolutely goes against common sense that the DPR Korea technically at war with the U.S. notifies the latter, the belligerent party of its military activities in advance.
Secondly, the missile launches by the DPR Korea have never posed any danger to security of neighbouring countries and safety of international shipping so far, since those were based on the scientific calculation and consideration of their point of impact and the routes of ships sailing in the waters for ensuring safety of the international shipping.
Thirdly, document MSC 107/2/2 was submitted by the U.S. and its followers for realizing their sinister political purpose to deprive the DPR Korea of its sovereignty and rights to building self-defensive capability, abusing the name of the IMO.

From the aforementioned, the DPR Korea is of view that the issue raised in document MSC 107/2/2 is the unreasonable and political issue which did not consider the special security environment on the Korean peninsula and goes beyond the mandate of the IMO, as UN technical specialized agency.
In this context, the DPR Korea requests the Committee to reject the document MSC 107/2/2 including its proposal in terms of not only maintaining of impartiality and objectivity in the IMO but also mandate of the IMO and carefully consider paragraph 16 of document MSC 107/2/4 as proposed."

Paragraph 2.33

"Regarding document MSC 107/2/3, we are of view that the issue of seafarers' fraudulent documents is not related to the matter addressed in Resolution A.892(21) and STCW regulation I/5.
The raised issue essentially is relevant to the territorial and political issue.
If any vessel is detained during PSC inspection as suggested in the document, the relevant seafarer who has the certificates legally issued in accordance with requirements of STCW convention will unfairly become a victim with the measure to be taken from the political cause. Of course, the vessel's detention will result in the financial loss of the managing company as well.
As you know well, the IMO has been addressing the urgent evacuation of all the ships and seafarers stranded in Black Sea region.
However, now we are here discussing the encouragement of detention of the ship including her seafarers from the political reason rather than the risks related to maritime safety and marine pollution prevention.
This delegation is of view that the seafarers and ships should not be used as hostage for the achievement of political purpose of any Member State from the humanitarian viewpoint.
We think that seafarers have the right to select qualification and certification by any Party to STCW Convention and all the seafarers and their certificates should be respected regardless of seafarers' nationality.
In addition, this delegation is of view that the proposal in the document is the discriminatory action and unnecessary restriction which contradict the purpose of the IMO including facilitation of shipping.
In this context, this delegation does not support the suggestion in document MSC 107/2/3."

Statement by the delegation of Australia

"Australia aligns with the views expressed by Sweden and others on the Russian Federation's invasion of Ukraine. The Russian Federation's actions have killed and injured seafarers, damaged the marine environment, and disrupted international shipping. Australia thanks the Ukraine for their paper and supports the recommendations in MSC 107/2/3. We encourage all administrations to take action to put in place measures to ensure they do not recognise any certificate or documentation issued by unauthorized authorities. This includes those relating to the Ukrainian territory illegally occupied by force and claimed by the Russian Federation. We would be grateful for the text of this intervention to be added to the report."

Statement by the delegation of Finland

"Finland fully aligns itself with the statement made by Sweden on behalf of the member states of the European Union. Finland condemns in the strongest possible terms Russia´s aggression against Ukraine and Finland expresses full solidarity to Ukraine and to the people of Ukraine. Finland kindly asks the statement to be reflected in the report of this committee."

Statement by the delegation of Georgia

"First of all, the Georgian delegation would like to join other delegations in conveying its condolences to the delegation of Germany and the family of Mr. Ivan Nikolov regarding his sudden passing.
Georgia wishes to align with the statements made by the delegations of Ukraine, Sweden and others.
This delegation wishes to express our full solidarity with Ukraine and the Ukrainian people. We condemn in the strongest possible terms the unprovoked and unjustified act of aggression of the Russian federation against Ukraine, which grossly violates international law and the UN Charter. We demand that the Russian federation immediately ceases its military actions, withdraws all its troops from the entire territory of Ukraine.
The Georgian delegation would like to thank Ukraine for document MSC 107/2/3.
Georgia condemns the actions of the Russian Federation with regard to recurring unauthorized and unlawful issuance of certificates of competency and seafarers' identity documents in certain parts of Ukraine's regions temporarily occupied by the Russian Federation. Therefore, Georgia supports the points and proposed actions raised by Ukraine in its document.
Georgia once again reiterates its unwavering support for the independence, sovereignty and territorial integrity of Ukraine within its internationally recognized borders."

Statement by the delegation of Ireland

"Ireland fully supports the statement made by the delegation of Sweden as supported by other delegations.
Ireland wishes to offer our sincere condolences to Ukraine on the losses they have suffered.
The continuing Russian military action against Ukraine is illegal and immoral, involving the utterly unacceptable targeting of civilians and civilian infrastructure, the prohibited use of weapons and indiscriminate attacks. The immediate withdrawal of the Russian military from Ukrainian territory is required. We are unwavering in our solidarity with the people of Ukraine and our support for Ukraine's sovereignty and territorial integrity."

Statement by the delegation of Lithuania

"Lithuania aligns itself with statements made by Sweden and other distinguished delegations. Like many other states, Lithuania has condemned in the strongest possible terms the open large-scale unprovoked and unjustified invasion of Ukraine by armed forces of the Russian Federation.
This unacceptable act of aggression is a gross violation of territorial integrity and sovereignty of Ukraine and of the international law. Lithuania supports the suggestion indicated in the document MSC 107/2/3 and stands closely with Ukrainian people."

Statement by the delegation of Luxembourg

« Comme c'est la première fois qu'on prend la parole, la délégation du Luxembourg voudrait tout d'abord exprimer ses sincères condoléances à la famille de Monsieur Ivan NIKOLOV ainsi qu'à la délégation allemande.
Pour être bref, nous nous associons à la déclaration faite par la Suède au nom de l'Union Européenne et d'autres délégations. »

Statement by the delegation of Poland

"Poland aligns itself with the statement just presented by Sweden on behalf of the European Union.

We cannot and should not stay silent and we stand in full solidarity with Ukraine and the Ukrainian people, whose lives have been affected by Russia's war of aggression, which we condemn in the strongest possible terms. We strongly reject Russia's attempted illegal annexation of the Ukrainian regions and join others in demanding that the Russian Federation cease its military actions.
Poland wish to thank Ukraine for submission MSC 107/2/3 and we support a recommended guidance to address unauthorized and unlawful issuance of certificates of competency and seafarers' identity documents in certain parts of Ukraine's regions temporarily occupied by the Russian Federation."

Statement by the delegation of Türkiye

"The war in Ukraine has caused extreme human suffering.
Its global impact is becoming worse. It already weakened global growth, deteriorated food and energy security and increased inflation.
It also continues to pose a serious threat to maritime safety and security and marine environment in the Black Sea and Sea of Azov, as well as to the well-being of the seafarers.
The protracted nature of the fight entails a high risk of escalation. Therefore, containing the conflict becomes more important as the war goes on.
Our strong support to Ukraine remains steadfast. But, we maintain our view that resuming negotiations is the only way to reach a just, comprehensive and lasting solution.
The Black Sea Initiative proved the benefit of negotiations.
Thanks to the agreement, more than 30.5 million tons of various grain products have reached the world markets since August 1, 2022.
Türkiye is fully committed to ensure the continuity of the Initiative. International support is important to preserve this unique deal.
We continue our engagements for the safe evacuation of the stranded ships in Ukrainian ports. Türkiye remains ready to work closely with the IMO Secretariat in this regard."

Statement by the delegation of the Russian Federation

"The document under consideration (MSC/107/2/3) represents how low our Organization can fall if it follows the reckless and unbridled politicization of its work. The provisions of this document misinterpret both the decisions of the 9th session of the HTW Sub-Committee and the articles of the STCW Convention. Apparently, the main goal is to once again mislead IMO Members.
If Member States refer to the conclusions of the 9th session of the HTW Sub-Committee, they will not find any indication that any guidance should be developed in the area proposed in the Ukraine's paper. There is simply no basis in HTW's decisions to bring such a proposal to the MSC.
Speaking essentially, we shall note the inadmissibility of a misinterpretation of the provisions of the STCW Convention in favour of one or several delegations. This Convention, in particular, establishes for the State that issues certificates of competence and other documents to seafarers to determine their authenticity and compliance with the issuance procedures established by the Maritime Administration. If states are given the right to recognize the fictitiousness and illegality of certificates and other documents for seafarers issued in good faith and lawfully by another State, chaos will reign in the international maritime industry.
In this case, we observe a substitution of concepts. In fact, the authors of the document (MSC 107/2/3) are trying, under the guise of fictitiousness and illegality of certificates and other documents issued to seafarers, to achieve the main goal - their non-recognition. The subject of recognition or non-recognition of certain territories, however, lies far beyond the scope of the STCW Convention, as well as the mandate of this Committee and the entire Organization. Any solution other than refusing to consider this issue on its merits would put the whole

Organization at risk and in particular in view of the implementation and correct functioning of the provisions of one of main Convention. We must not allow this.
For our part, we once again confirm the authenticity and legality of all certificates of competency and other documents issued to seafarers by all authorized Russian bodies in accordance with the current Russian legislation, which is based, among other things, on the provisions of the STCW Convention.
In conclusion, we would also like to note the following. The attacks on port infrastructure mentioned by the delegation of Ukraine in their statement are being artfully but dishonestly presented to IMO Members. In fact, the purposes of the attacks were military supplies from NATO States through Ukrainian ports. In this regard, we would like to urge Ukraine to stop using civilian infrastructure, including port infrastructure, to shelter military equipment and weapons, and NATO countries to stop fomenting conflict with their generous supplies under good slogans."

AGENDA ITEM 3

Statement by the delegation of China

"As for the amendment adopted, China expresses two concerns.
First, just a few ROs developed rules on anchor handling winches operating in the deep sea or unsheltered waters, while other ROs only have rules on traditional anchor windlass. Even to this day, most anchor handling winches used on offshore construction ships are surveyed as traditional anchor windlass. In light of the lack of a definition of "subsea operation", shipowners could declare that the anchor handling winches are anchor windlass to avoid applying to the SOLAS amendment. The safety requirements for anchor handling winches operating in unsheltered waters should be higher and stricter than those of traditional anchor windlass. However, the loophole in the amendment could lead to obvious risks, which means the surveys of anchor handling winches would be out of the SOLAS regulatory frame. Meanwhile, China would like to call on ROs to complete the development of respective or common rules for anchor handling winches before the SOLAS amendment takes effect.
Second, the differential marking and reporting requirements between existing and newly equipped lifting appliances and loose gears are not clear enough, which will lead to difficulties in implementing related provisions. Therefore, China is of the view that further clarifications are needed after the amendment comes into force of the amendment."

AGENDA ITEM 4

Statement by the observer from ICS

"We thank IACS for MSC 107/INF.10 and we refer to the status report relating to IACS' review of the North Atlantic wave data. This review was initiated by the following comments from the auditors of the Goal Based Standards:

> *"Modern wave data show both an increase in mean significant wave height for the North Atlantic and that more extreme weather is being experienced in recent years, including the existence of rogue waves and the possible effect of climate change. However, IACS' Rec. No.34 that is based on old wave statistics was last revised in 2000/2001 and there is no evidence of monitoring since its adoption."*

Document MSC 107/INF.10 confirms that IACS' review has completed, and the new wave data is available on IACS website. When we compare the old and the new data we see a reduction in the average wave height of about 0.8 metres, and a reduction in the number of extreme waves, i.e. the new data reflects less onerous sea conditions than was previously used for the Common Structural Rules, and indeed for all the class rules of IACS' member societies. As-such, this potential change to the wave data could have far reaching implications for the design

of ship structures and for their reliability. It also appears contrary to the expectations of the GBS auditors.
We note from document MSC 107/INF.10 that the outcome of IACS' review is due to be submitted to the IMO secretariat in March 2024, and we would urge the auditors to focus close attention to the methodology and data utilised for this review."

AGENDA ITEM 5

Statement by the delegation of Ukraine

"This delegation supports in general the necessity of developing a new, integrated IMO Code for Maritime Autonomous Surface Vessels (MASS), with the future consideration of relevant amendments to the SOLAS convention and other relevant IMO instruments. This is a timely move and the relevance of such regulations is growing given the modern developments.
We thank the representative of the Marshall Islands for presenting the Report of the Correspondence group (MSC 107/5). Our specific attention is drawn to the Section 10 of the draft Code - "Search and Rescue Actions". In the context of defining the scope of tasks and responsibilities outlined in this section, we believe that it is inevitable for this section to regulate the provision of assistance for persons in distress at sea in the most expeditious manner, in coordination with the SAR services of the coastal State and or helping in the provision of assistance when requested by the coastal State.
At the same time, MASS should be able to:

- identify, detect and transmit distress signals;
- transmit, receive, identify and relay distress messages; and
- monitor the search and rescue operation at distress frequencies.

While the responsible personnel of such surface vessels must possess the skills to coordinate SAR operations.
We also share the conclusion of the Correspondence Group on the mandatory availability of means to facilitate the embarkation of persons in distress at sea, with a protected space on board to accommodate these persons, as well as the existence of educational and training plans related to maritime search and rescue.
On another point, this delegation takes note of the document submitted by the Russian Federation (MSC 107/5/2) regarding the implementation of certain elements of the future MASS Code.
Taking into account the decision of TCC 72, we would like to remind the world maritime community to cautiously regard the Russian proposal about establishing cooperation on this issue between the interested parties and this aggressor country, as mentioned in para 15 of the document."

Statement by the delegation of Argentina

"Argentina thanks the coordinator of the joint MSC/FAL/LEG Working Group on MASS (JWG), Prof. Goto of Japan, for his report.
The JWG meeting was very illuminating. During the discussions, some delegations suggested that there was no difference between MASS and traditional ships, but at the same time it is presented that there may not be any crew on board, even the master, that shore personnel should be understood as crew, and even that the remote operation center of a MASS ship could operate from the territory of a country other than that of the ship's flag. We would like to reiterate that the highest levels of autonomy (3 and 4) pose some important challenges that will have to be carefully addressed, particularly as some of them exceed the IMO legal framework:
1. The law of the sea

A critical issue is the role of the UN Convention on the Law of the Sea (UNCLOS), which provides the framework for activities in the ocean and therefore for all IMO standards. Argentina has continually emphasized the need to respect UNCLOS.
The most salient question regarding UNCLOS is whether a ship of levels 3 and 4 enjoys the freedoms provided for in the Convention, in particular the freedom of navigation. The "rule of reference" of UNCLOS indicates that the IMOdetermines the technical standards for the application of the Convention. But some aspects are clearly beyond the technical competence of the IMO. The requirement of a crew, a master, and a genuine link between the flag State and the ship for the proper exercise of flag State jurisdiction are critical aspects of the Sea Convention. We believe that they must be addressed by the competent body, which is the Meeting of States Parties to UNCLOS (SPLOS). The Joint WG recognized it.
There are also practical issues related to the norms, such as how levels 3 and 4 will fulfill certain obligations, including participation in search and rescue for safety of life at sea, as provided for in UNCLOS and in IMO Conventions."
2. Liability:
We believe that it is a critical aspect with respect to which the levels of autonomy should introduce nuances. Argentina understands that liability is key, and that Member States should consider the possibility of contemplating strict liability for the highest levels of autonomy.
3. The need for adequate understanding of the subject by developing countries:
This is an matter in which the technological gap is notable. There are crucial aspects such as SAR coordination, the prevention and mitigation of damage to the marine environment, and the safety and security of the coastal State that must be duly considered, but still many coastal States, which must address this challenge, are developing countries without such technology.
The report of the JWG includes a proposal to carry out workshops in paragraphs 64 onwards of the report. We recognize the Republic of Korea and the secretariat for the workshop that took place yesterday.
To finalize, madam, Argentina has been insisting in the need to comply with UNCLOS. At the moment, we reiterate that Argentina reserves the right to regulate the entry of MASS levels 3 and 4 into the maritime areas under its sovereignty or jurisdiction."

AGENDA ITEM 6

Statement by the delegation of Singapore

"We would like to express our appreciation on the work of the correspondence group coordinated by Germany on development of further measures to enhance the safety of ships relating to the use of fuel.
Chair, following the bunker fuel contamination that occurred in Singapore in 2022, Singapore had submitted an information paper at MSC 106 (MSC 106/INF.19), providing information on our investigations, actions taken, and key observations on how we can further strengthen the quality assurance of bunkers supplied globally.
As a global bunkering hub, Singapore takes bunker fuel contamination seriously. Singapore had established an Industry Experts Group (IEG) to make recommendations on additional measures to strengthen the quality assurance of bunkers supplied in Singapore.
The IEG comprised experts from international associations such as the International Bunker Industry Association (IBIA) and the International Council on Combustion Engines or CIMAC, representatives from fuel oil testing laboratories, bunker or cargo suppliers, shipowners, engine manufacturer MAN Energy, and Singapore's Health Sciences Authority.
The IEG was tasked to establish a comprehensive list of chemical compounds to be tested and their concentration limits, taking into consideration different test methods.
The IEG worked with a baseline of 12 compound groups consisting of 57 specific individual chemical compounds commonly tested for by the industry or commonly suspected of causing

issues to ship when present at high levels. In its deliberations, the IEG considered hypotheses of why chemical contaminants found in fuel caused vessels to experience issues and if the presence of the specific chemical compound had caused similar operational issues on other ships.
For residual marine fuel, the IEG recommended that the fuel shall not contain chlorinated organic compounds and tested using the EN 14077 test method; they shall also be free of inorganic acids and reported within the certificate of quality and should be free from polystyrene, polypropylene, and polymethacrylate.
For distillate marine fuel, the IEG also recommended that distillate marine fuel shall be free of inorganic acids. Furthermore, the distillate marine fuels do not need to be tested for additional chemical compounds.
The Maritime and Port Authority of Singapore will carry out industry consultations with relevant stakeholders, as part of our consideration of the IEG's recommendations. We will also submit an information paper to MSC 108 to share further details.
Chair, marine fuels are a complex blend of hydrocarbon species. This complicates the task of identifying a comprehensive list of chemical contaminants and establishing limit values. It should be noted that the recommendations of the IEG are based on data available today, with a view that more data and experience will allow the maritime community to further refine these. We therefore encourage maritime administrations to share information on fuel contamination and the operational issues that arise from such contamination.
In closing, Singapore would like to express its appreciation to the members of the IEG for their hard work and efforts in tackling a complex task."

Statement by the delegation of the Cook Islands

"We would like to thank the chair of the Working Group and the Secretariat for the report.
We would like to concur with the content of the report and support the actions requested of this committee.
Chair on a more general note, this delegation has been very supportive of the work on fuel oil safety since its very start and we are satisfied with the work carried under this output.
However, we would like to highlight that the first set of amendments to SOLAS produced under this output will enter into force in 2026; this is 6 years after the amendments to Annex VI of Marpol, for which this work was started in order to address relevant safety risks, entered into force.
We feel this is an example as to why a more structured coordination between MEPC and MSC is necessary and also there is the need for this committee to take a more proactive approach to identify and regulate possible safety issues arising from the work of other bodies within this organisation.
For these reasons, as expressed in the past days we are very supportive of the work under Item 17 and we hope MSC will be able to timely identify and address through regulatory development the safety risks related to the delivery of the GHG strategy and in particular with reference to alternative fuels and new technologies."

AGENDA ITEM 7

Statement by the delegation of Ukraine

"This delegation would like to thank the IMO Secretariat for presenting the document MSC 107/7, in particular information on the implementation of the IMO's Global Enhancement of Maritime Security programme supports countries in enhancing security measures to protect ships and ports from threats posed by terrorism and other illicit acts, including piracy and armed robbery; smuggling of arms, explosives and drugs; and cyberattacks.
We appreciate the active involvement of a number of IMO Member States through the International Maritime Security Trust Fund (IMST), in particular the US, in providing necessary

resources for the effective implementation of this Programme, which remains at the core of the Organization's capacity-building activities.
To welcome the intention to further expand the range of training, model courses and programmes focused on both national maritime security management systems and port and ship security.
Growing threats and risks to the safety and security of international shipping from the continuing Russian invasion of Ukraine, especially for the navigation in the waters of the Black Sea and the Sea of Azov require countries from the region to be more vigilant and to increase their strength and resilience. Thus, we ask the IMO Secretariat to consider launching a pilot regional capacity-developing programme for enhancing national maritime security management systems and port and ship security.
We stand ready to cooperate with the IMO Secretariat and interested Black Sea countries towards the approval of this proposal at the upcoming TCC meeting."

AGENDA ITEM 8

Statement by the delegation of the Côte d'Ivoire

"Merci Mme la présidente de nous donner la parole pour nous exprimer sur les faits récents intervenus dans le golfe de guinée , notamment au large des côtes ivoiriennes et des mesures prises par la Côte d'Ivoire pour renforcer la sûreté dans ses eaux et dans le cadre de la mise en œuvre du code de conduite de Yaoundé.
tout d'abord , la Côte d'Ivoire apprécie les efforts déployés par l'OMI, le groupe du G7 des amis du golfe de guinée et les autres partenaires internationaux pour assurer une efficacité de la mise en œuvre du code de conduite de Yaoundé par les Etats de la région.
Nous voulons remercier l'OMI et les partenaires internationaux pour le soutien qu'ils ne cessent d'apporter aux Etats et aux organisations de la région du Golfe de guinée en vue de l'amélioration de la sûreté dans le golfe de guinée.
Nous saluons, les différentes initiatives notamment en matière de renforcement de capacités des personnels juridiques et des forces d'intervention, d'organisation d'exercices d'intervention des forces, d' équipement du centre multinational de coordination du Golfe de Guinée et des centres opérationnels maritimes en matériels de communication. Il s'agit d'autant d' initiatives qui contribuent aujourd'hui à réduire les attaques dans le Golfe de guinée.

I- Préoccupation de la Côte d'Ivoire face aux attaques des navires pétroliers aux large des côtes ivoiriennes dans les eaux internationales

Cependant, la Côte d'Ivoire reste préoccupée par les récentes attaques des navires pétroliers survenues au large de ses côtes (B.OCEAN en novembre 2022 et SUCCESS 9 en avril 2023).
Nous voulons faire remarquer que ces attaques à l'encontre des navires pétroliers se déroulent dans les eaux internationales au-delà de sa ZEE .
La côte d'ivoire note également que ces attaques sont perpétrées contre des pétroliers qui exercent le plus souvent des opérations commerciales de transbordement dans les eaux internationales.
La Côte d'Ivoire s'est engagée à mener des investigations à l'effet de mieux comprendre ce phénomène devenu préoccupant.
Elle continue les enquêtes et les résultats de ces enquêtes seront transmis aux juridictions compétentes ivoiriennes à l'effet de réprimer ces actes illicites contre les pétroliers devenus préoccupants.
Elle voudrait saluer la parfaite collaboration entre les centres de sécurité maritime, les centres de sauvetage de la zone, le Bureau Maritime International et tous les acteurs qui a contribué à la réussite des recherches et sauvetage des navires et leurs équipages.

II. Efforts déployés par la Côte d'Ivoire dans le cadre de la mise en œuvre du code de conduite de Yaoundé

La Côte d'Ivoire, voudrait par ailleurs relever que dans le cadre de la mise en œuvre du code de conduite de Yaoundé, elle a adopté une stratégie nationale de l'action de l'Etat en mer qui permet la mutualisation des moyens matériels et humains .
Elle a acquis pour le compte de sa marine nationale des moyens navals de grande capacité hauturière pour les patrouilles et la surveillance de ses espaces maritimes.
Elle a mis en place un Comité Technique de Veille chargé de la coordination des patrouilles , des recherches et sauvetages ainsi que la coordination des enquêtes après incident.

III- Les actions envisagées

Elle envisage renforcer les équipements en moyens d'intervention et de surveillance terrestre, maritime et aérien.
Un contrat de surveillance satellitaire de eaux ivoiriennes est en cours de finalisation avec une société internationale.

Conclusion

Pour conclure, nous dirons que la lutte contre les actes de piraterie et de vols à main armée dans le Golfe de Guinée ne saurait se faire sans l'implication véritable de tous les Etats de la région et sans le concours des partenaires internationaux.
Aussi, nous lançons un appel à l'endroit des Etats de la région à l'effet de renforcer le cadre de coopération dans la lutte contre la piraterie et les vols à main armée à l'encontre des navires par la signature de protocoles d'accords qui faciliteront les interventions en mer et la répression des auteurs de ces actes.
Nous soutenons l'action de la communauté internationale de poursuivre l' appui aux Etats et aux organisations de la région en termes de renforcement de capacités, d'appui en équipements et de transfert de technologies à l'effet d' assurer une meilleure sûreté dans Golfe de Guinée par la mise en œuvre efficace du code de conduite de Yaoundé."

Statement by the observer from BIMCO

"Thanks to the Secretariat for this report, and to all contributors to maritime security in the Gulf of Guinea, where the threat from pirates operating from the Niger Delta has sadly reappeared in 2023.
BIMCO believe the Yaoundé Code of Conduct is a strong vision, but as demonstrated already several times in 2023 regional navies are currently unable to effectively counter the threat from Nigeria based seagoing pirates.
Therefore, in the interim period, until the regional maritime law enforcement capability is fully developed and effectively deployed, non-regional law enforcement ships and helicopters are needed with the ability and mandate to overpower and arrest the seagoing pirates.
Such capability, when complemented with handover of suspects, prosecution, and imprisonment in regional coastal states in accordance with internationally recognised standards, can bring the piracy menace under control. The international society used the same recipe successfully off Somalia. It will also work in Gulf of Guinea region, but only if affected states including regional coastal states will bring their unique contribution to the table. Once maritime security is established the blue economy can prosper and help eradicate the root causes of piracy. But we need robust action now. The maritime economic development in Gulf of Guinea is severely hampered with the continued absence of maritime security."

Statement by the delegation of Singapore

"We thank the IMO Secretariat for providing a comprehensive update on the developments relating to piracy and armed robbery against ships in its submission. Singapore takes a serious view on piracy and armed robbery incidents that threatens freedom and safety of navigation, as well as the well-being of our seafarers. We remain committed to working with all stakeholders – coastal States, regional authorities, industry, ReCAAP ISC and the IMO – to ensure the safe passage of international shipping.

On having the Secretariat provides a more detailed breakdown of the incidents, Singapore is of the view that there is no need to duplicate effort for Asia since this is already being done by the ReCAAP ISC.
On a separate note, Singapore would also like to take this opportunity to thank the relevant IMO member States and their agencies for their assistance in the search of the Singapore-registered oil tanker, Success 9, which was boarded by unidentified persons at about 3000 nautical miles off the Abidjan Coast, Cote d'Ivoire, on 10 April 2023 at about 10pm (Singapore time). These multinational agencies included the Maritime Domain Awareness for Trade – Gulf of Guinea, together with the regional security forces, the French navy, coast guard and maritime administrations from Cameroon, Cote d'Ivoire, Ghana, Guinea, Liberia, Sierra Leone and Nigeria. Thanks to the assistance and help of passing commercial ships, the vessel was found off the coast of Abidjan, Cote d'Ivoire, and all crew were safe and in good health."

Statement by the observer from ReCAAP

"I would like to provide an update of Piracy and Armed Robbery against ships situation in Asia for the period January-April 2023. There is no incident of Piracy (on high sea) in Asia, however, a total of 39 incidents of armed robbery against ships (in coastal States jurisdiction) were reported – a 18% increase compared to 33 incidents reported during the same period in 2022. Of concern is the continued occurrence of incidents in the Straits of Malacca and Singapore, which accounts for 67% of the incidents in Asia (26 of 39). These incidents were of low severity and opportunistic in nature. Most incidents involved perpetrators not armed and crew not injured; and the perpetrators escaped immediately upon sighted by the alert ship's crew.
On a positive side, there was a decrease in incidents in other parts of Asia (Bangladesh and India). For the third consecutive years, there was no incident of abduction of crew for ransom in Sulu-Celebes seas and waters off Eastern Sabah. The last incident was reported on 17 January 2020.
As a Centre of Excellence for Information Sharing, the Centre continues to provide the maritime community with timely and accurate reports, produce relevant publications for the shipping industry, including the Regional Guide 2; the Poster on contact details of MRCCs and ReCAAP Focal Points; and the Guide Book on Identification of fishing boats in Asian waters.
The ReCAAP ISC will continue to provide verified information of incidents of piracy and armed robbery against ships in Asia to the IMO for extraction onto GISIS. Information includes the exact location of incident, with its latitude and longitude, to reflect the jurisdiction of the coastal State, who can make the appropriate responses.
Recognising that combating piracy and armed robbery against ships is the shared responsibilities of all stakeholders; the ReCAAP ISC, works closely with the coastal States, Flag States, and the shipping industry to further the shared mission in ensuring safe and secure seas for maritime trade and commerce, bringing about economic prosperity for all in the Asian region."

AGENDA ITEM 11

Statement by the delegation of Ukraine

"The delegation of Ukraine would like to use this opportunity to provide an update for the Member States on the status of the implementation of the Black Sea Grain Initiative (Grain Initiative), in particular on the impact of the Russian Federation's attempts to block the delivery of foodstuffs to the nations in need across the world.
For the ease of perception of relevant statistics, we have requested the Secretariat to publish the infographics on BSGI under the Virtual portal section of the 107 MSC webpage.
It should be noted that over the course of 10 months of the Grain Initiative's operation, more than 30.5 million tonnes of products have been exported from Ukraine.

Unfortunately, Russia's sabotage and deliberate slowdown of work during the last 7 months, resulted in the deprival of other states from at least 20 million tonnes of food.
Last week, on the 1st of June the Joint Coordination Centre (JCC) in Istanbul has announced the inability to approve an inspection plan due to the Russian delegation's groundless refusal to register incoming vessels for the participation in the initiative.
On May 30 and 31, without any explanation Russia registered only 1 vessel for inspection, which was heading to the port of Chornomorsk, while other parties to the JCC confirmed 10 vessels for all 3 ports, participation in the Black Sea Grain Initiative.
Russia's obstructive stance makes it impossible to ensure the unhindered and effective functioning of the Grain Initiative. This aggressor state makes every step to limit global food supplies by blocking the registration of new incoming vessels and obstructing the largest port of Pivdennyi, which is a blatant violation of the terms of the Grain Initiative that Russia agreed to.
There are currently around 50 vessels waiting in line for inspection in territorial waters of Türkiye, intended to be loaded with 2.4 million tons of foodstuffs. This amount is almost twice as much of what was exported in May 2023. Some vessels have been waiting for JCC inspections for over three months, resulting in losses exceeding 1 billion USD and impacting the final cost of food for the consumers.
The Ukrainian delegation has once again raised these matters with the JCC Secretariat and requested all parties concerned to facilitate the restoration of full-time functioning of the Grain Initiative, in particular employing at least three inspection teams and carrying out nine inspections per day, in accordance with JCC procedures.
Ukrainian inspectors are currently present at the JCC and are prepared to commence work immediately upon the restoration of ships' registration process.
We hope that our partners will find a solution and put an end to Russia's global blackmail and ask the international community suffering from it not remain silent."

AGENDA ITEM 15

Statement by the observer from IHO

"The IHO would like to draw the attention of the committee to the fact that the subject addressed by MSC.107/15/2 is very much a live topic within the IHO, and that an associated/similar paper (together with a comment paper in reply from the UK) has been submitted to the Hydrographic Services and Standards Committee (HSSC), the responsible technical body within the IHO for consideration. As a consequence, respectfully, our recommendation is for the content of the paper be noted, and any action deferred until such a time when the issue has been fully considered by the IHO.
For context, the IHO would make the following observations:

- An IHO report on the Future Of Nautical Paper Charts showed that there remains a need amongst coastal states for paper charts;
- However, the IHO does recognize that it is likely the need for paper charts will continue to decrease, and may even disappear completely. Further, the IHO does understand the resource and operational challenges that chart producing organisations face in maintaining their paper chart portfolios (especially where they are responsible for producing navigational products on behalf of other coastal states) during the transition period from the current electronic charts to the new generation och maritime services based on S-100.
- As a consequence, it will be important for the IHO and IMO Member States to work closely on this issue to ensure that both the standardization and regulatory changes required synchronized as far as is possible.
- The IHO NtM XML format exists only as a white paper and is currently not prioritized for action in the competent body;

- It is not for the IHO, nor has it ever been to dictate the cost models for providing navigational services. Therefore, we cannot mandate or even suggest that certain services are provided free of charge."

AGENDA ITEM 19

Statement by the observer from IQARB

"Thank you, Madam Chair. I am providing this verbal intervention to the Committee in my capacity as the Chair of the International Quality Assessment Review Body, IQARB, and in line with the instruction given at MSC 100 for this Committee to be regularly updated on any developments concerning IQARB as detailed in paragraph 19.27 of MSC 100/20.
IQARB held its 5th meeting, IQARB 5, in London on the 3rd and 4th of May 2023 and therefore it was too late for a written submission to be made to this session of the Committee but with the kind permission of the Chair and the Committee and in line with the instructions from MSC 100 I will provide a brief update regarding the key developments and outcomes of this important meeting as follows:

- Firstly, regarding the membership of IQARB and in line with the IQARB Protocol the Member States of Chile and Singapore vacated their seats and were replaced by Brazil and Hong Kong ensuring a full quota of States and a continued geographical balance of IQARB Member States;
- Secondly, following a thorough review by IQARB Members of the quality certification and quality related data pertaining to the 11 IACS members which are subject to IQARB's review, IQARB Factual Statements without comment were issued to each organization and these can be located on the IQARB website. IQARB members also noted the developments at MSC 106 with respect to the recognition of IQARB Factual Statements;
- Thirdly, the members considered three important areas for the future development of IQARB and papers provided on each area covering 1. Future set-up of Flag State membership, 2. IQARB review extension to ROs other than IACS members and 3. The future funding of IQARB;
- Fourthly the members noted the status of the merger between IQARB and QACE;
- Fifthly IQARB adopted a revised roadmap for its work and development and approved revisions to the IQARB Protocol; and
- Finally, I can report that I consider that the 5th IQARB meeting was a successful meeting and that IQARB is developing as foreseen but with important work still to be done as the IQARB journey progresses.

Madam Chair, the Factual Statements issued by IQARB 5 for the 11 IACS member Societies in May 2023 are available for your Committee on the Virtual portal for MSC 107."

Statement by the delegation of the United Kingdom

"The United Kingdom wishes to bring to the Committee's attention an Agreement concerning the Shipwrecked Vessel RMS Titanic developed by the UK, the United States, France and Canada which entered into force for the UK and the US in 2019.
Since then, the UK and US have worked together to encourage other nations to sign the Agreement to ensure a standardised, international approach to preserving the wreck site.
The vessel became a turning point in the history of navigation. Discovered on 1 September 1985, the Titanic is arguably the most famous shipwreck in the world. The Titanic is inextricably linked to the IMO as the tragedy of its sinking led to the creation of the International Convention for the Safety of Life at Sea, which is still the fundamental basis for ship safety today.

The Agreement has been ratified by the UK and US, with the purpose of ensuring the continued preservation of and respect for the resting site of more than 1,500 people aboard when it sank. Under the Agreement, the UK and US must each, with respect to their nationals and vessels flying their flag, regulate entry into the hull of RMS Titanic and activities aimed at the artefacts from RMS Titanic found outside the hull, so that such activities are conducted in accordance with the Agreement and its Rules.

Although the wreck is located at a very great depth, the sophisticated equipment used to visit the wreck site is becoming more commonplace, which could detrimentally affect the preservation of the wreck site as more people visit. The Agreement recognises that in-situ preservation is the 'most effective way to ensure such protection, unless otherwise justified by educational, scientific or cultural interests'.

The Agreement is already in force for the UK and the US, but it will grow stronger as more States join. We would therefore urge other governments to consider becoming a party to the Agreement.

The UK and US have sent a note verbale highlighting the Titanic Agreement for circulation to all Member States and stand ready to provide guidance and assistance to any government with an interest in acceding to the Agreement.

Whilst the sinking of the Titanic was undoubtedly a human tragedy, all nations have benefitted from the safety improvements which arose from the aftermath and we owe it to those who gave their lives to ensure that their memory is not forgotten and that the wreck is protected and preserved for future generations.