INTERNATIONAL MARITIME ORGANIZATION

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REPORT OF THE MARITIME SAFETY COMMITTEE ON ITS 110TH SESSION

Attached are annexes 1 to 13 to the report of the Maritime Safety Committee on its 110th session (MSC 110/21).

(See document MSC 110/21/Add.2 for annex 14, MSC 110/21/Add.3 for annexes 15 to 29 and MSC 110/21/Add.4 for annexes 30 to 37)

LIST OF ANNEXES

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ANNEX 1

RESOLUTION MSC.572(110)
(adopted on 26 June 2025)

AMENDMENTS TO CHAPTERS II-2 AND V OF 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 110th 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 2027, 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 2028 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-2
CONSTRUCTION – FIRE PROTECTION, FIRE DETECTION AND FIRE EXTINCTION

Part C
Suppression of fire

Regulation 11
Structural integrity

2 Material of hull, superstructures, structural bulkheads, decks and deckhouses

1 Section 2 is replaced by the following:

"**2 Material of hull, superstructures, structural bulkheads, decks and deckhouses**

The hull, superstructures, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material. For the purpose of applying the definition of steel or other equivalent material as given in regulation 3.43, the "applicable fire exposure" shall be according to the integrity and insulation standards given in tables 9.1 to 9.8. For example, where divisions such as decks or sides and ends of deckhouses are permitted to have "B-0" fire integrity, the "applicable fire exposure" shall be half an hour."

4 Machinery spaces of category A

4.1 Crowns and casings

2 Paragraph 4.1 is replaced by the following:

"**4.1 Crowns and casings**

Crowns and casings of machinery spaces of category A shall be of steel construction and shall be insulated as required by tables 9.1 and 9.3 for passenger ships or tables 9.5 and 9.7 for cargo ships, as appropriate."

CHAPTER V
SAFETY OF NAVIGATION

Regulation 23
Pilot transfer arrangements

3 Regulation 23 is replaced by the following, together with the associated footnote:

"Regulation 23 – Pilot transfer arrangements

1 Ships on which pilots may be employed shall be provided with pilot transfer arrangements.

2 Pilot transfer arrangements shall enable pilots and other personnel to embark and disembark safely in all seagoing conditions of draught and trim.

3 Pilot transfer arrangements provided in accordance with paragraph 1 and installed on or after 1 January 2028 shall be designed, manufactured, constructed, secured and installed in accordance with the introduction and parts A, B and C of the performance standards adopted by the Maritime Safety Committee by resolution MSC.576(110), as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article VIII of the present Convention concerning the amendment procedures applicable to the annex other than chapter I.

4 Pilot transfer arrangements installed before 1 January 2028 on ships to which chapter I applies shall comply with the requirements provided in paragraph 3 not later than the first survey* on or after 1 January 2029.

5 Pilot transfer arrangements installed before 1 January 2028 on ships to which chapter I does not apply shall comply with the requirements provided in paragraph 3 not later than 1 January 2030.

6 Inspection, stowage, maintenance, replacement and familiarization of all pilot transfer arrangements, regardless of the installation date, shall comply with the introduction and parts D and E of the performance standards adopted by the Maritime Safety Committee by resolution MSC.576(110), as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article VIII of the present Convention concerning the amendment procedures applicable to the annex other than chapter I.

7 For the purpose of the present regulation, the expression "installed on or after 1 January 2028" means a contractual delivery date for the pilot transfer arrangement or, in the absence of a contractual delivery date, the actual delivery date of the arrangement to the ship on or after 1 January 2028.

8 Pilot transfer arrangements provided for in paragraph 3 shall be approved by the Administration in accordance with part F of the performance standards adopted by the Maritime Safety Committee by resolution MSC.576(110), as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article VIII of the present Convention concerning the amendment procedures applicable to the annex other than chapter I.

9 Pilot transfer arrangements provided for in paragraph 3 on ships to which chapter I applies shall be inspected in accordance with regulations I/6 and I/7 or I/8. Pilot transfer arrangements on ships to which chapter I does not apply shall be inspected to the satisfaction of the Administration.

10 Mechanical pilot hoists shall not be used.

11 Adequate means of illumination, either fixed or portable, shall be capable of illuminating all pilot transfer arrangements overside and the position on deck where pilots and other personnel embark or disembark. Portable lights, when used, shall have brackets to permit their positioning.

12 Where a pilot or other personnel suspect the pilot transfer arrangement provided is non-compliant, they should inform the master and refuse to use the arrangement until it is made compliant.

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

APPENDIX

CERTIFICATES

Record of equipment for passenger ship safety (Form P)

4 In section 5 (Details of navigational systems and equipment), new entries 16.1 to 16.3 are added as follows:

"16.1 Pilot ladder and manropes

16.2 Spare pilot ladder and manropes

16.3 Means of securing a pilot ladder at intermediate length"

Record of equipment for cargo ship safety (Form E)

5 In section 3 (Details of navigational systems and equipment), new entries 17.1 to 17.3 are added as follows:

"17.1 Pilot ladder and manropes

17.2 Spare pilot ladder and manropes

17.3 Means of securing a pilot ladder at intermediate length"

Record of equipment for cargo ship safety (Form C)

6 In section 5 (Details of navigational systems and equipment), new entries 17.1 to 17.3 are added as follows:

"17.1 Pilot ladder and manropes

17.2 Spare pilot ladder and manropes

17.3 Means of securing a pilot ladder at intermediate length"

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ANNEX 2

RESOLUTION MSC.573(110)
(adopted on 26 June 2025)

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 110th 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 2027, 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 2028 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 8
LIFE-SAVING APPLIANCES AND ARRANGEMENTS

8.3 Personal life-saving appliances

1 Paragraph 8.3.5 is replaced by the following:

"8.3.5 A lifejacket complying with the requirements of regulation III/32.1 or III/32.2 of the Convention should be provided for every person on board the craft and, in addition:

.1 a number of lifejackets suitable for children equal to at least 10% of the number of passengers on board should be provided or such greater number as may be required to provide a lifejacket for each child;

.2 every passenger craft should carry lifejackets for not less than 5% of the total number of persons on board. These lifejackets should be stowed in conspicuous places on deck or at muster stations;

.3 a sufficient number of lifejackets should be carried for persons on watch and for use at remotely located survival craft and rescue boat stations;

.4 all lifejackets should be fitted with a light, which complies with the requirements of regulation III/32.3 of the Convention; and

.5 in addition, on all craft, the following should be provided no later than the date of the first renewal survey on or after 1 January 2028:

.1 for passenger craft on voyages less than 24 hours, a number of infant lifejackets equal to at least 2.5% of the number of passengers on board should be provided;

.2 for passenger craft on voyages 24 hours or greater, infant lifejackets should be provided for each infant on board; and

.3 if the adult lifejackets provided are not designed to fit persons weighing up to 140 kg and with a chest girth of up to 1,750 mm, a sufficient number of suitable accessories should be available on board to allow them to be secured to such persons."

ANNEX 1

FORM OF SAFETY CERTIFICATE FOR HIGH-SPEED CRAFT

Record of Equipment for High-Speed Craft Safety Certificate

2 Details of life-saving appliances

1 In the table for "Details of life-saving appliances", a new entry 8.3 is inserted under existing entry 8.2, as follows:

"

8.3	Number suitable for infants	……..

"

5 Details of navigational systems and equipment

2 In the table for "Details of navigational systems and equipment", new entries 16.1 to 16.3 are added under existing entry 15, as follows:

"

16.1	Pilot ladder and manropes	……..
16.2	Spare pilot ladder and manropes	……..
16.3	Means of securing a pilot ladder at intermediate length	……..

"

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ANNEX 3

RESOLUTION MSC.574(110)
(adopted on 26 June 2025)

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 110th 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 2027, 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 2028 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 8
LIFE-SAVING APPLIANCES AND ARRANGEMENTS

8.3 Personal life-saving appliances

1 Paragraph 8.3.5 is replaced by the following:

"8.3.5 A lifejacket complying with the requirements of paragraph 2.2.1 or 2.2.2 of the LSA Code shall be provided for every person on board the craft and, in addition:

.1 a number of lifejackets suitable for children equal to at least 10% of the number of passengers on board shall be provided or such greater number as may be required to provide a lifejacket for each child;

.2 every passenger craft shall carry lifejackets for not less than 5% of the total number of persons on board. These lifejackets shall be stowed in conspicuous places on deck or at assembly stations;

.3 a sufficient number of lifejackets shall be carried for persons on watch and for use at remotely located survival craft and rescue boat stations;

.4 all lifejackets shall be fitted with a light, which complies with the requirements of paragraph 2.2.3 of the LSA Code;

.5 in addition, on craft constructed on or after 1 January 2028, the following shall be provided:

.1 for passenger craft on voyages less than 24 hours, a number of infant lifejackets equal to at least 2.5% of the number of passengers on board shall be provided;

.2 for passenger craft on voyages 24 hours or greater, infant lifejackets shall be provided for each infant on board; and

.3 if the adult lifejackets provided are not designed to fit persons weighing up to 140 kg and with a chest girth of up to 1,750 mm, a sufficient number of suitable accessories shall be available on board to allow them to be secured to such persons; and

.6 craft constructed before 1 January 2028 shall comply with sub-paragraph.5 no later than the date of the first renewal survey on or after 1 January 2028."

ANNEX 1

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

Record of Equipment for High-Speed Craft Safety Certificate

2 Details of life-saving appliances

1 In the table for "Details of life-saving appliances", a new entry 8.3 is inserted under existing entry 8.2, as follows:

"

8.3	Number suitable for infants	……..

"

3 Details of navigational systems and equipment

2 In the table for "Details of navigational systems and equipment", new entries 18.1 to 18.3 are added under existing entry 17, as follows:

"

18.1	Pilot ladder and manropes	……..
18.2	Spare pilot ladder and manropes	……..
18.3	Means of securing a pilot ladder at intermediate length	……..

"

***

ANNEX 4

RESOLUTION MSC.575(110)
(adopted on 26 June 2025)

AMENDMENTS TO THE INTERNATIONAL MARITIME SOLID BULK CARGOES CODE (IMSBC 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.268(85) by which it adopted the International Maritime Solid Bulk Cargoes Code (hereinafter referred to as "the IMSBC Code"), which has become mandatory under chapter VI of the International Convention for the Safety of Life at Sea, 1974, as amended ("the Convention"),

RECALLING FURTHER article VIII(b) and regulation VI/1-1.1 of the Convention concerning amendment procedure for amending the IMSBC Code,

HAVING CONSIDERED, at its 110th session, amendments to the IMSBC 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 IMSBC 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 2026, 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 2027 upon their acceptance in accordance with paragraph 2 above;

4 AGREES that Contracting Governments to the Convention may apply the aforementioned amendments in whole or in part on a voluntary basis as from 1 January 2026;

5 REQUESTS the Secretary-General, for the purpose 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;

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 (08-25) TO THE ENGLISH VERSION OF THE INTERNATIONAL MARITIME SOLID BULK CARGOES CODE (IMSBC CODE)

Section 3 – Safety of personnel and ship

3.6 Cargo under in-transit fumigation

Footnote to 3.6.1 is replaced by the words "Refer to Revised recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds (MSC.1/Circ.1264/Rev.1)."

Footnotes to the third and fifth sentences are replaced by the words "Refer to paragraph 3.3.2.4 of MSC.1/Circ.1264/Rev.1" and "Refer to paragraph 3.3.2.10 of MSC.1/Circ.1264/Rev.1", respectively.

Section 9 – Materials possessing chemical hazards

9.3 Stowage and segregation requirements

9.3.3 Segregation between bulk materials possessing chemical hazards and dangerous goods in packaged form

Table in 9.3.3 is amended as follows:

The oblique line in the first cell on the left is deleted; the cell is separated into two, and the right cell is merged to the next cell after the separation.

The heading of the first column on the left is replaced to read "Bulk materials (classified as dangerous goods)".

In the heading of the fourth column, the term "1.6" is added after the term "1.3".

In the first column on the left, the words "Radioactive materials" are replaced by the words "Radioactive material".

In the second column on the left, the word "MHB" is deleted.

In paragraph 3 ("Separated by a complete compartment or hold from"), replace the words "Means either" by the word "Either".

Section 13 – References to related information and recommendations

13.2 Reference list

In paragraph 13.2.3, "MSC.1/Circ.1395/Rev.6" is replaced by "MSC.1/Circ.1395/Rev.7".

In paragraphs 13.2.6 and 13.2.9, the words "Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds (MSC.1/Circ.1264, as amended by MSC.1/Circ.1396)" are replaced by the words "Revised recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds (MSC.1/Circ.1264/Rev.1)".

APPENDIX 1

INDIVIDUAL SCHEDULES OF SOLID BULK CARGOES

Amendments to existing individual schedules

The following individual schedules are amended as indicated below:

ALUMINIUM FERROSILICON POWDER UN 1395

In the individual schedule for "ALUMINIUM FERROSILICON POWDER UN 1395", in the section for "Precautions", the last sentence is deleted.

ALUMINIUM SILICON POWDER, UNCOATED UN 1398

In the individual schedule for "ALUMINIUM SILICON POWDER, UNCOATED UN 1398", in the section for "Precautions", the last sentence is deleted.

ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS UN 3170

In the individual schedule for "ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS UN 3170", in the section for "Precautions", the penultimate sentence is deleted.

CASTOR BEANS or CASTOR MEAL or CASTOR POMACE or CASTOR FLAKE UN 2969

In the individual schedule for "CASTOR BEANS or CASTOR MEAL or CASTOR POMACE or CASTOR FLAKE UN 2969", BCSN is replaced to read "CASTOR BEANS UN 2969". In the table for "Characteristics", in the box for "MHB", the words "TX and/or CR" are inserted. In the section for "Hazard", the sentence "This cargo is non-combustible or has a low fire risk." is inserted at the end of the section.

DIRECT REDUCED IRON (A), Briquettes, hot-moulded

The text in the section for "Description" is replaced to read as follows:

> "**Direct reduced iron (DRI) (A)** is a metallic grey material, emanating from a densification process, whereby the DRI feed material is hot-moulded into a briquette form with total iron (Fe) content of at least 88% by weight at a temperature greater than 650°C."

The first and second paragraphs in the section for "Loading" are replaced and the associated footnote is added, as follows :

"Prior to loading this cargo, the shipper shall provide the master with a certificate issued by a competent person recognized by the competent authority of the port of loading stating that the cargo, at the time of loading, is suitable for shipment and that it conforms with the requirements of this Code: that the apparent density* is greater than 5,000 kg/m^3; the quantity of fines and small particles (under 6.35 mm in size) does not exceed 5% by weight; the moisture content does not exceed 1.0%; and the temperature does not exceed 65°C.

This cargo shall not be loaded and shipped under the provisions of this schedule if the temperature is in excess of 65°C, if its moisture content is in excess of 1.0%, if the quantity of fines and small particles (under 6.35 mm in size) exceeds 5% by weight or if the apparent density* is equal to or less than 5,000 kg/m^3.

* Apparent density is the mass in air per volume, including both the solid and void spaces within particles, but excluding the void spaces between particles. Apparent density of hot briquetted direct reduced iron is determined according to ISO 15968:2016 "Direct reduced iron - Determination of apparent density and water absorption of hot briquetted iron (HBI)".

The third paragraph in the section for "Loading" is replaced and the associated footnote is added, as follows:

"Appropriate precautions† shall be taken prior to and during loading in order that the cargo be substantially composed of essentially whole and intact briquettes with minimal presence of exposed or loose uncompacted pellets. The cargo shall be loaded in such a way so as to minimize breakage of briquettes and the additional generation of fines and small particles (under 6.35 mm in size) and concentration of fines in any area of the cargo and to minimize the presence of exposed or loose uncompacted pellets and concentration thereof in any area of the cargo. The addition of fines and small particles (under 6.35 mm in size) or dust or loose pellets in homogeneous cargoes of DRI (A) shall be prohibited.

† One example of an appropriate precaution is screening of the material to be loaded."

DIRECT REDUCED IRON (B), Lumps, pellets, cold-moulded briquettes

The text in the section for "Description" is replaced and the associated footnote is added, as follows :

"**Direct reduced iron (DRI) (B)** is a highly porous, black/grey metallic material formed by the reduction (removal of oxygen) of iron oxide at temperatures below the fusion point of iron. Cargoes in briquette form are defined as those with total iron (Fe) content of at least 88% by weight which have been moulded at a temperature not greater than 650°C or which have an apparent density* of not greater than 5,000 kg/m^3.

* Apparent density is the mass in air per volume, including both the solid and void spaces within particles, but excluding the void spaces between particles."

FERROSILICON UN 1408 with 30% or more but less than 90% silicon (including briquettes)

In the individual schedule for "FERROSILICON UN 1408 with 30% or more but less than 90% silicon (including briquettes)", in the "Appendix", in the section for "General requirements for carriage of ferrosilicon", the first paragraph is deleted and the following paragraphs are renumbered, accordingly.

FERROSILICON with at least 25% but less than 30% silicon, or 90% or more silicon

In the individual schedule for "FERROSILICON with at least 25% but less than 30% silicon, or 90% or more silicon", in the "Appendix", in the section for "General requirements for carriage of ferrosilicon", the text in paragraph 1 is replaced to read:

"1 Two sets of self-contained breathing apparatus shall be carried in the ship in addition to those required by SOLAS regulation II-2/10.10. Self-contained breathing apparatus sets carried in accordance with SOLAS regulation II-2/19.3.6.2 may be used to comply with this requirement."

FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS UN 2793 in a form liable to self-heating

In the individual schedule for "FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS UN 2793 in a form liable to self-heating", in the section for "Carriage", in the second sentence, the words "or, alternatively, entry is required for this purpose, at least two sets of self-contained breathing apparatus, additional to those required by SOLAS regulation II-2/10.10 shall be provided" are deleted.

FISH MEAL (FISH SCRAP), STABILIZED Anti-oxidant treated

In the individual schedule for "FISH MEAL (FISH SCRAP), STABILIZED Anti-oxidant treated" (as adopted by resolution MSC.539(107)), BCSN is replaced to read "FISH MEAL (FISH SCRAP), STABILIZED UN 2216 Anti-oxidant treated. Moisture content greater than 5% but not exceeding 12%, by mass. Fat content not more than 15%"; in the section for "Description", the words "Moisture content: greater than 5% but not exceeding 12%, by mass." and the words "Fat content: not more than 15%, by mass." are deleted; and in the table for "Characteristics", in the box for "Class", the words "Not applicable" are replaced by the number "9"; and in the box for "MHB", the word "SH" is replaced by the word "Not applicable". In the section for "Precautions", the text in paragraph 1 is replaced to read as follows:

"1 Stabilization of fish meal shall be achieved to prevent spontaneous combustion by the effective application of ethoxyquin or BHT (butylated hydroxytoluene) or tocopherols at the time of production. The said application shall occur within 12 months prior to shipment. Fish scrap or fish meal shall contain remnant measurable anti-oxidant levels of at least 100 ppm (mg/kg) of ethoxyquin, or 100 ppm (mg/kg) of BHT or 250 ppm (mg/kg) of tocopherol at the time of shipment."

IRON ORE PELLETS

In the individual schedule for "IRON ORE PELLETS", in the section for "Description", the second and third sentences are replaced to read "This iron oxide is formed into pellets by using binders, such as clay, and then hardening by firing at 1,200°C to 1,315°C. Moisture content: up to 6%."; and in the table for "Characteristics", in the box for "Bulk density", "1,900" is replaced by "1,800"; and in the box for "Stowage factor", the terms "0.45" and "0.52" are replaced by the terms "0.42" and "0.56", respectively.

New individual schedules

The following new individual schedules are inserted in alphabetical order:

"**ALUMINIUM SULPHATE GRANULAR**

Description
Aluminium sulphate granular consists of inorganic white granules. Hygroscopic in nature. Soluble in water. Used as a coagulant for drinking and wastewater treatment.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3 /t)**
less than 3 mm	40° to 45°	900 to 1,100	0.91 to 1.11
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	CR	B

Hazard
Causes serious eye damage.
This cargo is hygroscopic and will cake if wet.
This cargo is highly soluble and will be acidic when wet.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
Contact with certain metals, e.g. aluminium and zinc, may form hydrogen gas.
"Separated from" most other cargoes since it is a drinking water product.

Hold cleanliness
Clean and dry as relevant to the quality and hazards of the cargo.

Weather precautions
This cargo shall be kept as dry as practicable. It shall not be handled during precipitation.
During handling of this cargo, all non-working hatches of the cargo spaces into which this cargo is loaded, or to be loaded, shall be closed.

Loading
Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

Precautions
Persons who may be exposed to the dust of the cargo shall wear protective gloves and goggles or other equivalent dust eye-protection, face protection and dust filter masks, as necessary. Minimize dust generation when loading.

Ventilation
The cargo spaces carrying this cargo shall not be ventilated during the voyage.

Carriage
Hatches of the cargo spaces shall be weathertight to prevent water ingress.

Discharge
This cargo is hygroscopic and may cake in overhangs, impairing safety during discharge. If this cargo has hardened, it shall be trimmed to avoid the formation of overhangs, as necessary.

Clean-up
After discharge of this cargo, the cargo spaces and the bilge wells shall be swept clean and then thoroughly washed out.

Emergency procedures

Special emergency equipment to be carried
Protective clothing (gloves, boots, face protection and coveralls). Self-contained breathing apparatus.
Emergency procedures
Wear protective clothing and self-contained breathing apparatus. **Emergency action in the event of fire** Use extinguishers appropriate for surrounding materials. The cargo itself is not combustible. **Medical first aid** Refer to the *Medical First Aid Guide* (MFAG), as amended.

"

"**APATITE CONCENTRATE**

Description
Crystalline fine powder of grey colour.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
Less than 0.5 mm	Not applicable	1,429 to 2,000	0.5 to 0.7
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	Not applicable	A

Hazard
This cargo may liquefy if shipped at a moisture content in excess of its transportable moisture limit (TML). See sections 7 and 8 of this Code.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
No special requirements.

Hold cleanliness
No special requirements.

Weather precautions
When a cargo is carried in a ship other than a ship complying with the requirements in 7.3.2 of this Code, the following provisions shall be complied with:

.1 the moisture content of the cargo shall be kept less than its TML during loading operations and the voyage;

.2 unless expressly provided otherwise in this individual schedule, the cargo shall not be handled during precipitation;

.3 unless expressly provided otherwise in this individual schedule, during handling of the cargo, all non-working hatches of the cargo spaces into which the cargo is loaded, or to be loaded, shall be closed;

.4 the cargo may be handled during precipitation under the conditions stated in the procedures required in 4.3.3 of this Code; and

.5 the cargo in a cargo space may be discharged during precipitation provided that the total amount of the cargo in the cargo space is to be discharged in the port.

Loading
Hatch covers, manholes and vent openings shall be checked for weather-tightness. Prior to loading, the holds shall be surveyed carefully to ensure a proper condition of ballast, bilge, fire-extinguishing and other systems. Additionally, manholes of the ballast tanks shall be checked for water leakage into the cargo spaces.

This cargo shall be trimmed to ensure that the height difference between peaks and troughs does not exceed 5% of the ship's breadth and that the cargo slopes uniformly from the hatch boundaries to the bulkheads and to avoid steep surfaces of cargo that collapse during the voyage. When the stowage factor of this cargo is equal to or less than 0.56 m^3/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo forming.

Precautions
Appropriate precautions shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Due consideration shall be given to protect equipment from the dust of the cargo. Persons who may be exposed to the dust of the cargo shall wear protective clothing, goggles or other equivalent dust eye-protection and dust filter masks, as necessary. Bilge wells shall be clean, dry and covered, as appropriate, to prevent ingress of the cargo.

Ventilation
The cargo spaces carrying this cargo shall not be ventilated during the voyage

Carriage
The appearance of the surface of this cargo shall be checked regularly during the voyage. If free water above the cargo or fluid state of the cargo is observed during the voyage, the master shall take appropriate action to prevent cargo shifting and potential capsize of the ship and give consideration to seeking emergency entry into a place of refuge.

Discharge
No special requirements.

Clean-up
After discharge of this cargo, the bilge wells and the scuppers of the cargo spaces shall be checked and any blockage in the bilge wells and the scuppers shall be removed."

"**ASPHALT GRANULATES**

Description
Granulates from the demolition of asphalt roads. The granulates are re-used for the foundation/sub-base for new roads. The cargo has a dark grey/black colour and contains no more than 10% asphalt. The material has, in principle, no odour, but a light bitumen odour may be possible. The cargo is stored outside (open air).

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
Up to 60 mm	30° to 45°	1,700 to 1,800	0.55 to 0.59
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	Not applicable	C

Hazard
No special hazards.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
"Away from" alkalis, oxidizing substances, acids, food, drink and animal feeding stuffs.

Hold cleanliness
No special requirements.

Weather precautions
No special requirements.

Loading
Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. When the stowage factor of this cargo is equal to or less than 0.56 m^3/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

Precautions
Bilge wells shall be clean, dry and covered as appropriate, to prevent ingress of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Persons who may be exposed to cargo shall wear eye/face protection and applicable filter masks (in case of inadequate ventilation).

Ventilation
No special requirements.

Carriage
No special requirements.

Discharge
No special requirements.

Clean-up
Contaminated washing water shall be retained and disposed of in an appropriate manner/facility."

"**CRUSHED GRANODIORITE, COARSE**

The provisions of this schedule shall apply only to cargoes containing less than 0.1% respirable quartz and less than 7% of particles under 2 mm.

Description
Crushed granodiorite is made by blasting, crushing and sieving the common rock species granodiorite, a grey, very hard and compact mineral stone. The aggregate is used as a component in asphalt, concrete and hydraulically unbound materials.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
Up to 200 mm and less than 7% of particles less than 2 mm	34° to 40°	1,340 to 1,900	0.53 to 0.75
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	Not applicable	C

Hazard
No special hazards.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
No special requirements.

Hold cleanliness
No special requirements.

Weather precautions
No special requirements.

Loading
During loading, due consideration shall be given to minimize dust generation. Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. When the stowage factor of this cargo is equal to or less than 0.56 m^3/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

Precautions
Appropriate precautions shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Due consideration shall be given to protect equipment from the dust of the cargo. Persons who may be exposed to the dust of the cargo shall wear goggles or other equivalent dust eye-protection and dust filter masks. Those persons shall wear protective clothing, as necessary.

Ventilation
No special requirements.

Carriage
No special requirements.

Discharge
No special requirements.

Clean-up
No special requirements."

"**FERRIC SULPHATE GRANULAR**

Description
Ferric sulphate consists of inorganic granules, usually yellow, brown or grey in colour. Hygroscopic in nature. Soluble in water. Used as a coagulant for water treatment. No special odour. Moisture normally around 10% (measured at 105°C); no oil in the cargo. Stored under cover.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
less than 5 mm	38° to 42°	1,000 to 1,300	0.77 to 1.00
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	CR	B

Hazard
Harmful if swallowed.
Causes skin irritation.
May cause an allergic skin reaction due to sensitization.
Causes serious eye damage.
This cargo is highly soluble and will be acidic when wet.
This cargo is hygroscopic and will cake if wet.
This cargo may be subject to decomposition if heated strongly. Decomposition may produce gases that are toxic (sulphur oxides). However, this cargo is not subject to an explosion hazard.
Corrodes metals under the influence of moisture.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
"Away from" certain metals, e.g. aluminium and zinc, that may form hydrogen gas in case of contact with the cargo.
Avoid contact with unalloyed steel or galvanized surfaces; materials not resistant to acid, copper, aluminium and iron.
"Away" from sources of heat.

Hold cleanliness
Clean and dry as relevant to the hazards of the cargo.

Weather precautions
This cargo shall be kept as dry as practicable. It shall not be handled during precipitation.
During handling of this cargo, all non-working hatches of the cargo spaces into which this cargo is loaded, or to be loaded, shall be closed.

Loading
Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

Precautions
Avoid contact with eyes and skin. Persons who may be exposed to the dust of the cargo shall wear protective clothing, gloves and eye-protection, as necessary. Minimize dust generation when loading.
Bilge wells shall be clean, dry and covered, as appropriate, to prevent ingress of the cargo.

Ventilation
The cargo spaces carrying this cargo shall not be ventilated during the voyage.

Carriage
Hatches of the cargo spaces shall be weathertight to prevent water ingress.

Discharge
The product is hygroscopic and may cake in overhangs, impairing safety during discharge. If this cargo has hardened, it shall be trimmed to avoid the formation of overhangs, as necessary. No discharge operations during precipitation.

Clean-up
After discharge of this cargo, the cargo spaces and the bilge wells shall be swept clean and then thoroughly washed out.

Emergency procedures

Special emergency equipment to be carried
Protective clothing (gloves, boots and coveralls). Self-contained breathing apparatus.
Emergency procedures
Wear protective clothing and self-contained breathing apparatus. **Emergency action in the event of fire** Use extinguishers appropriate for surrounding materials. The cargo itself is not combustible. **Medical first aid** Refer to the *Medical First Aid Guide* (MFAG), as amended.

"

"FISH MEAL (FISH SCRAP), STABILIZED

This schedule shall only apply to fish meal that does not meet any of the criteria on dangerous goods or materials hazardous only in bulk specified in sections 9.2.2 or 9.2.3, respectively.

Description
Fresh whole pelagic fish or trimmings for food grade fillet factories that are cooked, dried, with added anti-oxidants and milled before storage. The product is light brown to brown in colour. Water content between 5% to 10%, Fat content below 12%. Most particles between 0.08 mm to 1.2 mm. Smells of fish.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
Not applicable	Not applicable	300 to 700	1.43 to 3.33
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	Not applicable	C

Hazard
Liable to cause oxygen depletion in cargo space.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
No special requirements.

Hold cleanliness
Clean and dry as relevant to the hazards of the cargo.

Weather precautions
This cargo shall be kept as dry as practicable. This cargo shall not be handled during precipitation. During handling of this cargo, all non-working hatches of the cargo spaces into which this cargo is loaded, or to be loaded, shall be closed.

Loading
Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. The cargo shall not be accepted for loading when the temperature of the cargo exceeds 35°C or 5°C above the ambient temperature, whichever is higher. The cargo may be loaded without weathering/curing prior to loading.

A certificate from an entity recognized by the competent authority of the port of loading shall be provided by the shipper prior to loading, stating that the material does not meet the MHB (SH) criteria specified in 9.2.3.3 of this Code.

Precautions
The shipper shall further provide the master with a certificate issued by an entity recognized by the competent authority of the port of loading specifying:

.1 moisture content;

.2 fat content; and

.3 details of anti-oxidant treatment.

A suitable equipment for quantitative measurement of the concentration of oxygen in the cargo space shall be provided on board the ship. Entry of personnel into cargo spaces for this cargo shall not be permitted until tests have been carried out and it has been established that the oxygen content has been restored to a normal level.

Ventilation
No special requirements.

Carriage
No special requirements.

Discharge
No special requirements.

Clean-up
No special requirements."

"**IRON ORE BRIQUETTES**

Description
This cargo is composed of hard briquettes generated in the process of cold agglomeration of iron ore and binders, such as sodium silicate. Iron ore briquettes are odourless and vary in colour, from beige to dark grey, always granular in form, pillow-shaped, not soluble in water and resistant to ageing.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
10 mm to 40 mm	Not applicable	1,800 to 2,400	0.42 to 0.56
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	Not applicable	C

Hazard
This cargo may affect magnetic compasses.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
No special requirements.

Hold cleanliness
No special requirements.

Weather precautions
No special requirements.

Loading
Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

As the density of the cargo is extremely high, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

Precautions
Loading rates of this cargo are normally very high. Due consideration shall be given to the ballasting operation in developing the loading plan required by SOLAS regulation VI/7.3. Bilge wells shall be clean, dry and protected as appropriate to prevent ingress of the cargo.

Ventilation
No special requirements.

Carriage
No special requirements.

Discharge
No special requirements.

Clean-up
No special requirements."

"**PEA PROTEIN CONCENTRATE PELLETS**

Description
Fermented and flash-dried raw material containing main components of pea protein, fat, ash and crude fibre. The material is pelletized. Creamy (yellowish) coloured with a neutral odour.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
5 mm to 15 mm	24° to 28°	600 to 800	1.25 to 1.67
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	Not applicable	C

Hazard
Loading of dry pellets using cargo blowers may present a risk of dust explosion.
This cargo flows freely like grain.
This cargo will cake if wet.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
No special requirements.

Hold cleanliness
Clean and dry as relevant to the hazards of the cargo.

Weather precautions
This cargo shall be kept as dry as practicable. This cargo shall not be handled during precipitation. During handling of this cargo, all non-working hatches of the cargo spaces into which this cargo is loaded, or to be loaded, shall be closed.

Loading
Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

Precautions
Persons who may be exposed to the dust of the cargo shall wear goggles or other equivalent dust eye-protection, dust filter masks and protective gloves, as necessary.

Ventilation
Surface ventilation, either natural or mechanical, shall be conducted during the voyage for the cargo spaces carrying this cargo, as necessary.

Carriage
No special requirements.

Discharge
No special requirements.

Clean-up
No special requirements."

"**PHOSPHATE ROCK FINES (uncalcined)**

Description
Phosphate rock is an ore in which phosphorus and oxygen are chemically united. Depending on the source, it is tan to dark grey, dry and dusty. It is crushed and washed with a sand-like appearance. Abrasive and dusty. It is a non-cohesive cargo.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
Up to 5 mm	30° to 45°	1,250 to 1,800	0.56 to 0.80
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	Not applicable	A

Hazard
This cargo may liquefy if shipped at a moisture content in excess of its transportable moisture limit (TML). See sections 7 and 8 of this Code.
Dust may cause eye, nose and respiratory irritation.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
No special requirements.

Hold cleanliness
No special requirements.

Weather precautions
When a cargo is carried in a ship other than a ship complying with the requirements in 7.3.2 of this Code, the following provisions shall be complied with:

.1 the moisture content of the cargo shall be kept less than its TML during loading operations and the voyage;

.2 unless expressly provided otherwise in this individual schedule, the cargo shall not be handled during precipitation;

.3 unless expressly provided otherwise in this individual schedule, during handling of the cargo, all non-working hatches of the cargo spaces into which the cargo is loaded, or to be loaded, shall be closed;

.4 the cargo may be handled during precipitation under the conditions stated in the procedures required in 4.3.3 of this Code; and

.5 the cargo in a cargo space may be discharged during precipitation provided that the total amount of the cargo in the cargo space is to be discharged in the port.

Loading
Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. When the stowage factor of this cargo is equal to or less than 0.56 m^3/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

Precautions
Appropriate precautions shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Due consideration shall be given to protect equipment from the dust of the cargo. Persons who may be exposed to the dust of the cargo shall wear protective clothing, goggles or other equivalent dust eye-protection and dust filter masks, as necessary.

Ventilation
No special requirements.

Carriage
The appearance of the surface of this cargo shall be checked regularly during the voyage. If free water above the cargo or fluid state of the cargo is observed during the voyage, the master shall take appropriate actions to prevent cargo shifting and potential capsize of the ship and give consideration to seeking emergency entry into a place of refuge.

Discharge
No special requirements.

Clean-up
No special requirements."

"**TUFF, COARSE**

The provisions of this schedule shall apply only to cargoes containing less than 0.1% respirable quartz.

The provisions of this schedule shall apply only to tuff cargoes with the following particle size distribution:

.1 not more than 10% by weight of particles less than 1 mm (D_{10} > 1 mm); or

.2 not more than 50% by weight of particles less than 10 mm (D_{50} > 10 mm); or

.3 both.

Description
Porous rock of volcanic origin. Colour may vary from yellow, light brown to red, grey or black.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
Up to 80 mm. Not more than 10% of particles less than 1 mm and/or not more than 50% of particles less than 10 mm	Not applicable	900 to 1,200	0.83 to 1.11
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	Not applicable	C

Hazard
Dust of this cargo is abrasive and may cause skin and eye irritation.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
No special requirements.

Hold cleanliness
No special requirements.

Weather precautions
No special requirements.

Loading
Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code.

Precautions
Appropriate precautions shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells shall be clean and dry and covered, as appropriate, to prevent ingress of the cargo. Persons who may be exposed to the cargo shall wear protective clothing, gloves, goggles or other equivalent dust eye-protection and dust filter masks, as necessary.

Ventilation
No special requirements.

Carriage
No special requirements.

Discharge
No special requirements.

Clean-up
No special requirements."

"**ZINC SLAG (coarse)**

Description
Coarse residue generated from zinc smelting process. This cargo is highly permeable and pore water of this cargo drains quickly. It is black or red-brown in colour and either granular or lump.

Characteristics

Physical properties			
Size	**Angle of repose**	**Bulk density (kg/m^3)**	**Stowage factor (m^3/t)**
80%: larger than 10 mm Up to 60 mm	Not applicable	1,500 to 2,800	0.36 to 0.67
Hazard classification			
Class	**Subsidiary hazard(s)**	**MHB**	**Group**
Not applicable	Not applicable	Not applicable	C

Hazard
This cargo is abrasive.
This cargo is non-combustible or has a low fire risk.

Stowage and segregation
No special requirements.

Hold cleanliness
No special requirements.

Weather precautions
No special requirements.

Loading
Trim in accordance with the relevant provisions required under sections 4 and 5 of this Code. When the stowage factor of this cargo is equal to or less than 0.56 m^3/t, the tank top may be overstressed unless the cargo is evenly spread across the tank top to equalize the weight distribution. Due consideration shall be given to ensure that the tank top is not overstressed during the voyage and during loading by a pile of the cargo.

Precautions
Appropriate action shall be taken to protect machinery and accommodation spaces from the dust of the cargo. Bilge wells of the cargo spaces shall be protected from ingress of the cargo. Due consideration shall be given to protect equipment from the dust of the cargo. Persons who may be exposed to the dust of the cargo shall wear protective clothing, goggles or other equivalent dust eye-protection and dust filter masks, as necessary.

Ventilation
No special requirements.

Carriage
Bilge water shall be removed regularly during the voyage.

Discharge
No special requirements.

Clean-up
No special requirements."

APPENDIX 3

PROPERTIES OF SOLID BULK CARGOES

1 Non-cohesive cargoes

1.1 In the list, add the following new entries in alphabetical order:

"ALUMINIUM SULPHATE GRANULAR"

"ASPHALT GRANULATES"

"CRUSHED GRANODIORITE, COARSE"

"FERRIC SULPHATE GRANULAR"

"PEA PROTEIN CONCENTRATE PELLETS"

"PHOSPHATE ROCK FINES (uncalcined)"

APPENDIX 4

INDEX

Delete the entries for "CASTOR FLAKE UN 2969", "CASTOR MEAL UN 2969" and "CASTOR POMACE UN 2969".

Replace the BCSNs for "FISH MEAL, STABILIZED" and "FISH SCRAP, STABILIZED" by "FISH MEAL, STABILIZED UN 2216" and "FISH SCRAP, STABILIZED UN 2216", respectively.

Insert the following new entries in alphabetical order:

"

Material	Group	Reference
ALUMINIUM SULPHATE GRANULAR	B	
APATITE CONCENTRATE	A	
ASPHALT GRANULATES	C	
CRUSHED GRANODIORITE, COARSE	C	
FERRIC SULPHATE GRANULAR	B	
FISH MEAL, STABILIZED	C	
FISH SCRAP, STABILIZED	C	
IRON ORE BRIQUETTES	C	
PEA PROTEIN CONCENTRATE PELLETS	C	
PHOSPHATE ROCK FINES (uncalcined)	A	
TUFF, COARSE	C	
ZINC SLAG (coarse)	C	

"

APPENDIX 5

BULK CARGO SHIPPING NAMES IN THREE LANGUAGES (ENGLISH, SPANISH AND FRENCH)

Delete the entries for "CASTOR FLAKE UN 2969", "CASTOR MEAL UN 2969" and "CASTOR POMACE UN 2969".

Replace the BCSNs for "FISH MEAL, STABILIZED" and "FISH SCRAP, STABILIZED" by "FISH MEAL, STABILIZED UN 2216" and "FISH SCRAP, STABILIZED UN 2216", respectively.

Insert the following new entries in the corresponding alphabetical order:

"

English	French	Spanish
ALUMINIUM SULPHATE GRANULAR	SULFATE D'ALUMINIUM EN GRAINS	SULFATO DE ALUMINIO GRANULAR
APATITE CONCENTRATE	CONCENTRÉ D'APATITE	CONCENTRADO DE APATITA
ASPHALT GRANULATES	GRANULATS D'ASPHALTE	GRANULADOS ASFÁLTICOS

English	French	Spanish
CRUSHED GRANODIORITE, COARSE	GRANODIORITE CONCASSÉE (GROS GRAINS)	GRANODIORITA TRITURADA, GRUESA
FERRIC SULPHATE GRANULAR	SULFATE DE FER EN GRAINS	SULFATO FÉRRICO GRANULAR
FISH MEAL, STABILIZED	FARINE DE POISSON STABILISÉE	HARINA DE PESCADO ESTABILIZADA
FISH SCRAP, STABILIZED	DÉCHETS DE POISSON STABILISÉS	DESECHOS DE PESCADO ESTABILIZADOS
IRON ORE BRIQUETTES	BRIQUETTES DE MINERAI DE FER	BRIQUETAS DE MINERAL DE HIERRO
PEA PROTEIN CONCENTRATE PELLETS	GRANULÉS DE CONCENTRÉ DE PROTÉINES DE POIS	PÉLETS DE CONCENTRADOS DE PROTEÍNAS DE GUISANTES
PHOSPHATE ROCK FINES (uncalcined)	FINES DE ROCHE PHOSPHATÉE (non calcinée)	FINOS DE FOSFATO EN ROCA (no calcinado)
TUFF, COARSE	TUF (à gros grains)	TOBA VOLCÁNICA (GRUESA)
ZINC SLAG (coarse)	SCORIES DE ZINC (à gros grains)	ESCORIA DE CINC (gruesa)

"

***

ANNEX 5

RESOLUTION MSC.576(110)
(adopted on 26 June 2025)

PERFORMANCE STANDARDS FOR PILOT TRANSFER ARRANGEMENTS

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.886(21) on *Procedure for the adoption of, and amendments to, performance standards and technical specifications*, by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto, shall be performed by the Maritime Safety Committee, on behalf of the Organization,

RECALLING FURTHER resolution A.1045(27) on *Pilot transfer arrangements*, which was amended by resolution A.1108(29),

NOTING resolution MSC.572(110) by which it adopted amendments to regulation V/23 of the International Convention for the Safety of Life at Sea, 1974 ("the Convention") to make the performance standards on pilot transfer arrangements mandatory under the Convention,

RECOGNIZING that the responsibility for safe practices for the transfer of pilots and other personnel rests with each person involved in the activity including the shipowner, operator, master and crew, pilotage provider, pilot and pilot boat crew, as well as the person being transferred,

HAVING CONSIDERED, at its 110th session, the recommendation made by the Sub-Committee on Navigation, Communications and Search and Rescue at its eleventh session,

1 ADOPTS the *Performance standards for pilot transfer arrangements*, set out in the annex to the present resolution;

2 INVITES Contracting Governments to the Convention to note that the *Performance standards for pilot transfer arrangements* will take effect on 1 January 2028 upon entry into force of the amendments to regulation V/23 of the Convention adopted by resolution MSC.572(110);

3 NOTES that, under the provisions of regulation V/23 of the Convention, amendments to the *Performance standards for pilot transfer arrangements* shall be adopted, brought into force and take effect in accordance with the provisions of article VIII of the Convention concerning the amendment procedure applicable to the annex to the Convention other than chapter I;

4 REQUESTS the Secretary-General to transmit certified copies of this resolution and the text of the *Performance standards for pilot transfer arrangements* contained in the annex to all Contracting Governments to the Convention;

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

6 INVITES Governments to encourage the development of novel technologies aimed at improving the safety of pilot transfer arrangements and to keep the Organization advised of any positive results;

7 URGES all parties concerned to observe both the spirit and intent of these performance standards, to ensure safety is not compromised;

8 INVITES the Assembly to revoke resolutions A.1045(27) and A.1108(29) as of 1 April 2030, and endorse the action taken by the Maritime Safety Committee.

ANNEX

PERFORMANCE STANDARDS FOR PILOT TRANSFER ARRANGEMENTS

INTRODUCTION

1 Purpose

These performance standards provide for requirements for the design, manufacture, construction, rigging, installation of pilot ladder winch reels, operational readiness, onboard inspection and maintenance, familiarization and approval in relation to pilot transfer arrangements required under regulation V/23 of the 1974 SOLAS Convention, adopted by resolution MSC.572(110).

2 Definitions

For the purpose of these performance standards, the following definitions apply:

.1 *Pilot transfer arrangements* refers to all equipment and arrangements used solely for the embarkation and disembarkation of pilots and other personnel, including pilot ladders, accommodation ladders, embarkation platforms, manropes, pilot ladder winch reels, securing arrangements and other associated equipment.

.2 *Point of access* means the location at which pilots or other personnel transfer between a pilot ladder or accommodation ladder and the deck or side opening of a ship.

.3 *Manropes* means ropes hung on either side of a pilot ladder for assistance in ascending and descending.

.4 *Trapdoor* means an aperture with a cover located in a platform allowing the pilot ladder and manropes to pass through without obstruction or distortion and used by pilots or other personnel to transfer between the pilot ladder and the accommodation ladder.

.5 *Securing a pilot ladder at intermediate length* means securing a pilot ladder at a point other than the thimble ends.

3 General

3.1 Pilot transfer arrangements shall be designed, installed, inspected, maintained and rigged to enable pilots and other personnel to embark and disembark safely in all seagoing conditions of draught and trim.

3.2 The height of climb on a pilot ladder shall not be less than 1.5 m and not more than 9 m from the surface of the water to the point of access in all seagoing conditions of draught and trim. Whenever the height of climb on a pilot ladder from the surface of the water to the point of access exceeds 9 m, the ship shall be provided with and rig an accommodation ladder in conjunction with the pilot ladder (i.e. a combination arrangement).

3.3 Where the height of climb is less than 1.5 m from the surface of the water and a pilot ladder is not used as part of a pilot transfer arrangement, this does not exempt any vessel or personnel involved in the transfer from ensuring that the transfer is completed safely, is adequately risk assessed and any equipment other than a pilot ladder is used in accordance with these performance standards.

3.4 Pilot transfer arrangements shall be provided to enable pilots and other personnel to embark and disembark safely on either side of the ship. Necessary equipment shall be carried on each side unless the equipment is capable of being transferred for use on either side.

3.5 Pilot ladders and manropes used for the transfer of pilots and other personnel shall be clearly identified with permanent marking so as to enable identification of each appliance for the purposes of survey, inspection and record-keeping.

3.6 Reference in these performance standards to an accommodation ladder[1] includes a sloping ladder used as part of the pilot transfer arrangements.

3.7 The onboard inspection and rigging of the pilot transfer arrangements and the embarkation and disembarkation of pilots and other personnel shall be supervised by a designated responsible officer. During the transfer of pilots or other personnel, the responsible officer shall have means of communication with the navigation bridge and shall arrange for the escort of the pilot by a safe route to and from the navigation bridge and other personnel to an appropriate safe location.

PART A – DESIGN, MANUFACTURE AND CONSTRUCTION

4 Pilot ladders

4.1 The steps of the pilot ladders shall comply with the following requirements:

.1 if made of hardwood, they shall be made in one piece, free of any knots. Wood shall not be treated or coated with paint, varnish or other coatings;

.2 if made of material other than hardwood, they shall be made from resilient plastic or rubber of equivalent strength, stiffness and durability;

.3 they shall have an efficient non-slip surface;

.4 they shall be long enough to accommodate a distance between the inner surface of the side ropes of not less than 400 mm, and shall be not less than 115 mm in width and 25 mm in thickness, excluding any non-slip device or grooving;

.5 they shall be equally spaced not less than 310 mm and not more than 350 mm apart measured from the top of each step or spreader step;

.6 they shall be secured in such a manner that each will remain horizontal; and

.7 the four lowest steps shall be of rubber of sufficient strength and stiffness or other equivalent material.

[1] Refer to SOLAS regulation II-1/3-9 on Means of embarkation on and disembarkation from ships.

4.2 Pilot ladders with more than five steps shall have spreader steps complying with paragraph 4.1 and each spreader step shall be not less than 1.8 m in length. The lowest spreader step shall be the fifth step from the bottom of the ladder and additional spreader steps shall be provided at such intervals as will prevent the pilot ladder from twisting, conforming to standards acceptable to the Organization.[2]

4.3 Permanent measuring marking shall be provided at a regular interval of every three steps, approximately every 1 m, throughout the length of the pilot ladder consistent with ladder design, use and maintenance in order to facilitate the rigging of the ladder to the required height.

4.4 Pilot ladders shall be permanently marked by the manufacturer with at least the following information on the underside of the uppermost step and the lowermost spreader step:

.1 the name of the manufacturer;

.2 an equipment serial number or other means of unique identification which the manufacturer shall be able to validate;

.3 date of manufacture; and

.4 name and details of the approving authority.

4.5 Pilot ladders shall be of a single length capable of reaching the surface of the water from the point of access or, where a combination arrangement is used, from the platform of the combination arrangement, in all seagoing conditions of draught and trim and the specific condition of an adverse list of 15° in the lightest seagoing condition.

4.6 The side ropes on each side of the pilot ladder shall consist of a double length of uncovered rope not less than 20 mm and not more than 22 mm in diameter. The double length shall be made from a continuous length of rope with no joints having a breaking strength of at least 24 kN. The midpoint of the double length shall be located on a thimble. The ends of each of the side ropes shall be properly finished.[3]

4.7 Each of the side ropes shall be mildew-resistant manila rope[4] or other material of equivalent strength, durability, elongation characteristics and grip which has been protected against actinic degradation.

4.8 Each of the side ropes shall be secured together both above and below each step with an arrangement properly designed for this purpose. Where a seizing method[5] with step fixtures, such as chocks or wedges, is used, it shall hold each step horizontal in all planes at all times. Where a mechanical clamping device is used to secure each of the side ropes together, it shall grip each of the side ropes in the pair independently and with the same grip force. Any surface of a mechanical clamping device that pilots or other personnel may handle shall be suitable to be grasped by bare hands. The use of cable ties, u-clamps or worm driven clips as a means of securing steps is prohibited.

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2 Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-1:2019 *Ships and marine technology – Pilot ladders – Part 1: Design and specification*.

3 Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-1:2019 *Ships and marine technology – Pilot ladders – Part 1: Design and specification*.

4 Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 1181:2004 Fibre ropes – Manila and sisal – 3-, 4- and 8-strand ropes.

5 Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-1:2019 *Ships and marine technology – Pilot ladders – Part 1: Design and specification*.

5 Combination arrangements

5.1 The length of the accommodation ladder shall be sufficient to ensure that its angle of slope does not exceed 45°. In ships with large draught ranges, several pilot ladder hanging positions shall be provided, resulting in lesser angles of slope. The accommodation ladder shall be at least 600 mm in width. The accommodation ladder hoisting and lowering mechanism shall include protection that ensures the mechanism cannot be inadvertently operated during the transfer of pilots and other personnel.

5.2 Intermediate platforms, if fitted, shall be self-levelling. Treads and steps of the accommodation ladder shall be so designed that an adequate and safe anti-skid foothold is provided at the operative angles.

5.3 The accommodation ladder and platform shall be equipped on both sides with stanchions and rigid handrails, but if hand ropes are used, they shall be tight and properly secured. The vertical space between the handrail or hand rope and the stringers of the ladder shall be securely fenced.

5.4 Accommodation ladders, together with any suspension arrangements or attachments fitted and intended for use in accordance with these performance standards, shall meet the requirements for the means of embarkation on and disembarkation from ships as required by regulation II-1/3-9.

5.5 In the case of a combination arrangement using an accommodation ladder with a trapdoor in the lower platform, the lower platform shall:

.1 have an aperture with dimensions not less than 750 mm x 750 mm which is open to the ship's hull on the inboard side and which is designed to ensure that the horizontal distance between the pilot ladder and adjacent edges of the aperture is between 0.1 and 0.2 m;

.2 be designed and constructed to:

.1 allow the pilot ladder and manropes to pass through the aperture without obstruction or distortion;

.2 ensure the pilot ladder lies flat against the ship's side;

.3 ensure that structural members shall not interfere with or lay against the pilot ladders; and

.4 ensure the highest step of the pilot ladder is at least 2 m above the lower platform and remain compliant with part B;

.3 not be provided with fixtures other than the frame referred to in paragraph 5.5.7, which allows a pilot ladder to be suspended from the lower platform of the accommodation ladder;

.4 have a trapdoor which opens upwards and which is secured flat on the embarkation platform or against a stanchion either at the aft end or outboard side of the platform, and in any case not obstructing the access to the ship;

.5 be provided with sufficient round handholds with a diameter of no less than 28 mm and not more than 32 mm to allow safe mounting or dismounting of the pilot ladder. The structure of the platform itself shall not be relied upon to provide handholds;

.6 be provided with sufficient handholds with a height of not less than 1.2 m above the platform; and

.7 where a structural frame is used to comply with paragraph 5.5.2, the following shall apply:

.1 the accommodation ladder platform, frame, pilot ladder connection points, accommodation ladder winch, running gear, pad eyes of manropes and locking arrangements shall be designed to withstand vertical forces of at least 48 kN;

.2 the highest step of the pilot ladder is at least 2 m above the platform and is secured to pad eyes on the inboard side of the frame so that it rests firmly against the side of the ship; and

.3 manropes are secured directly to additional pad eyes 2 m above the platform on the inboard side of the frame.

5.6 On all ships to which section 5 applies, a two-tone visual mark, the upper half being white and the lower half being red, not less than 4 m in height and 0.5 m in width shall be provided in the midship half-length of the ship in the vicinity of the pilot boarding position to indicate to the user whether or not a combination arrangement is to be rigged. The dividing line between the upper and the lower halves of the pilot line shall be 9 m below the point of access.

6 Securing arrangements

6.1 All strong points, shackles and securing ropes provided or used in accordance with part A or part B shall have a breaking strength of not less than 48 kN. Securing ropes shall be tagged or otherwise permanently marked in the same way as provided in paragraph 11.3 and those used to aid in rigging the pilot ladder, shall be at least 3 m in length. The securing arrangements shall be positioned not less than 915 mm, or, if not possible, the maximum distance permitted by the width of the deck, from the edge of the deck, except for the case of a combination arrangement using an accommodation ladder. Strong points and shackles shall have breaking strength or equivalent safe working load limits clearly and permanently marked. Documentation of the conformance of the strong points, shackles and securing ropes shall be maintained on board and available for inspection purposes.

6.2 Permanent or removable means of bowsing a pilot ladder or embarkation platform to the ship's hull shall not be used to support the weight of the boarding arrangement or pilot and shall not be used for any other purpose than to secure the arrangement against the ship's side. Removable means of bowsing a pilot ladder or embarkation platform to the ship's side shall be able to be applied and removed by a single person and shall have a holding force of not less than 4 kN when used for the purpose of securing the lower platform of an accommodation ladder or 3 kN when used for securing the pilot ladder or manropes.[6]

[6] Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-3:2022 *Ships and marine technology – Pilot ladders, part 3: Attachment and associated equipment*.

6.3 There shall be a means of securing a pilot ladder at intermediate lengths which shall be capable of securing the pilot ladder to strong points described in paragraph 6.1 by gripping each set of side ropes of the pilot ladder. The means of securing, shall have a breaking strength of not less than 48 kN and be designed to prevent any slippage of the side ropes under the conditions of the ladder and step attachment strength test and unrolling tests described in a standard acceptable to the Organization.[7] When type approving means of securing a pilot ladder at intermediate lengths in accordance with Part F, these tests shall be modified to reflect the attachment of the pilot ladder using a means of securing the pilot ladder other than using its own attachments.

7 Ships' side openings, doors and platforms

7.1 Ships' side doors used for the transfer of pilots or other personnel shall not open outwards unless located below the freeboard deck.[8] The side opening shall enable a safe, convenient and unobstructed passage large enough for the transfer of pilots and other personnel, with a minimum clearance of 2,200 mm in height and 915 mm in width.

7.2 Ships' side openings without a boarding platform shall be provided with strong points which are on the lowest deck of the opening and inboard of the ship's side opening. Strong points shall also be provided on the deck head and inboard of the ship's side opening if it is intended to rig manropes in the manner provided for in paragraph 15.1.1.3.

7.3 In any event, boarding platforms deployed from ships' side openings and outboard of the ship shall not be provided where the distance from the platform to the surface of the water in all seagoing conditions of draught and trim associated with the normal operation of the ship is less than 5 m. Platforms shall be mechanically attached to the ship and be marked with safe working load limits. Certification of successful testing shall be maintained on board and available for inspection.

7.4 The boarding platform shall extend outboard from the ship's side for a minimum distance of 750 mm, with a longitudinal length of a minimum of 750 mm. The platform shall be securely guarded by handrails.

8 Access to ship's deck

Means shall be provided to ensure safe, convenient and unobstructed passage for pilots and other personnel embarking on, or disembarking from, the ship between the head of the pilot ladder, or of any accommodation ladder, and the ship's deck; such access shall be gained directly by a clean and unobstructed platform securely guarded by handrails. Where such passage is by means of:

.1 a gateway in the rails or bulwark, adequate handholds with a diameter of not less than 32 mm and not more than 36 mm shall be provided at the point of embarking on or disembarking from the ship on each side which shall be not less than 0.7 m and not more than 0.8 m apart in clear width. Each handhold shall be rigidly secured and locked to the ship's structure at or near its base and also to the ship at a higher point, and shall extend not less than 1.2 m above the deck to which it is fitted. Stanchions or handrails of the gateway shall not be attached to the bulwark ladder to prevent the bulwark ladder from overturning and shall be positioned no greater than 0.12 m inboard of the edge of the deck. A ring or eye with an inner diameter not less than 60 mm at a height of the stanchion above the deck shall be provided to accommodate manropes;

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7 Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 799-1:2019 *Ships and marine technology – Pilot ladders – part 1: Design and specification*.

8 Refer to regulation 21 of annex I of the International Convention on Load Lines.

.2 a bulwark ladder, it shall be securely attached to the ship to prevent overturning. Two separate handhold stanchions with a diameter of not less than 32 mm and not more than 36 mm shall be fitted at the point of embarking on or disembarking from the ship on each side which shall be not less than 0.7 m and not more than 0.8 m apart in clear width. Each stanchion shall be rigidly secured and locked to the ship at or near its base and also at a higher point and shall extend not less than 1.2 m above the top of the bulwarks. Stanchions or handrails of the gateway shall not be attached to the bulwark ladder to prevent the bulwark from overturning and shall be positioned no greater than 0.12 m inboard of the edge of the deck. A ring or eye with an inner diameter not less than 60 mm at a height of the stanchion above the deck shall be provided to accommodate manropes; or

.3 a shipside opening or door, adequate handholds with a diameter of not less than 32 mm and not more than 36 mm shall be provided at the point of embarking on or disembarking from the ship on each side which shall be not less than 0.7 m and not more than 0.8 m apart in clear width. Each handhold shall be rigidly secured and locked to the ship's structure at or near its base and also to the ship at a higher point to prevent dislodgement and shall extend not less than 1.2 m above the entry threshold. Stanchions or handrails shall be positioned no greater than 0.12 m inboard of the edge of the deck. A ring or eye with an inner diameter not less than 60 mm at a height of the stanchion above the deck shall be provided to accommodate manropes.

9 Protection from chafing

Equipment and arrangements shall be designed and installed so that it is not possible for a pilot ladder side rope or manrope to make contact with any part of the ship's hull or associated fixtures and fittings which could have the potential to cause sharp bends, chafing, abrasion, pinching or otherwise degrade their performance. Where contact is unavoidable, contact points shall be rounded to minimize chafing. The means of rounding could be a permanent fixture, such as a rounded pipe. Where it is not possible to round contact points owing to ship design, removable chafing pads or other temporary arrangements may be used. They shall be considered acceptable to the Administration, provided these arrangements do not prevent pre-use inspections, are removed after use and stowed in accordance with section 23.

10 Safe approach of the pilot boat

Where rubbing bands or other constructional features prevent the safe approach of a pilot boat, these shall be cut back to provide at least 6 m of unobstructed ship's side. Specialized offshore ships less than 90 m or other similar ships less than 90 m for which a 6 m gap in the rubbing bands would not be practicable, as determined by the Administration, may be exempted. In this case, other appropriate measures shall be taken to ensure that pilots and other personnel are able to embark and disembark safely.

11 Associated equipment

Manropes shall be:

.1 not less than 28 mm and not more than 32 mm in diameter and shall be mildew-resistant manila rope,[9] or other material of equivalent strength, durability, elongation characteristics and grip;

.2 of a single length free from splices and knots; and

.3 tagged or otherwise permanently marked by the manufacturer with at least the following information:

.1 the name of the manufacturer;

.2 an equipment serial number or other means of unique identification which the manufacturer shall be able to validate;

.3 date of manufacture; and

.4 name and details of the approving authority.

PART B – RIGGING

12 Pilot ladder

In all ships, when it is intended to embark and disembark pilots or other personnel by means of the pilot ladder, the pilot ladder shall be secured to the dedicated strong points meeting the requirements of paragraph 6.1 and positioned so that:

.1 it is clear of any possible discharge from the ships and at all times hangs vertically, free and without obstruction;

.2 it is within the parallel body length of the ship and within the midship half-length of the ship;

.3 each step rests firmly against the ship's side and is horizontal in all planes throughout the entire vertical length of the ladder;

.4 when used in conjunction with ships' side openings, the ladder is secured in accordance with section 14;

.5 when a retrieval line is considered necessary to ensure the safe rigging of a pilot ladder, the line is secured to the forward end, at or above the lowest spreader step and leads forward. The retrieval line shall not hinder the pilot or other personnel nor obstruct the safe approach of the pilot boat; and

.6 the lowest step of the pilot ladder, by using the means specified in paragraph 6.3, is at the height above the surface of the water requested by the pilot or other personnel being transferred.

[9] Refer to the recommendations by the International Organization for Standardization, in particular publication ISO 1181:2004 Fibre ropes – Manila and sisal – 3-, 4- and 8-strand ropes.

13 Combination arrangements

13.1 The combination arrangement shall be so positioned and secured that:

.1 the pilot ladder complies with the requirements in section 12;

.2 the accommodation ladder leads aft and is clear of any discharges;

.3 the lower platform of the accommodation ladder is secured to the ship's side by means of permanent fixtures or removable fixtures within the parallel body length of the ship and within the midship half-length;

.4 the lower platform is in a horizontal position when in use and is a minimum of 5 m above the surface of the water in all seagoing conditions of draught and trim;

.5 the pilot ladder and manropes are secured to the ship's side at a point of nominally 1.5 m above the lower platform of the accommodation ladder except as outlined in paragraph 5.5.7;

.6 the pilot ladder and manropes are not secured to the lower platform of the accommodation ladder at any time; and

.7 the pilot ladder is rigged immediately adjacent to the lower platform of the accommodation ladder and the highest step of the pilot ladder is at least 2 m above the lower platform. The horizontal distance between the pilot ladder and the lower platform shall be between 0.1 and 0.2 m.

13.2 In the case of a combination arrangement using an accommodation ladder with a trapdoor in the lower platform, the lower platform shall be positioned and rigged in accordance with the requirements of paragraphs 5.5 and 13.1.

14 Ships' side openings

14.1 Pilot ladders rigged from ships' side openings without a boarding platform shall not extend above the lowest deck of the opening and shall not be rigged from any other position, including the freeboard deck.

14.2 Pilot ladders used in conjunction with ships' side openings with a boarding platform complying with paragraph 7.3 shall be rigged aft of such platforms and may be rigged from the freeboard deck provided that the ladder and manropes are secured above the platform in accordance with paragraphs 13.1.5 and 13.1.7.

15 Associated equipment

15.1 The following associated equipment shall be available and ready for immediate use at the point of access whilst the pilot or other personnel are being transferred:

.1 two manropes complying with the requirements stipulated within section 11 which shall:

.1 be free from contamination and knots; however, knots used to tie or secure manropes to strong points are acceptable;

.2 when required by pilots or other personnel embarking or disembarking, be rigged and secured in accordance with relevant requirements of these performance standards; and

.3 when rigged, be fixed at the rope end to dedicated strong points on the deck and pass through the ring or eye fitted at the top of the stanchions at the point of access to the deck. When the pilot ladder is rigged from a ship side opening, manropes may be rigged from the deck head, provided that the manropes pass through the ring or the eye at the top of the stanchions at the point of access;

.2 a lifebuoy equipped with a self-igniting light; and

.3 a heaving line free from contamination and having a length which can reach the waterline in any seagoing condition of draught or trim.

15.2 When required by section 8 of these performance standards, stanchions and bulwark ladders shall be provided.

PART C – INSTALLATION OF PILOT LADDER WINCH REELS

16 Stowage of pilot ladders on winch reels

If a pilot ladder is to be stowed on a winch drum, the drum diameter shall be not less than 0.16 m and the drum shall be provided with sunken securing points.

17 Point of access

17.1 When a pilot ladder winch reel is provided, it shall be situated at a position which will ensure pilots and other personnel embarking on, or disembarking from, the ship between the pilot ladder and the point of access to the ship, have safe, convenient and unobstructed access to or egress from the ship.

17.2 The point of access position and adjacent area shall be kept clear of obstructions, including the pilot ladder winch reel, for distances as follows:

.1 915 mm in width measured longitudinally;

.2 915 mm in depth, measured from the ship's side plating inwards; and

.3 2,200 mm in height, measured vertically from the access deck.

18 Physical positioning of pilot ladder winch reels

18.1 Pilot ladder winch reels which are fitted on a ship's upper deck for the purpose of providing a pilot ladder which services a ship's side opening below the upper deck or, alternatively, an accommodation ladder when a combination arrangement is provided shall:

.1 be situated at a location on the upper deck from which the pilot ladder is able to be suspended vertically, in a straight line, to a point adjacent to the ship's side opening access point or the lower platform of the accommodation ladder;

.2 be situated at a location which provides a safe, convenient and unobstructed passage for pilots or other personnel embarking on, or disembarking from, the ship between the pilot ladder and the place of access on the ship; and

.3 enable compliance with the relevant requirements of part A and part B.

18.2 Pilot ladder winch reels fitted inside a ship's side opening shall:

.1 be situated at a position which provides a safe, convenient and unobstructed passage for pilots or other personnel embarking on, or disembarking from, the ship between the pilot ladder and the place of access on the ship;

.2 be situated at a position which provides an unobstructed clear area with a minimum length of 915 mm and minimum width of 915 mm and minimum vertical height of 2,200 mm; and

.3 if situated at a position which necessitates a section of the pilot ladder to be partially secured in a horizontal position on the deck so as to provide a clear access as described above, then allowance shall be made so that this section of the pilot ladder may be covered with a rigid platform for a minimum distance of 915 mm measured horizontally from the ship's side inwards.

19 Handrails and handgrips

Handrails and handgrips shall be provided in accordance with section 8 to assist the pilot and other personnel to safely transfer between the pilot ladder and the ship, except as noted in paragraph 7.4 for arrangements with platforms extending outboard. The horizontal distance between the handrails and/or the handgrips shall be not less than 0.7 m or more than 0.8 m apart.

20 Securing of the pilot ladder

Where the pilot ladder is stowed on a pilot ladder winch reel which is located either within the ship's side opening or on the upper deck:

.1 the pilot ladder winch reel shall not be relied upon to support the pilot ladder when the pilot ladder is in use;

.2 the pilot ladder shall be secured to strong points, independent of the pilot ladder winch reel; and

.3 the pilot ladder shall be secured at deck level inside the ship's side opening or, when located on the ship's upper deck, at a distance of not less than 915 mm measured horizontally from the ship's side inwards.

21 Mechanical securing of pilot ladder winch reel

21.1 All pilot ladder winch reels shall have means of preventing the winch reel from being accidentally operated as a result of mechanical failure or human error.

21.2 Pilot ladder winch reels may be manually operated or, alternatively, powered by either electrical, hydraulic or pneumatic means.

21.3 Manually operated pilot ladder winch reels shall be provided with a brake or other suitable arrangements to control the lowering of the pilot ladder and to lock the winch reel in position once the pilot ladder is lowered into position.

21.4 Electrical, hydraulic or pneumatically driven pilot ladder winch reels shall be fitted with safety devices which are capable of cutting off the power supply to the winch reel and thus locking the winch reel in position.

21.5 Powered winch reels shall have clearly marked control levers or handles which may be locked in a neutral position.

21.6 A mechanical device or locking pin shall also be utilized to lock powered winch reels.

PART D – OPERATIONAL READINESS, ONBOARD INSPECTION AND MAINTENANCE

22 Periodic maintenance and inspections shall be carried out to ensure the pilot transfer arrangements are in good condition, free from contamination and ready for use. Regardless of the date of installation, maintenance and inspection of accommodation ladders used in the combination arrangement shall be carried out in accordance with SOLAS regulation II-1/3-9.3.

23 Pilot ladders, manropes and all associated equipment, when not in use, shall be stowed to prevent degradation caused by moisture, icing and sunlight, chemicals and greases and similar contaminants, and in accordance with the manufacturer's instructions.

24 Instructions for care, maintenance, inspection and stowage shall be supplied with each pilot ladder, manropes and all associated equipment. These instructions shall include:

.1 pre- and post-use inspection instructions;

.2 detailed periodic inspection procedures, including those for side ropes;

.3 instructions for inspecting and repairing rope seizings or securing devices, along with a list of permitted onboard repairs;

.4 care and stowage instructions, including warnings about chemical exposure, sunlight impact and other potential causes of ladder degradation;

.5 factors affecting pilot ladder life, including stowage arrangements;

.6 acceptable method(s) of securing ladder to strong points;

.7 pictorial examples and detailed written description of damage or conditions warranting withdrawing the ladder from service; and

.8 care and maintenance specifics for natural fibre rope ladders.

25 Pilot transfer arrangements shall be subject to:

.1 inspection before and after each use by a responsible officer on board; and

.2 a detailed inspection every three months by a responsible officer on board.

26 In order to determine the suitability for ongoing use of the pilot transfer arrangements, inspections shall include the following:

.1 the pilot ladder including spares;

.2 the accommodation ladder used in a combination arrangement;

.3 winch reels;

.4 securing arrangements;

.5 conditions of point of access;

.6 relevant equipment, in particular stanchions and stanchion sockets welded onto the deck; and

.7 stowage arrangements.

27 A maintenance plan shall be developed and shall be available for inspection. The maintenance plan shall be easily understood, illustrated as appropriate wherever possible, and shall include the following:

.1 a checklist for use when carrying out the inspections required by section 25;

.2 maintenance, repair and stowage instructions, in accordance with manufacturer's instructions;

.3 schedule of periodic inspection and maintenance;

.4 list of sources of spare parts or replacements;

.5 log for records of inspections and maintenance; and

.6 record of when the pilot ladder or manropes were brought into service and their anticipated date of withdrawal from service in accordance with section 30 of these performance standards.

28 Repair or replacement of pilot ladder steps or spreader steps shall be prohibited.

29 At least one spare compliant pilot ladder and one spare set of compliant manropes shall be carried on board the ship.

30 Pilot ladders and manropes, including their spares, shall be removed from service, either at any time not complying with these performance standards, or within 36 months after the date of manufacture or within 30 months after the date of being placed into service, whichever comes first, and shall not be used for the embarkation and disembarkation of pilots or other personnel.

PART E – FAMILIARIZATION

31 Onboard personnel involved in the inspection, maintenance, rigging or operation of any equipment for pilot transfer arrangements shall receive familiarization to perform their assigned duties. This shall form part of the onboard familiarization of the crew.

32 On ships to which SOLAS chapter IX applies, the company, as defined in SOLAS regulation IX/1.2, ensures that onboard personnel involved in the operation of inspection, maintenance, rigging or operation of any equipment for pilot transfer arrangements are familiarized with the onboard pilot transfer arrangements for safe operation in accordance with STCW regulation I/14.

33 On ships to which SOLAS chapter IX does not apply, familiarization on board shall include, but not be limited to:

.1 operation and use of the equipment and arrangements for the transfer of pilots and other personnel provided on board the ship;

.2 the characteristics of pilot transfer arrangements which shall not be used for the transfer of pilots or other personnel;

.3 carrying out inspections and maintenance of the pilot transfer arrangements, including spare ladders on board;

.4 replacement procedures of pilot ladders and manropes; and

.5 when applicable, measures and additional equipment or operational considerations to be made to ensure the integrity of the pilot ladder in special conditions, i.e. freezing or windy condition or rough weather especially when there is moderate swell.

PART F – APPROVAL

34 Pilot transfer arrangements installed in accordance with SOLAS regulation V/23.3 shall be approved by the Administration in accordance with these performance standards before being put into service for the first time and after repair, alteration or modification to the arrangements provided for in sections 5 to 8 and section 10 of part A, or part C, of these performance standards.

35 Pilot transfer arrangements installed in accordance with SOLAS regulations V/23.4 and 23.5 shall be approved by the Administration in accordance with these performance standards after alteration or modification, if any, or repair, to the arrangements provided for in sections 5 to 8 and section 10 of part A, or part C, of these performance standards.

36 A pilot ladder, including the means of securing the pilot ladder at intermediate lengths, and manropes shall be type-approved by the Administration in accordance with these performance standards.

37 A manufacturer quality control system shall be required and shall be audited by a competent authority to ensure continuous compliance with the type approval conditions. Alternatively, the Administration may use final product verification procedures where compliance with the type approval certificate is verified by a competent authority before the product is installed on board ships.

***

ANNEX 6

RESOLUTION MSC.577(110)
(adopted on 26 June 2025)

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.572(110) concerning pilot transfer arrangements,

HAVING CONSIDERED, at its 110th session, consequential amendments to the Record of Equipment for the Special Purpose Ship Safety Certificate (Form SPS) set out in the appendix to the Code,

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 2028, in conjunction with the entry into force of amendments to the 1974 SOLAS Convention, adopted by resolution MSC.572(110).

ANNEX

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

ANNEX

FORM OF SAFETY CERTIFICATE FOR SPECIAL PURPOSE SHIPS

APPENDIX

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

In section 5 (Details of navigational systems and equipment), the following new entries 14.1 to 14.3 are added after existing entry 13:

"14.1 Pilot ladder and manropes

14.2 Spare pilot ladder and manropes

14.3 Means of securing a pilot ladder at intermediate length"

***

ANNEX 7

AMENDMENTS TO THE CODE OF SAFETY FOR FISHERMEN AND FISHING VESSELS, 2005

PART B

SAFETY AND HEALTH REQUIREMENTS FOR THE CONSTRUCTION AND EQUIPMENT OF FISHING VESSELS

Chapter VI
Protection of the crew

1 Paragraph 6.5.2 is replaced by the following:

"6.5.2 If an accommodation ladder or gangway is not practicable, a substantial straight ladder, of adequate length and extending at least 900 mm above the upper landing surface, should be provided. Where conditions are such that a ladder cannot be used, a pilot ladder meeting the provisions of SOLAS regulation V/23 should be provided."

Chapter X
Shipborne navigational equipment and arrangements

2 Paragraph 10.5.3 is replaced by the following:

"10.5.3 Such transfer arrangements should comply with the provisions of SOLAS regulation V/23."

ANNEX VI
Recommended standards for pilot ladders

3 The title and provisions in sections 1 to 8 of annex VI are deleted and the text "intentionally left blank" is inserted.

***

ANNEX 8

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

Sessions of MSC and MASS-ISWG	Work Plan
MASS-ISWG 4 (Second half 2025)	- **Further develop the non-mandatory MASS Code**
MSC 111 (May 2026)	- **Consider the outcome of MASS-ISWG 4** - **Consider the outcome of GBS experts' review** - **Finalization and adoption of the non-mandatory MASS Code** - Invite relevant sub-committees to review the non-mandatory Code - Commence development of a framework for an experience-building phase (EBP) post adoption of the non-mandatory MASS Code
MSC 112 (December 2026)	- Develop a framework for an EBP post adoption of the non-mandatory MASS Code
MSC […] (2028)	- **Commence development of the mandatory MASS Code, based on the non-mandatory Code and the result from the EBP and review conducted by the relevant sub-committees, and consider amendments to SOLAS (new chapter) for the adoption of a mandatory Code**
MSC […]	- Adopt the mandatory Code (latest 1 July 2030 for entry into force on 1 Jan 2032)

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ANNEX 9

RESOLUTION MSC.578(110)
(adopted on 27 June 2025)

ENCOURAGEMENT OF MARITIME INFORMATION-SHARING THROUGH THE USE OF NATIONAL AND REGIONAL MARITIME INFORMATION-SHARING CENTRES TO ENHANCE MARITIME SAFETY AND SECURITY

THE MARITIME SAFETY COMMITTEE,

RECALLING article 1(a) of the Convention on the International Maritime Organization, according to which the purpose of the Organization is to provide machinery for cooperation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning the maritime safety, efficiency of navigation and prevention and control of marine pollution from ships; and to deal with administrative and legal matters related to the purposes set out in this article,

RECALLING ALSO that the mission of the International Maritime Organization (IMO), as a United Nations specialized agency, is to promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation,

REAFFIRMING the principles enshrined in the International Convention for the Safety of Life at Sea, the International Convention on Maritime Search and Rescue, and other international instruments establishing cooperation among States,

TAKING INTO ACCOUNT the importance of maritime domain awareness, and the need to improve coordination and information exchange among Member States, international organizations and stakeholders in order to assist in the fight against organized crime threats in the maritime sector,

RECALLING resolution A.1190(33) on *Enhancing the framework on the fight against organized crime in the maritime sector*, inviting Member States to share with the Organization the strategies that, in their experience, have worked to mitigate the impacts of organized crime on international maritime traffic and port facilities,

RECOGNIZING the existence and fundamental role of national and regional maritime information-sharing centres, which facilitate coordination and cooperation, threat analysis and informed decision-making in matters of maritime safety and security, which will contribute to the safety, security, prevention and resilience of the sector, noting the important role of the human element in the maritime traffic to the Organization and its Member States,

CONCERNED ABOUT threats of organized crime, which are detrimental to Member States and industry by weakening governance, harming the economy and generating violence,

1 ENCOURAGES sharing of relevant information, including data on maritime safety and security, illicit activities in the maritime sector, environmental incidents and search and rescue situations, to include the use of national and regional maritime information-sharing centres;

2 REQUESTS the IMO Secretariat to work with Member States and relevant international organizations to promote training initiatives, exchange of best practices and technical assistance in order to enhance the sharing of information related to maritime safety and security.

***

ANNEX 10

DRAFT MSC-FAL CIRCULAR ON GUIDELINES CONCERNING THE RECOVERY OF DECEASED PERSONS AND DEATH AFTER RECOVERY

1 The Maritime Safety Committee, at its 110th session (18 to 27 June 2025) and the Facilitation Committee, at its [fiftieth session (23 to 27 March 2026)], noted the urgent need to raise awareness on the proper transfer of deceased persons to supplement resolution MSC.528 (106) on *Recommended cooperation to ensure the safety of life at sea, the rescue of persons in distress at sea and the safe disembarkation of survivors,* which does not address the deceased, either at the time of recovery or after recovery.

2 The Committees, being aware that the legal status of a deceased person may vary depending on the jurisdiction, and recognizing that this status may be unknown for salvors, approved the Guidelines concerning the recovery of deceased persons and death after recovery, as set out in the annex, and invited Member States and relevant international organizations to:

.1 pay due respect to culture, practice of the rescued and the local public health policies in handling a deceased among survivors rescued; and

.2 pay due consideration in transferring bodies between various organizations, in addition to volume III, section 21 of the IAMSAR Manual, as applicable.

3 Member States are invited to bring the guidelines to the attention of all stakeholders concerned.

ANNEX

GUIDELINES CONCERNING THE RECOVERY OF DECEASED PERSONS AND DEATH AFTER RECOVERY

1 Introduction

1.1 Resolution MSC.528(106) on *Recommended cooperation to ensure the safety of life at sea, the rescue of persons in distress at sea and the safe disembarkation of survivors* provides guidance for handling survivors, but does not address deceased persons, either at the time of recovery or after recovery.

1.2 Volume III, section 21, of the IAMSAR Manual is dedicated to handling of deceased persons but does not include guidance on the handing over of bodies between various organizations.

1.3 The Committees recognized that individuals handling deceased persons should respect the deceased's dignity. The rights of survivors under international law, including as applicable, international human rights law and international refugee law, must be respected.

1.4 Further recognizing that some persons encountered at sea are fleeing dangerous circumstances in their home countries.

2 Recommended actions

2.1 Rescue Coordination Centre (RCC)

2.1.1 Upon hearing the presence of a deceased person among the rescued at sea, the Rescue Coordination Centre (RCC) coordinating the rescue operation should render further assistance to the rescuing ship, which may include, as applicable.

.1 initiating coordination between the ship, flag State, the company and relevant shore authorities for swift handover of the deceased persons;

.2 facilitating telemedical advice to the rescuing ship on the situation of survivors; and deceased persons in order to ascertain the status and

.3 assisting in arranging equipment/facilities that the rescuing ship may need, e.g. air transportation of body bags.

2.1.2 An RCC reserves its right not to recommend recovery of the deceased depending on the circumstances and information provided.

2.2 *Masters of ships/management company*

2.2.1 Upon finding a deceased person among those rescued at sea, the master of the rescuing ship should immediately inform the RCC coordinating the rescue operation, the flag State, the ISM company and, as appropriate, the near-shore authority where the rescued and deceased are planned to be disembarked, of the situation.

2.2.2 The master should ensure that the crew of the ship handle the deceased in a manner that respects the deceased person's dignity and to the extent feasible, the will of the accompanying family member, if any.

2.2.3 The master should assess the situation if there is a risk of contagious disease and seek the advice of medical experts via the coordinating RCC.

2.2.4 If a specific facility or equipment is needed (e.g. body bag), the master of the rescuing ship should seek advice or assistance if the ship is not furnished with the appropriate equipment from the coordinating RCC, including assistance with respect to the possible air transfer of such equipment to the rescuing ship.

2.2.5 Any recovery of deceased persons at sea must take into consideration the circumstances at the scene and the risk to the rescuing ship and crew.

2.3 Flag States, coastal States and port States

2.3.1 Flag States, coastal States and port States involved should ensure effective cooperation to facilitate that the ship receives necessary support from the ISM company, the RCC involved and the appropriate authorities of the intended port of disembarkation of the deceased and rescued persons.

2.4 Port authorities

2.4.1 Port authorities of the port where the surviving are disembarked should also endeavour to take any accompanying deceased person in the port.

2.4.2 Deceased persons should be treated with dignity and respect, with due consideration of the cultural and religious practices of the deceased.

2.4.3 Port authorities should ensure that due attention is paid to the wishes of any accompanying family member.

2.4.4 Where appropriate and necessary, port authorities should liaise with the local law enforcement agency.

2.4.5 Where appropriate, port authorities should liaise with humanitarian aid agencies (e.g. International Red Cross).

***

ANNEX 11*

DRAFT AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY FOR SHIPS CARRYING INDUSTRIAL PERSONNEL (IP CODE)

PART IV

ADDITIONAL REGULATIONS FOR SHIPS CERTIFIED IN ACCORDANCE WITH SOLAS CHAPTER I

Regulation 2 – *Subdivision and stability*

Paragraph 2.1 is amended to read as follows:

"2.1 In order to meet the functional requirement set out in paragraph II/3.2, the following applies:

.1 Where the ship is certified to carry more than 240 persons on board, it shall meet the requirements of SOLAS regulation II-1/5 as though the ship is a passenger ship and the industrial personnel are counted as passengers. However, SOLAS regulation II-1/5.5 is not applicable.

.2 Subdivision and damage stability shall be in accordance with SOLAS chapter II-1, where the ship is considered a passenger ship and industrial personnel are counted as passengers, with the value *R* as follows:

.1 where the ship is certified to carry more than 240 persons, the value *R* is assigned as *R*;

.2 where the ship is certified to carry not more than 60 persons, the value *R* is assigned as 0.8*R; or*

.3 for more than 60 persons, but not more than 240 persons, the value *R* shall be determined by linear interpolation between the values given in sub-paragraphs .1 and .2 above.

$$R = 1 - \frac{5{,}000}{L_s + 2.5N + 15{,}225}$$

Where:

$N = N_1 + 2N_2$

N_1 = number of persons for whom lifeboats are provided

N_2 = number of persons (including officers and crew) the ship is permitted to carry in excess of N_1

* Modifications in grey shading.

.3 Where the conditions of service are such that compliance with paragraph 2.1.2 above on the basis of $N=N_1+2N_2$ is impracticable and where the Administration considers that a suitably reduced degree of hazard exists, a lesser value of N may be taken but in no case less than $N=N_1+N_2$.

.4 For ships to which paragraph 2.1.2.1 above applies, the requirements of SOLAS regulations II-1/8 and 8-1 and of SOLAS chapter II-1 parts B-2, B-3 and B-4 shall be applied as though the ship is a passenger ship and the industrial personnel are passengers. However, SOLAS regulations II-1/14 and 18 are not applicable.

.5 For ships to which paragraphs 2.1.2.2 and 2.1.2.3 above apply, except as provided in paragraph 2.1.6 below, the provisions of SOLAS chapter II-1, parts B-2, B-3 and B-4 shall apply as though the ship is a cargo ship and the industrial personnel are crew. However, the requirements of SOLAS regulations II-1/8 and 8-1 need not be applied and SOLAS regulations II-1/14 and 18 are not applicable.

.6 All ships certified in accordance with this Code shall comply with SOLAS regulations II-1/9, 13, 19, 20 and 21 as though the ship is a passenger ship.

.7 The mass of each industrial personnel shall be assumed to be 90 kg instead of 75 kg in the ship stability calculation, for ships:

.1 for which the building contract is placed on or after [*date of entry into force*]; or

.2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after [*date of entry into force + 6 months*]; or

.3 the delivery of which is on or after *[date of entry into force + 4 years*]."

***

ANNEX 12*

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

Contents

1 Under "Annex A", "Part A", the following new item is added after existing "Annex 5", which is renumbered as "Annex 5A":

"Annex 5B Procedures for certification of a firm engaged in close-up survey of hull structures using a Remote Inspection Technique (RIT)"

2 Under "Annex A", "Part B", the following new item is added after existing "Annex 5", which is renumbered as "Annex 5A":

"Annex 5B Procedures for certification of a firm engaged in close-up survey of hull structures using a Remote Inspection Technique (RIT)"

3 Under "Annex B", "Part A", the following new item is added after existing "Annex 8", which is renumbered as "Annex 8A":

"Annex 8B Procedures for certification of a firm engaged in close-up survey of hull structures using a Remote Inspection Technique (RIT)"

4 Under "Annex B", "Part B", the following new item is added after existing "Annex 7", which is renumbered as "Annex 7A":

"Annex 7B Procedures for certification of a firm engaged in close-up survey of hull structures using a Remote Inspection Technique (RIT)"

ANNEX A

CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING THE SURVEYS OF BULK CARRIERS

Part A

CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF BULK CARRIERS HAVING SINGLE-SIDE SKIN CONSTRUCTION

1 General

1.2 *Definitions*

5 Paragraph 1.2.21 is replaced by the following:
"1.2.21 *Administration* means the Administration or organization recognized by the Administration, unless defined otherwise in this Code."

* Modifications in grey shading.

6 The following new paragraph 1.2.22 is added after paragraph 1.2.21, together with the associated footnote:

"1.2.22 *Remote Inspection Technique (RIT)* is a means of survey of any parts of the structure without the need for direct physical access of the surveyor. [*]

[*] Refer to the guidelines to be developed by the Organization.

1.5 *Thickness measurements and close-up surveys*

7 Section 1.5 is replaced by the following:

"**1.5 *Thickness measurements and close-up surveys***

1.5.1 In any kind of survey, i.e. renewal, intermediate, annual or other surveys having the scope of the foregoing ones, for structures in areas where close-up surveys are required, thickness measurements, when required by annex 2, shall be carried out simultaneously with close-up surveys.

1.5.2 For periodic surveys after the third renewal survey, the use of RIT is subject to the agreement of the Administration, who may impose additional requirements or limitations; in this case the Administration means the Government of the State whose flag the ship is entitled to fly and not the recognized organization."

8 The following new section 1.6 is added after section 1.5, together with the associated footnote:

"**1.6 *Remote inspection techniques (RIT)***

1.6.1 RIT surveys shall be carried out in accordance with the requirements given herein and the guidelines on the use of RIT. [*]

1.6.2 When using a RIT for close-up survey, if not carried out by the Administration itself, it shall be conducted by a firm approved as a service supplier by the Administration according to the principles stated in annex 5B of part A of annex A and shall be carried out under the presence of the surveyor and their continuous direction and control of the RIT process.

1.6.3 If the RIT reveals damage or deterioration that the surveyor judges requires attention or further investigation, the surveyor shall require a traditional survey to be undertaken without the use of a RIT.

1.6.4 Random confirmatory surveys/close-up surveys shall be carried out at locations selected by the surveyor for the purpose to verify the results of the RIT.

[*] Refer to the guidelines to be developed by the Organization.

2 Renewal survey

2.5 *Extent of overall and close-up surveys*

9 The following new paragraph 2.5.5 is added after paragraph 2.5.4:

"2.5.5 When using a RIT to assist the close-up survey the following applies:

.1 for areas where means of access are required to enable the surveyor to examine the structure, the surveyor may use RIT to assist the close-up survey when access is not provided by the permanent means of access;

.2 the RIT to assist the close-up survey shall not be used after the third renewal survey, unless agreed with the Administration (see 1.5.2);

.3 the RIT shall not be used in ballast tanks or any spaces where a hard protective coating is required and it is found to be in less than GOOD condition as defined in 1.2.11 or ballast tanks where a soft or semi-hard coating has been applied, or where a hard protective coating has not been applied from the time of construction;

.4 the RIT shall not be used to assist the surveyor during the close-up survey in areas which have a recorded significant history of structural failures (corrosion, cracks and buckling). See Guidelines in annex 9, paragraph 3.1.1; and

.5 in addition to the requirements of 1.5.1, when the RIT reveals suspected areas that require thickness measurements, these shall be carried out simultaneously with the close-up survey, details of how this will be facilitated are to be included in the survey programme."

5 Preparations for survey

5.1 *Survey programme*

10 The following paragraph 5.1.6 is added after paragraph 5.1.5:

"5.1.6 If it is proposed to use a RIT, the proposal shall be submitted before the survey as part of the survey programme detailed above, discussed and approved by the Administration. The following shall be taken into account when preparing the survey programme:

.1 the RIT limitations, if any, shall be detailed in the survey programme;

.2 details of the areas not fully accessed by the permanent means of access and proposed to be covered with the RIT shall be detailed in the survey programme;

.3 the RIT to assist the close-up survey shall not be used after renewal survey No.3, unless agreed with the Administration (see 1.5.2);

.4 the RIT shall not be used in ballast tanks or any spaces where a hard protective coating is required and it is found to be in less than GOOD condition as defined in 1.2.11 or ballast tanks where a soft or semi-hard coating has been applied, or where a hard protective coating has not been applied from the time of construction;

.5 the RIT shall not be used to assist the surveyor during the close-up in areas which have a recorded significant history of structural failures defects, damage or deterioration (corrosion, cracks and buckling). See guidelines in annex 9, paragraph 3.1.1; and

.6 in addition to the requirements of 1.5.1, when the RIT reveals suspected areas that require thickness measurements, these shall be carried out simultaneously with the close-up survey, details of how this will be facilitated are to be included in the survey programme."

5.2 ***Conditions for survey***

11 Paragraph 5.2.6 is replaced by the following:

"5.2.6 In preparation for survey (including for surveys making use of RIT) and thickness measurements and to allow for a thorough examination, all spaces shall be cleaned including removal from surfaces of all loose accumulated corrosion scale. Spaces shall be sufficiently clean and free from water, scale, dirt, oil residues, etc., to reveal corrosion, deformation, fractures, damages or other structural deterioration as well as the condition of the coating. However, those areas of structure whose renewal has already been decided by the owner need only be cleaned and descaled to the extent necessary to determine the limits of the areas to be renewed."

5.4 ***Equipment for survey***

12 The following new paragraph is added after paragraph 5.4.5, together with the associated footnote:

"5.4.6 The surveyor shall be satisfied with the method of data presentation including pictorial representation, and a good two-way communication between the surveyor and RIT operator shall be provided. Prior to every survey on board, the RIT shall be validated in accordance with the guidelines on the use of RIT,* taking into account the existing conditions (light, humidity, dust, etc.) to confirm that the expected results can be achieved.

* Refer to the guidelines to be developed by the Organization."

5.7 ***Survey planning meeting***

13 Paragraph 5.7.2 is replaced by the following:

"5.7.2 Prior to commencement of any part of the renewal or intermediate survey, a survey planning meeting shall be held between the attending surveyor(s), the owner's representative in attendance, the thickness measurement firm representative, the RIT firm representative, where involved, and the master of the ship or an appropriately qualified representative appointed by the master or company; for the purpose to ascertain that all the arrangements envisaged in the survey programme are in place, so as to ensure the safe and efficient conduct of the survey work to be carried out (see also 7.1.2))."

14 Paragraph 5.7.3 is replaced by the following:

"5.7.3 The following is an indicative list of items that shall be addressed in the meeting:

.1 schedule of the ship (i.e. voyage, docking and undocking manoeuvres, periods alongside, cargo and ballast operations, etc.);

.2 provisions and arrangements for thickness measurements (i.e. access, cleaning/descaling, illumination, ventilation, personal safety);

.3 extent of the thickness measurements;

.4 acceptance criteria (refer to the list of minimum thicknesses);

.5 extent of close-up survey and thickness measurement considering the coating condition and suspect areas/areas of substantial corrosion;

.6 execution of thickness measurements;

.7 taking representative readings in general and where uneven corrosion/pitting is found;

.8 mapping of areas of substantial corrosion; ~~and~~

.9 communication between attending surveyor(s), the thickness measurement firm operator(s) and owner representative(s) concerning findings~~.~~;

.10 the RIT limitations, if any;

.11 details of the areas not fully accessed by the permanent means of access and proposed to be covered with the RIT; and

.12 confirmatory surveys for RIT."

7 Procedures for thickness measurements

15 Section 7.2 is replaced as follows:

"**7.2** ***Certification of thickness measurement firm***

The thickness measurements shall be carried out by a qualified firm certified by the Administration according to the principles stated in annex 5A."

ANNEX 4B

SURVEY PLANNING QUESTIONNAIRE

2 Information on access provision for close-up surveys and thickness measurement

16 Section 2 is replaced as follows:

"**2 Information on access provision for close-up surveys and thickness measurement**

The owner shall indicate, in the table below, the means of access to the structures subject to close-up survey and thickness measurement. A close-up survey is an examination where the details of structural components are within the close visual inspection range of the attending surveyor, i.e. normally within reach of hand.

When any part of the close-up survey is being undertaken by means of a RIT, the means of how thickness measurements are going to be taken shall also be indicated in the table below; the thickness measurements shall be carried out simultaneously with the close-up survey, either when required by the ESP Code or by the surveyor as a result of the close-up survey. Note: A RIT to assist the close-up survey may only be used when access is not provided by the permanent means of access. (See 1.5 and 5.1.6)

Hold/Tank No.	Structure	Permanent means of access	Temporary staging	Rafts	Ladders	RIT	Direct access	Other means (please specify)
F.P.	Fore peak							
…								

History of bulk cargoes of a corrosive nature (e.g. high sulphur content)

"

ANNEX 5

PROCEDURES FOR APPROVAL AND CERTIFICATION OF A FIRM ENGAGED IN THICKNESS MEASUREMENT OF HULL STRUCTURES

17 After existing annex 5, which is renumbered as "Annex 5A", the following annex 5B is inserted together with the associated footnote:

"ANNEX 5B

PROCEDURES FOR CERTIFICATION OF A FIRM ENGAGED IN CLOSE-UP SURVEY OF HULL STRUCTURES USING A REMOTE INSPECTION TECHNIQUE (RIT)

1 Application

1.1 This procedure applies to RIT firms providing visual livestreaming of video and images to support close-up surveys.

2 General requirements

Supervisor and operators

2.1 The firm shall designate a supervisor who shall be certified according to the recognized national requirements or an equivalent industrial standard and shall have a minimum of two years' experience in the inspection of ship's structure.

2.2 Operators of the RIT shall be certified according to the recognized national requirements or an equivalent industrial standard and have had at least one year's experience as an assistant carrying out inspections of ship's structure (including participation in a minimum of five different assignments). The operators of those RIT which require, according to the international and national legislations, to be licensed for their use shall hold valid documentation issued by the appropriate Bodies (e.g. Unmanned Aerial Vehicles (UAV) Pilots shall be qualified and licensed in accordance with applicable national requirements).

Training and qualification of operators

2.3 The firm is responsible for the training and qualification of its operators. UAV Pilots shall be qualified and licensed in accordance with applicable national requirements or an equivalent industrial standard acceptable to the Administration.

2.4 The firm shall maintain a documented training plan for RIT equipment operators. The plan shall include requirements for training in the renewals survey requirements for the structure as specified in this Code, the recognition of structural deterioration (including corrosion, buckling, cracking and deteriorated coatings) and the reporting requirements of this Code.

2.5 Knowledge of the following shall be documented:

.1 guidelines on the use of RIT; *

.2 marine and/or offshore nomenclatures;

.3 the structural configuration of relevant ships types, including internal structure;

.4 the remote inspection equipment and its operation; and

.5 survey plans for examination of hull spaces of various configurations, including appropriate flight plans if using a UAV.

* Refer to the guidelines to be developed by the Organization.

RIT equipment

2.6 As a minimum, the following equipment shall be available:

.1 remotely operated platform with data capture devices capable of operation within an enclosed space;

.2 means of powering the platforms with sufficient capacity to complete the required inspections, including spare batteries if applicable;

.3 data-collection devices which may include cameras capable of capturing in high definition both video images and still images;

.4 illumination equipment;

.5 high-definition display screen with live high-definition feed from inspection cameras;

.6 means of communication, as applicable; and

.7 data recording devices;

2.7 The RIT equipment shall be approved in accordance with the guidelines on the use of RIT.*

* Refer to the guidelines to be developed by the Organization.

Firm procedures and guidelines on the use of RIT

2.8 The firm shall have documented operational procedures and guidelines on the use of RIT for how to plan, carry out and report inspections; how to handle/operate the equipment; collection and storage of data. These shall be in accordance with the guidelines on the use of RIT.* These shall include:

.1 requirements for preparation of inspection plans;

.2 operation of the remotely operated platforms;

.3 operation of lighting;

.4 calibration of the data capture devices;

.5 operation of the data capture devices;

.6 two-way communication between the operator, platform, surveyor, other personnel, such as support staff and ships officers and crew;

.7 guidance of the operator to provide complete coverage of the structure to be inspected;

.8 guidance for the maintenance of the remotely operated platforms, data capture and storage devices and display screens, as applicable;

.9 requirements for the collection and validation of data;

.10 if data is to be stored, then requirements for location attribution, and, time and date attribution, as available, validation and storage of data;

.11 requirements for the reporting of inspections, including the recording of damages and defects found during inspection and repair work; and

.12 if capable of undertaking cleaning/surface preparation, then procedures for undertaking this work.

* Refer to the guidelines to be developed by the Organization

Documents and records

2.9 The firm shall maintain the following:

.1 records of training;

.2 operator statutory and regulatory certificates and licences;

.3 equipment register for RIT equipment, including delivery device (e.g. UAVs, robots), data capture devices, data analysis devices and any associated equipment necessary to perform inspections;

.4 equipment maintenance manuals and records / logbook;

.5 records of calibration; and

.6 RIT equipment operation logbook;

3 Procedures for certification

Submission of documents

3.1 The following documents shall be submitted to the Administration for approval, together with a list of the documents submitted:

.1 outline of the firm, e.g. organization and management structure;

.2 experience of the firm on RIT of hull structures of ships;

.3 technicians' careers, i.e. experience of technicians as RIT operators, technical knowledge and experience of hull structure, etc.;

.4 equipment used, including capturing devices (i.e. drones, cameras, etc.), streaming devices (i.e. screens) and other supporting equipment (i.e. illumination), and their maintenance/calibration procedures;

.5 operational procedures and instructions on how to carry out the servicing of the equipment and/or system. These are to either contain or make reference to the manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate, and to relevant international requirements;

.6 training programmes for RIT Operators; and

.7 report format in accordance with recommendations of guidelines on the use of RIT.*

* Refer to the guidelines to be developed by the Organization.

*Auditing of the firm**

3.2 Upon reviewing the documents submitted with satisfactory results, the firm shall be audited in order to ascertain that the firm is duly organized and managed in accordance with the documents submitted, and eventually is capable of conducting close-up surveys of the hull structure of ships using RIT.

3.3 Certification is conditional upon a demonstration (on board or in a test environment) of a close-up survey using the RIT, as well as satisfactory reporting.

* Refer to the guidelines to be developed by the Organization.

4 Certification

4.1 Upon satisfactory results of both the audit of the firm referred to in 3.2 and the demonstration tests referred to in 3.3, the Administration shall issue a certificate of approval stating that the firm's operation system has been found to be satisfactory, and the results of services performed in accordance with that system may be accepted and utilized by the Administration in making decisions affecting certification. The certificate shall clearly state the type and scope of services, type of equipment and/or names of manufacturers of equipment where this is a limiting restraint and any limitations or restrictions imposed, and include a statement that the RIT shall support the close-up survey for the areas which may not be not fully accessed by use of the permanent means of access.

4.2 Renewal/endorsement of the certificate shall be made at intervals not exceeding three years by verification that original conditions are maintained.

5 Report of any alteration to the certified operation system of the RIT firm

In cases where any alteration to the certified RIT firm is made, such an alteration shall be immediately reported to the Administration. Re-audit shall be made where deemed necessary by the Administration.

6 Withdrawal of the certification

The certification may be withdrawn in the following cases:

.1 where the RIT were improperly carried out or the results were improperly reported;

.2 where the Administration found any deficiencies in the operation systems of the RIT firm; and

.3 where the firm failed to report any alteration referred to in 5 to the Administration as required.

ANNEX 6

SURVEY REPORTING PRINCIPLES

1 General

18 The following paragraphs 1.4 and 1.5 are added after paragraph 1.3:

"1.4 When RIT have been used then:

.1 the RIT report shall include all videos and images with a chapter detailing the areas covered and damages found with locations, type, details and dimensions;

.2 the report shall include the details of RIT firm, approval certificate, equipment used and operators.

1.5 The report shall have evidence of being reviewed and approved by the attending surveyor(s)."

3 Result of the survey

19 Sub-paragraph 3.2.2 is replaced by the following:

".2 identification of compartments where no structural damages/defects are found. The report may be supplemented by sketches/photographs/videos; and"

Part B

CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF BULK CARRIERS HAVING DOUBLE-SIDE SKIN CONSTRUCTION

1 General

1.2 *Definitions*

20 Paragraph 1.2.21 is replaced by the following:

"1.2.21 *Administration* means the Administration or organization recognized by the Administration, unless defined otherwise in this Code."

21 The following new paragraph 1.2.22 is added after paragraph 1.2.21, together with the associated footnote:

"1.2.22 *Remote Inspection Technique (RIT)* is a means of survey of any parts of the structure without the need for direct physical access of the surveyor.*

* Refer to the guidelines to be developed by the Organization.

1.5 *Thickness measurements and close-up surveys*

22 Section 1.5 is replaced by the following:

"**1.5 *Thickness measurements and close-up surveys***

1.5.1 In any kind of survey, i.e. renewal, intermediate, annual or other surveys having the scope of the foregoing ones, for structures in areas where close-up surveys are required, thickness measurements, when required by annex 2, shall be carried out simultaneously with close-up surveys.

1.5.2 For periodic surveys after the third renewal survey, the use of RIT is subject to the agreement of the Administration, which may impose additional requirements or limitations; in this case the Administration means the Government of the State whose flag the ship is entitled to fly and not the recognized organization."

23 The following new section 1.6 is added after section 1.5, together with the associated footnote:

"**1.6 *Remote inspection techniques (RIT)***

1.6.1 RIT surveys shall be carried out in accordance with the requirements given herein and the guidelines on the use of RIT.*

1.6.2 When using a RIT for close-up survey, if not carried out by the Administration itself, it shall be conducted by a firm approved as a service supplier by the Administration according to the principles stated in annex 5B of part B of annex A and shall be carried out under the presence of the surveyor and their continuous direction and control of the RIT process.

1.6.3 If the RIT reveals damage or deterioration that the surveyor judges requires attention or further investigation, the surveyor shall require a traditional survey to be undertaken without the use of a RIT.

1.6.4 Random confirmatory surveys/close-up surveys shall be carried out at locations selected by the surveyor for the purpose to verify the results of the RIT.

* Refer to the guidelines to be developed by the Organization.

2 Renewal survey

2.5 *Extent of overall and close-up surveys*

24 The following new paragraph 2.5.5 is added after paragraph 2.5.4:

"2.5.5 When using a RIT to assist the close-up survey the following applies:

.1 for areas where means of access are required to enable the surveyor to examine the structure, the surveyor may use RIT to assist the close-up survey when access is not provided by the permanent means of access;

.2 the RIT to assist the close-up survey shall not be used after the third renewal survey, unless agreed with the Administration (see 1.5.2);

.3 the RIT shall not be used in ballast tanks or any spaces where a hard protective coating is required and it is found to be in less than GOOD condition as defined in 1.2.11 or ballast tanks where a soft or semi-hard coating has been applied, or where a hard protective coating has not been applied from the time of construction;

.4 the RIT shall not be used to assist the surveyor during the close-up survey in areas which have a recorded significant history of structural failures (corrosion, cracks and buckling). See guidelines in annex 9, paragraph 3.1.1; and

.5 in addition to the requirements of 1.5.1, when the RIT reveals suspected areas that require thickness measurements, these shall be carried out simultaneously with the close-up survey, details of how this will be facilitated shall be included in the survey programme."

5 Preparations for survey

5.1. *Survey programme*

25 The following paragraph 5.1.6 is added after paragraph 5.1.5:

"5.1.6 If it is proposed to use a RIT, the proposal shall be submitted before the survey as part of the survey programme detailed above, discussed and approved by the Administration. The following shall be taken into account when preparing the survey programme:

.1 the RIT limitations, if any, shall be detailed in the survey programme;

.2 details of the areas not fully accessed by the permanent means of access and proposed to be covered with the RIT shall be detailed in the survey programme;

.3 the RIT to assist the close-up survey shall not be used after renewal survey No.3, unless agreed with the Administration (see 1.5.2);

.4 the RIT shall not be used in ballast tanks or any spaces where a hard protective coating is required and it is found to be in less than GOOD condition as defined in 1.2.11 or ballast tanks where a soft or semi-hard coating has been applied, or where a hard protective coating has not been applied from the time of construction;

.5 the RIT shall not be used to assist the surveyor during the close-up in areas which have a recorded significant history of structural failures defects, damage or deterioration (corrosion, cracks and buckling). See guidelines in annex 9, paragraph 3.1.1; and

.6 in addition to the requirements of 1.5.1, when the RIT reveals suspected areas that require thickness measurements, these shall be carried out simultaneously with the close-up survey, details of how this will be facilitated shall be included in the survey programme."

5.2 ***Conditions for survey***

26 Paragraph 5.2.6 is replaced by the following:

"5.2.6 In preparation for survey (including for surveys making use of RIT) and thickness measurements and to allow for a thorough examination, all spaces shall be cleaned including removal from surfaces of all loose accumulated corrosion scale. Spaces shall be sufficiently clean and free from water, scale, dirt, oil residues, etc., to reveal corrosion, deformation, fractures, damages or other structural deterioration as well as the condition of the coating. However, those areas of structure whose renewal has already been decided by the owner need only be cleaned and descaled to the extent necessary to determine the limits of the areas to be renewed."

5.4 ***Equipment for survey***

27 The following new paragraph is added after paragraph 5.4.5, together with the associated footnote:

"5.4.6 The surveyor shall be satisfied with the method of data presentation including pictorial representation, and a good two-way communication between the surveyor and RIT operator shall be provided. Prior to every survey on board, the RIT shall be validated in accordance with the guidelines on the use of RIT,* taking into account the existing conditions (light, humidity, dust, etc.) to confirm that the expected results can be achieved.

* Refer to the guidelines to be developed by the Organization."

5.7 ***Survey planning meeting***

28 Paragraph 5.7.2 is replaced by the following:

"5.7.2 Prior to commencement of any part of the renewal or intermediate survey, a survey planning meeting shall be held between the attending surveyor(s), the owner's representative in attendance, the thickness measurement firm representative, the RIT firm representative, where involved, and the master of the ship or an appropriately qualified representative appointed by the master or company; for the purpose to ascertain that all the arrangements envisaged in the survey programme are in place, so as to ensure the safe and efficient conduct of the survey work to be carried out (see also 7.1.2)."

29 Paragraph 5.7.3 is replaced by the following:

"5.7.3 The following is an indicative list of items that shall be addressed in the meeting:

.1 schedule of the ship (i.e. the voyage, docking and undocking manoeuvres, periods alongside, cargo and ballast operations, etc.);

.2 provisions and arrangements for thickness measurements (i.e. access, cleaning/descaling, illumination, ventilation, personal safety);

.3 extent of the thickness measurements;

.4 acceptance criteria (refer to the list of minimum thicknesses);

.5 extent of close-up survey and thickness measurement considering the coating condition and suspect areas/areas of substantial corrosion;

.6 execution of thickness measurements;

.7 taking representative readings in general and where uneven corrosion/pitting is found;

.8 mapping of areas of substantial corrosion; ~~and~~

.9 communication between attending surveyor(s), the thickness measurement firm operator(s) and owner representative(s) concerning findings~~.~~;

.10 the RIT limitations, if any;

.11 details of the areas not fully accessed by the permanent means of access and proposed to be covered with the RIT; and

.12 confirmatory surveys for RIT."

7 Procedures for thickness measurements

30 Section 7.2 is replaced as follows:

"**7.2** ***Certification of thickness measurement firm***
The thickness measurements shall be carried out by a qualified firm certified by the Administration according to the principles stated in annex 5A."

ANNEX 4B

SURVEY PLANNING QUESTIONNAIRE

2 Information on access provision for close-up surveys and thickness measurement

31 Section 2 is replaced as follows:

"**2 Information on access provision for close-up surveys and thickness measurement**

The owner shall indicate, in the table below, the means of access to the structures subject to close-up survey and thickness measurement. A close-up survey is an examination where the details of structural components are within the close visual inspection range of the attending surveyor, i.e. normally within reach of hand.

When any part of the close-up survey is being undertaken by means of a RIT, the means of how thickness measurements are going to be taken shall also be indicated in the table below; the thickness measurements shall be carried out simultaneously with the close-up survey, either when required by the ESP Code or by the surveyor as a result of the close-up survey. Note: A RIT to assist the close-up survey may only be used when access is not provided by the permanent means of access. (See 1.5 and 5.1.6).

Hold/Tank No.	Structure	Permanent means of access	Temporary staging	Rafts	Ladders	RIT	Direct access	Other Means (please specify)
F.P.	Fore peak							
…								

History of bulk cargoes of a corrosive nature (e.g. high sulphur content)

"

ANNEX 5

PROCEDURES FOR APPROVAL AND CERTIFICATION OF A FIRM ENGAGED IN THICKNESS MEASUREMENT OF HULL STRUCTURES

32 After the existing Annex 5, which is renumbered as "Annex 5A", the following annex 5B is inserted:

[At the approved stage the text to appear here would be identical to the text of annex 5B of Part A of Annex A. The full text will be inserted for circulation prior to adoption.]

ANNEX 6

SURVEY REPORTING PRINCIPLES

1 General

33 The following paragraphs 1.4 and 1.5 are added after paragraph 1.3:

"1.4 When RIT have been used then:

.1 the RIT report shall include all videos and images with a chapter detailing the areas covered and damages found with locations, type, details and dimensions;

.2 the report shall include the details of: RIT firm, approval certificate, equipment used and operators.

1.5 The report shall have evidence of being reviewed and approved by the attending surveyor(s)."

3 Result of the survey

34 Sub-paragraph 3.2.2 is replaced by the following:

".2 identification of compartments where no structural damages/defects are found. The report may be supplemented by sketches/photographs/videos; and"

ANNEX B

CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF OIL TANKERS

Part A

CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF DOUBLE-HULL OIL TANKERS

1 General

1.2 *Definitions*

35 Paragraph 1.2.20 is replaced by the following:

"1.2.20 *Administration* means the Administration or organization recognized by the Administration, unless defined otherwise in this Code."

36 The following new paragraph 1.2.21 is added after paragraph 1.2.20, together with the associated footnote:

"1.2.21 *Remote Inspection Technique (RIT)* is a means of survey of any parts of the structure without the need for direct physical access of the surveyor.*

* Refer to the guidelines to be developed by the Organization.

1.5 *Thickness measurements and close-up surveys*

37 Section 1.5 is replaced by the following:

"**1.5 *Thickness measurements and close-up surveys***

1.5.1 In any kind of survey, i.e. renewal, intermediate, annual or other surveys having the scope of the foregoing ones, for structures in areas where close-up surveys are required, thickness measurements, when required by annex 2, shall be carried out simultaneously with close-up surveys.

1.5.2 For periodic surveys after the third renewal survey, the use of RIT is subject to the agreement of the Administration, which may impose additional requirements or limitations; in this case Administration means the Government of the State whose flag the ship is entitled to fly and not the recognized organization."

38 The following new section 1.6 is added after section 1.5, together with the associated footnote:

"**1.6 *Remote inspection techniques (RIT)***

1.6.1 RIT surveys shall be carried out in accordance with the requirements given herein and the guidelines on the use of RIT.*

1.6.2 When using a RIT for close-up survey, if not carried out by the Administration itself, it shall be conducted by a firm approved as a service supplier by the Administration according to the principles stated in annex 8B of part A of annex B and shall be carried out under the presence of the surveyor and their continuous direction and control of the RIT process.

1.6.3 If the RIT reveals damage or deterioration that the surveyor judges requires attention or further investigation, the surveyor shall require a traditional survey to be undertaken without the use of a RIT.

1.6.4 Random confirmatory surveys/close-up surveys shall be carried out at locations selected by the surveyor for the purpose to verify the results of the RIT.

* Refer to the guidelines to be developed by the Organization

2 Renewal survey

2.4 *Extent of overall and close-up surveys*

39 The following new paragraph 2.4.5 is added after paragraph 2.4.4:

"2.4.5 When using a RIT to assist the close-up survey the following applies:

.1 for areas where means of access are required to enable the surveyor to examine the structure, the surveyor may use RIT to assist the close-up survey when access is not provided by the permanent means of access;

.2 the RIT to assist the close-up survey shall not be used after the third renewal survey, unless agreed with the Administration (see 1.5.2);

.3 the RIT shall not be used in ballast tanks or any spaces where a hard protective coating is required and it is found to be in less than GOOD condition as defined in 1.2.11 or ballast tanks where a soft or semi-hard coating has been applied, or where a hard protective coating has not been applied from the time of construction;

.4 the RIT shall not be used to assist the surveyor during the close-up survey in areas which have a recorded significant history of structural failures (corrosion, cracks and buckling). See Guidelines in annex 12, paragraph 3.1.1; and

.5 in addition to the requirements of 1.5.1, when the RIT reveals suspected areas that require thickness measurements, these shall be carried out simultaneously with the close-up survey, details of how this will be facilitated shall be included in the survey programme."

2.6 *Extent of tank pressure testing*

40 Sub-paragraph 2.6.1.3 is replaced by the following:

".3 the tank testing is carried out within the renewal survey window and not more than three months prior to the date on which the overall or close-up survey is completed;"

5 Preparations for survey

5.1 *Survey programme*

41 The following paragraph 5.1.6 is added after paragraph 5.1.5:

"5.1.6 If it is proposed to use a RIT, the proposal shall be submitted before the survey as part of the survey programme detailed above, discussed and approved by the Administration. The following shall be taken into account when preparing the survey programme:

.1 the RIT limitations, if any, shall be detailed in the survey programme;

.2 details of the areas not fully accessed by the permanent means of access and proposed to be covered with the RIT shall be detailed in the survey programme;

.3 the RIT to assist the close-up survey shall not be used after renewal survey No.3, unless agreed with the Administration (see 1.5.2);

.4 the RIT shall not be used in ballast tanks or any spaces where a hard protective coating is required and it is found to be in less than GOOD condition as defined in 1.2.11 or ballast tanks where a soft or semi-hard coating has been applied, or where a hard protective coating has not been applied from the time of construction;

.5 the RIT shall not be used to assist the surveyor during the close-up in areas which have a recorded significant history of structural failures defects, damage or deterioration (corrosion, cracks and buckling). See Guidelines in annex 12, paragraph 3.1.1; and

.6 in addition to the requirements of 1.5.1, when the RIT reveals suspected areas that require thickness measurements, these shall be carried out simultaneously with the close-up survey, details of how this will be facilitated are to be included in the survey programme."

5.2 *Conditions for survey*

42 Paragraph 5.2.3 is replaced by the following:

"5.2.3 In preparation for survey (including for surveys making use of RIT) and thickness measurements and to allow for a thorough examination, all spaces shall be cleaned including removal from surfaces of all loose accumulated corrosion scale. Spaces shall be sufficiently clean and free from water, scale, dirt, oil residues, etc., to reveal corrosion, deformation, fractures, damages or other structural deterioration as well as the condition of the coating. However, those areas of structure whose renewal has already been decided by the owner need only be cleaned and descaled to the extent necessary to determine the limits of the areas to be renewed."

5.4 ***Equipment for survey***

43 The following new paragraph is added after paragraph 5.4.5, together with the associated footnote:

"5.4.6 The surveyor shall be satisfied with the method of data presentation including pictorial representation, and a good two-way communication between the surveyor and RIT operator shall be provided. Prior to every survey on board, the RIT shall be validated in accordance with the guidelines on the use of RIT,* taking into account the existing conditions (light, humidity, dust, etc.) to confirm that the expected results can be achieved.

* Refer to the guidelines to be developed by the Organization."

5.7 ***Survey planning meeting***

44 Paragraph 5.7.2 is replaced by the following:

"5.7.2 Prior to commencement of any part of the renewal or intermediate survey, a survey planning meeting shall be held between the attending surveyor(s), the owner's representative in attendance, the thickness measurement firm representative, the RIT firm representative, where involved, and the master of the ship or an appropriately qualified representative appointed by the master or company; for the purpose to ascertain that all the arrangements envisaged in the survey programme are in place, so as to ensure the safe and efficient conduct of the survey work to be carried out (see also 7.1.2)."

45 Paragraph 5.7.3 is replaced by the following:

"5.7.3 The following is an indicative list of items that shall be addressed in the meeting:

.1 schedule of the ship (i.e. voyage, docking and undocking manoeuvres, periods alongside, cargo and ballast operations, etc.);

.2 provisions and arrangements for thickness measurements (i.e. access, cleaning/descaling, illumination, ventilation, personal safety);

.3 extent of the thickness measurements;

.4 acceptance criteria (refer to the list of minimum thicknesses);

.5 extent of close-up survey and thickness measurement considering the coating condition and suspect areas/areas of substantial corrosion;

.6 execution of thickness measurements;

.7 taking representative readings in general and where uneven corrosion/pitting is found;

.8 mapping of areas of substantial corrosion; ~~and~~

.9 communication between attending surveyor(s), the thickness measurement firm operator(s) and owner representative(s) concerning findings~~.~~;

.10 the RIT limitations, if any;

.11 details of the areas not fully accessed by the permanent means of access and proposed to be covered with the RIT; and

.12 confirmatory surveys for RIT."

7 Procedures for thickness measurements

46 Section 7.2 is replaced as follows:

"**7.2** ***Certification of thickness measurement firm***

The thickness measurements shall be carried out by a qualified firm certified by the Administration according to the principles stated in annex 8A."

ANNEX 7B

SURVEY PLANNING QUESTIONNAIRE

2 Information on access provision for close-up surveys and thickness measurement

47 Section 2 is replaced by the following:

"The owner shall indicate, in the table below, the means of access to the structures subject to close-up survey and thickness measurement. A close-up survey is an examination where the details of structural components are within the close visual inspection range of the attending surveyor, i.e. normally within reach of hand.

When any part of the close-up survey is being undertaken by means of a RIT, the means of how thickness measurements are going to be taken shall also be indicated in the table below; the thickness measurements shall be carried out simultaneously with the close-up survey, either when required by the ESP Code or by the surveyor as a result of the close-up survey. Note: A RIT to assist the close-up survey may only be used when access is not provided by the permanent means of access. (See 1.5 and 5.1.6).

Hold/Tank No.	Structure	Permanent means of access	Temporary Staging	Rafts	Ladders	RIT	Direct access	Other Means (please specify)
F.P.	Fore peak							
…								

History of cargo with H_2S content or heated cargo for the last three years together with indication as to whether cargo was heated and, where available, Material Safety Data Sheets (MSDS)*

* Refer to resolution MSC.150(77) on *Recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuel oils*."

ANNEX 8

PROCEDURES FOR APPROVAL AND CERTIFICATION OF A FIRM ENGAGED IN THICKNESS MEASUREMENT OF HULL STRUCTURES

48 After the existing annex 8, which is renumbered as "Annex 8A", the following annex 8B is inserted:

[At the approved stage the text to appear here would be identical to the text of annex 5B of Part A of Annex A. The full text will be inserted for circulation prior to adoption.]

ANNEX 9

SURVEY REPORTING PRINCIPLES

1 General

49 The following paragraphs 1.4 and 1.5 are added after paragraph 1.3:

"1.4 When RIT have been used then:

.1 the RIT report shall include all videos and images with a chapter detailing the areas covered and damages found with locations, type, details and dimensions;

.2 the report shall include the details of: RIT firm, approval certificate, equipment used and operators.

1.5 The report shall have evidence of being reviewed and approved by the attending surveyor(s)."

3 Result of the survey

50 Sub-paragraph 3.2.2 is replaced by the following:

".2 identification of compartments where no structural damages/defects are found. The report may be supplemented by sketches/photographs/videos; and"

Part B

CODE ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF OIL TANKERS OTHER THAN DOUBLE-HULL OIL TANKERS

1 General

1.2 *Definitions*

51 Paragraph 1.2.17 is replaced by the following:

"1.2.17 *Administration* means the Administration or organization recognized by the Administration, unless defined otherwise in this Code."

52 The following new paragraph 1.2.18 is added after paragraph 1.2.17, together with the associated footnote:

"1.2.18 *Remote Inspection Technique (RIT)* is a means of survey of any parts of the structure without the need for direct physical access of the surveyor.[*]

[*] Refer to The guidelines to be developed by the Organization.

1.5 *Thickness measurements and close-up surveys*

53 Section 1.5 is replaced by the following:

"**1.5 *Thickness measurements and close-up surveys***

1.5.1 In any kind of survey, i.e. renewal, intermediate, annual or other surveys having the scope of the foregoing ones, for structures in areas where close-up surveys are required, thickness measurements, when required by annex 2, shall be carried out simultaneously with close-up surveys.

1.5.2 For periodic surveys after the third renewal survey, the use of RIT is subject to the agreement of the Administration, which may impose additional requirements or limitations; in this case the Administration means the Government of the State whose flag the ship is entitled to fly and not the recognized organization."

54 The following new section 1.6 is added after section 1.5:

"**1.6 *Remote inspection techniques (RIT)***

1.6.1 RIT surveys shall be carried out in accordance with the requirements given herein and the guidelines on the use of RIT.[*]

1.6.2 When using a RIT for close-up survey, if not carried out by the Administration itself, it shall be conducted by a firm approved as a service supplier by the Administration according to the principles stated in annex 7B of part B of annex B and shall be carried out under the presence of the surveyor and their continuous direction and control of the RIT process.

1.6.3 If the RIT reveals damage or deterioration that the surveyor judges requires attention or further investigation, the surveyor shall require a traditional survey to be undertaken without the use of a RIT.

1.6.4 Random confirmatory surveys or close-up surveys shall be carried out at locations selected by the surveyor for the purpose to verify the results of the RIT.

* Refer to the guidelines to be developed by the Organization

2 Renewal survey

2.4 *Extent of overall and close-up surveys*

55 The following new paragraph 2.4.5 is added after paragraph 2.4.4:

"2.4.5 When using a RIT to assist the close-up survey the following applies:

.1 for areas where means of access are required to enable the surveyor to examine the structure, the surveyor may use RIT to assist the close-up survey when access is not provided by the permanent means of access;

.2 the RIT to assist the close-up survey shall not be used after the third renewal survey, unless agreed with the Administration (see 1.5.2);

.3 the RIT shall not be used in ballast tanks or any spaces where a hard protective coating is required and it is found to be in less than GOOD condition as defined in 1.2.11 or ballast tanks where a soft or semi-hard coating has been applied, or where a hard protective coating has not been applied from the time of construction;

.4 the RIT shall not be used to assist the surveyor during the close-up survey in areas which have a recorded significant history of structural failures (corrosion, cracks and buckling). See Guidelines in annex 11, paragraph 3.1.1; and

.5 in addition to the requirements of 1.5.1, when the RIT reveals suspected areas that require thickness measurements, these shall be carried out simultaneously with the close-up survey, details of how this will be facilitated are to be included in the survey programme."

2.6 *Extent of tank pressure testing*

56 Sub-paragraph 2.6.1.3 is replaced by the following:

".3 the tank testing is carried out within the renewal survey window and not more than three months prior to the date on which the overall or close-up survey is completed;"

5 Preparations for survey

5.1. *Survey programme*

57 The following paragraph 5.1.6 is added after paragraph 5.1.5:

"5.1.6 If it is proposed to use a RIT, the proposal shall be submitted before the survey as part of the survey programme detailed above, discussed and approved by the Administration. The following shall be taken into account when preparing the survey programme:

.1 the RIT limitations, if any, shall be detailed in the survey programme;

.2 details of the areas not fully accessed by the permanent means of access and proposed to be covered with the RIT shall be detailed in the survey programme;

.3 the RIT to assist the close-up survey shall not be used after renewal survey No.3, unless agreed with the Administration (see 1.5.2);

.4 the RIT shall not be used in ballast tanks or any spaces where a hard protective coating is required and it is found to be in less than GOOD condition as defined in 1.2.11 or ballast tanks where a soft or semi-hard coating has been applied, or where a hard protective coating has not been applied from the time of construction;

.5 the RIT shall not be used to assist the surveyor during the close-up in areas which have a recorded significant history of structural failures defects, damage or deterioration (corrosion, cracks and buckling). See Guidelines in annex 12, paragraph 3.1.1; and

.6 in addition to the requirements of 1.5.1, when the RIT reveals suspected areas that require thickness measurements, these shall be carried out simultaneously with the close-up survey, details of how this will be facilitated are to be included in the survey programme."

5.2 *Conditions for survey*

58 Paragraph 5.2.3 is replaced by the following:

"5.2.3 In preparation for survey (including for surveys making use of RIT) and thickness measurements and to allow for a thorough examination, all spaces shall be cleaned including removal from surfaces of all loose accumulated corrosion scale. Spaces shall be sufficiently clean and free from water, scale, dirt, oil residues, etc., to reveal corrosion, deformation, fractures, damages or other structural deterioration as well as the condition of the coating. However, those areas of structure whose renewal has already been decided by the owner need only be cleaned and descaled to the extent necessary to determine the limits of the areas to be renewed."

5.4 ***Equipment for survey***

59 The following new paragraph is added after paragraph 5.4.5, together with the associated footnote:

"5.4.6 The surveyor shall be satisfied with the method of data presentation including pictorial representation, and a good two-way communication between the surveyor and RIT operator shall be provided. Prior to every survey on board, the RIT shall be validated in accordance with the guidelines on the use of RIT,* taking into account the existing conditions (light, humidity, dust, etc.) to confirm that the expected results can be achieved.

* Refer to the guidelines to be developed by the Organization."

5.7 ***Survey planning meeting***

60 Paragraph 5.7.2 is replaced by the following:

"5.7.2 Prior to commencement of any part of the renewal or intermediate survey, a survey planning meeting shall be held between the attending surveyor(s), the owner's representative in attendance, the thickness measurement firm representative, the RIT firm representative, where involved, and the master of the ship or an appropriately qualified representative appointed by the master or company; for the purpose to ascertain that all the arrangements envisaged in the survey programme are in place, so as to ensure the safe and efficient conduct of the survey work to be carried out (see also 7.1.2)."

61 Paragraph 5.7.3 is replaced by the following:

"5.7.3 The following is an indicative list of items that shall be addressed in the meeting:

.1 schedule of the ship (i.e. voyage, docking and undocking manoeuvres, periods alongside, cargo and ballast operations, etc.);

.2 provisions and arrangements for thickness measurements (i.e. access, cleaning/descaling, illumination, ventilation, personal safety);

.3 extent of the thickness measurements;

.4 acceptance criteria (refer to the list of minimum thicknesses);

.5 extent of close-up survey and thickness measurement considering the coating condition and suspect areas/areas of substantial corrosion;

.6 execution of thickness measurements;

.7 taking representative readings in general and where uneven corrosion/pitting is found;

.8 mapping of areas of substantial corrosion; ~~and~~

.9 communication between attending surveyor(s), the thickness measurement firm operator(s) and owner representative(s) concerning findings.;

.10 the RIT limitations, if any;

.11 details of the areas not fully accessed by the permanent means of access and proposed to be covered with the RIT; and

.12 confirmatory surveys for RIT."

7 Procedures for thickness measurements

62 Section 7.2 is replaced as follows:

"**7.2** ***Certification of thickness measurement firm***

The thickness measurements shall be carried out by a qualified firm certified by the Administration according to the principles stated in annex 7A."

ANNEX 6B

SURVEY PLANNING QUESTIONNAIRE

2 Information on access provision for close-up surveys and thickness measurement

63 Section 2 is replaced by the following:

"The owner shall indicate, in the table below, the means of access to the structures subject to close-up survey and thickness measurement. A close-up survey is an examination where the details of structural components are within the close visual inspection range of the attending surveyor, i.e. normally within reach of hand.

When any part of the close-up survey is being undertaken by means of a RIT, the means of how thickness measurements are going to be taken shall also be indicated in the table below; the thickness measurements shall be carried out simultaneously with the close-up survey, either when required by the ESP Code or by the surveyor as a result of the close-up survey. Note: A RIT to assist the close-up survey may only be used when access is not provided by the permanent means of access. (See 1.5 and 5.1.6).

Hold/Tank No.	Structure	Permanent means of access	Temporary Staging	Rafts	Ladders	RIT	Direct access	Other Means (please specify)
F.P.	Fore peak							
…								

History of cargo with H_2S content or heated cargo for the last three years together with indication as to whether cargo was heated and, where available, Material Safety Data Sheets (MSDS)*

* Refer to resolution MSC.150(77) on *Recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuel oils*."

ANNEX 7

PROCEDURES FOR APPROVAL AND CERTIFICATION OF A FIRM ENGAGED IN THICKNESS MEASUREMENT OF HULL STRUCTURES

64 The existing title of annex 7 is replaced by the following:

"ANNEX 7A

PROCEDURES FOR APPROVAL AND CERTIFICATION OF A FIRM ENGAGED IN THICKNESS MEASUREMENT OF HULL STRUCTURES"

65 After the existing annex 7, which is renumbered as "Annex 7B", the following annex 7B is inserted:

[At the approval stage the text to appear here would be identical to the text of annex 5B of Part A of Annex A. The full text will be inserted for circulation prior to adoption.]

ANNEX 8

SURVEY REPORTING PRINCIPLES

1 General

66 The following paragraphs 1.4 and 1.5 are added after paragraph 1.3:

"1.4 When RIT have been used then:

.1 the RIT report shall include all videos and images with a chapter detailing the areas covered and damages found with locations, type, details and dimensions;

.2 the report shall include the details of: RIT firm, approval certificate, equipment used and operators.

1.5 The report shall have evidence of being reviewed and approved by the attending surveyor(s)."

3 Result of the survey

67 Sub-paragraph 3.2.2 is replaced by the following:

".2 identification of compartments where no structural damages/defects are found. The report may be supplemented by sketches/photographs/videos; and"

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ANNEX 13*

DRAFT AMENDMENTS TO THE PROTOCOL OF 1988 RELATING TO THE INTERNATIONAL CONVENTION ON LOAD LINES, 1966 (1988 LOAD LINES PROTOCOL)

Annex B
ANNEXES TO THE CONVENTION AS MODIFIED BY THE PROTOCOL OF 1988 RELATING THERETO

Annex I
Regulations for determining load lines

Chapter II
Conditions of assignment of freeboard

Regulation 25 Protection of the crew

1 The following application provision is introduced before paragraph (1):

"This regulation, as amended by resolution [MSC… (…)], shall apply to ships the keels of which are laid, or which are at a similar stage of construction on or after [1 January 2028]."

2 Paragraph (2) is replaced by the following:

"Guard rails or bulwarks shall be fitted around all exposed decks and all exposed sea access holes (such as edges of moonpools) accessible to the crew during navigation. The height of the bulwarks or guard rails shall be at least 1 m from the deck. If this height interferes with the normal operation of the ship ~~provided that where this height would interfere with the normal operation of the ship~~, a lesser height may be approved, if the Administration is satisfied that adequate protection is provided."

3 The chapeau of paragraph (3) is replaced by the following:

"Guard rails referred to in paragraph (2) ~~fitted on superstructure and freeboard decks~~ shall have at least three courses. The opening below the lowest course of the guard rails shall not exceed 230 mm. The other courses shall be not more than 380 mm apart. In the case of ships with rounded gunwales the guard rail supports shall be placed on the flat of the deck. ~~In other locations, guardrails with at least two courses shall be fitted~~. Guard rails shall comply with the following provisions:"

4 Sub-paragraph (3)(d) is replaced by the following:

"(d) where necessary for the normal operation of the ship, chains fitted between two fixed stanchions and/or bulwarks are acceptable in lieu of guard rails, which shall be tightened as much as reasonably practicable and shall be detachable."

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