

Subject

Introduction of the outcomes of MSC89

ClassNK

Technical Information

No. TEC-0858
Date 1 August 2011

To whom it may concern

A summary of the decisions taken at the eighty-ninth session of the Maritime Safety Committee (MSC 89) held from 11 May 2011 to 20 May 2011 is given hereunder for your information.

1. Adopted mandatory requirements

The main mandatory requirements adopted at this session are as follows.

(1) SOLAS III/1.5 and LSA Code IV/4.4.7.6: lifeboat release and retrieval system

The following SOLAS, LSA Code and relevant guidelines were adopted or approved with the aim of preventing an accident resulting in injury or death due to the unexpected falling of a lifeboat.

- (i) Amendments to the LSA Code IV/4.4.7.6 (reference is made to the Attachment 1)
Amendments to the LSA Code were adopted, in which safety performance requirements for the release mechanism of lifeboat release and retrieval systems are provided.
- (ii) Amendments to SOLAS III/1.5 (reference is made to the Attachment 2)
Amendments to SOLAS were adopted, in which it is provided that lifeboat on-load release mechanisms not complying with a part of the amended LSA Code as indicated item 1 above (paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the Code) are to be replaced not later than the first scheduled dry-docking after 1 July 2014, but no later than 1 July 2019.
- (iii) Guidelines for evaluation and replacement of lifeboat release and retrieval systems (reference is made to the Attachment 3)
Guidelines for the evaluation and replacement of lifeboat release and retrieval systems were approved, in which it is provided that manufacturers will be required to carry out a self assessment of their types of existing lifeboat release and retrieval systems for subsequent evaluation by Administrations or RO not later than 1 July 2013, and then the Administration is to report the results to the IMO.
- (iv) MSC circular on Early application of new SOLAS regulation III/1.5 (reference is made to the Attachment 4) and recommendation on testing of life-saving appliances (reference is made to the Attachment 5)
This MSC circular was approved, in which it is provided that Administrations are encouraged to take necessary action to evaluate existing lifeboat release and retrieval systems at the earliest available opportunity, pending the entry into force of the new SOLAS regulation III/1.5. Amendments to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)) were adopted.

(To be continued)

NOTES:

- ClassNK Technical Information is provided only for the purpose of supplying current information to its readers.
- ClassNK, its officers, employees and agents or sub-contractors do not warrant the accuracy of the information contained herein and are not liable for any loss, damage or expense sustained whatsoever by any person caused by use of or reliance on this information.
- Back numbers are available on ClassNK Internet Homepage (URL: www.classnk.or.jp).

If a lifeboat release and retrieval system is found to be noncompliant through an evaluation carried out in accordance with the Guidelines described in item (iii) above, the system is to be replaced or modified. Further, the Guidelines provide that until the system is found to be compliant, Fall Preventer Devices (FPDs) are to be employed.

Application date:

- ships constructed on or after 1 July 2014 (the amended LSA Code applies) ^{note*1)}
- not later than the next scheduled dry-docking after 1 July 2014, but not later than 1 July 2019 (for existing ships)

Note*1: Although the application date of the amended LSA Code is not provided in either SOLAS or the LSA Code, it is clearly provided in the MSC circular mentioned in item (iv) above.

- (2) IMSBC Code: Amendments regarding the requirements for the carriage of cargoes not listed in the Code, etc. (reference is made to the Attachment 6)

Amendments to the IMSBC Code were adopted to add new requirements for the carriage of cargoes not listed in the existing IMSBC Code and to modify the existing requirements for some cargoes already listed in the Code.

The following new cargoes are added as Group A type cargoes (cargoes which may liquefy), Group B type cargoes (cargoes which possess a chemical hazard), or Group C type cargoes (cargoes which are neither Group A nor Group B type cargoes).

- Distiller's dried grains with solubles (Group C)
- Ferrous sulphate heptahydrate (Group C)
- Fly ash, wet (Group A)
- Granular ferrous sulphate (Group C)
- Magnesium sulphate fertilizers (Group C)
- Wood products - General (Group B)

Application date:

- on or after 1 January 2013 (for new ships and existing ships)

2. Approved mandatory requirements

Mandatory requirements that are scheduled to be adopted at the next session MSC90 (May 2012) or Assembly (A27 in November 2011 or A28 at the end of 2013) were approved at MSC89 as follows.

- (1) Amendments to SOLAS III/20 regarding the testing of free-fall lifeboat release systems which provide that the periodical operational testing of free-fall lifeboat release systems may be performed by a simulated launching
- (2) Amendments to A.744(18) with the aim of harmonizing requirements with the IACS UR Z10 series that provide enhanced survey requirements for tankers and bulk carriers, and to change the title itself to "ESP Codes" (adoption at A27)

(To be continued)

- (3) Amendments to SOLAS XI-1/2 corresponding to the change in the title of A.744(18) to "ESP Codes"
 - (4) Amendments to SOLAS II-1/8-1 requiring passenger ships having a length of 120 m or more or having three or more main vertical zones to have onboard a stability computer or shore-based support with the aim of ensuring a safe return to port
 - (5) Addition of SOLAS VI/5-2 regarding the prohibition of the blending of bulk liquid cargoes during the sea voyage
 - (6) Amendments to the 1966 LL Convention shifting the Winter Seasonal Zone off the southern tip of Africa further southward (due to be adopted at MSC 90 and A 28) and corresponding amendments to the 1988 LL Protocol
 - (7) Amendments to SOLAS II-2/1 regarding the application to existing ships of special requirements for the carriage of dangerous goods (refer to the item 4. below)
3. Clarification of the application of PSPC to the void spaces of ore carriers
IACS submitted a document seeking clarification on whether wide void wing spaces found on ore carriers are categorized as double-side skin spaces arranged in bulk carriers that shall be coated in accordance with the Performance Standard for Protective Coatings (PSPC).
As a result of discussion, the majority's opinion was that the relevant requirements of SOLAS were clear and, accordingly, it was confirmed that the PSPC should apply to double-side skin spaces arranged in ore carriers regardless of their purpose.
4. Amendments to SOLAS II-2 regarding the carriage of dangerous goods
In the provision of SOLAS II-2/1.2.4 as amended by IMO Res. MSC.269(85) adopted in December 2008, ships carrying dangerous goods constructed on or after 1 September 1984 are required to comply with SOLAS II-2/19.3 (requirements for ships constructed on or after 1 July 2002 in accordance with SOLAS 2000 amendments) which provides special requirements for the carriage of dangerous goods not later than the date of the first renewal survey on or after the 1 January 2011.
According to the above resolution, ships constructed before 1 July 2002 (existing ships under SOLAS 2000 amendments) are required to comply with SOLAS II-2/19.3; however, this is considered to be an unintentional error.

Therefore, ClassNK through IACS raised this matter at MSC89, and as a result, draft amendments to SOLAS which clarify that SOLAS II-2/19.3 need not apply to existing ships under SOLAS 2000 amendments, were developed and approved for adoption at the next session, MSC90.

In addition, as a tentative measure until the amendments enter into force, MSC circular which clarify the above application was developed.

(To be continued)

5. Piracy issues

Regarding piracy issues, incidents of piracy and armed robbery against ships were reported from flag states of ships that had suffered such incidents, and it was confirmed that international cooperation is necessary for such a serious and urgent matter. In particular, piracy in the Gulf of Aden off Somalia in recent years has advanced to the offshore waters of India and extended the scope of activities by making use of a captured ship as a mother ship. In addition it has become a problem that their acts of violence have intensified (e.g. holding crews for ransom or murder). To suppress such expanding and worsening piracy, the IMO has been considering various measures against piracy. The main results of discussions held at MSC89 are as follows.

- (1) As there is a case in which privately contracted armed security personnel (PCASP) are onboard with the increasing of incidents of piracy, "Interim Guidance to Shipowners, Ship Operators and Shipmasters on the use of PCASP on board types of ships in the High Risk Area" and "Interim Recommendations for flag States" which provides items to be considered by flag States when accepting the use of PCASP were approved.
- (2) As a part of measures strengthening penal regulation against piracy, "Guidelines to assist in the investigation of crimes of piracy and armed robbery against ships" for collection of evidence after a hijack was approved.

6. Measurement of radiation dosage rates for ships in Japanese ports

To prevent compromising the reputation of Japanese shipping, a presentation entitled "Current Situation of Ports and Shipping in Japan after the Fukushima Dai-ichi Nuclear Power Plant Accident" was given by the Japanese government during the lunch break on the first day of the meeting. In this presentation, ClassNK's activities on issuing certificates for measuring dose rates for ships in Japanese ports were introduced. (For more information on the activities, please refer to ClassNK Technical Information No. TEC-0852.)

URL: http://www.classnk.or.jp/hp/tech_info/tech_img/T852e.pdf

7. Approval of Guidelines, etc.

The following guidelines were developed during MSC89. (the IACS UIs referred to below can be accessed via the website of ClassNK (<http://www.classnk.or.jp/>) or IACS (<http://www.iacs.org.uk/>)).

- (1) Cargo oil tanks of crude oil tankers for which the building contract is placed on or after 1 January 2013 are required to be coated in accordance with the performance standard for protective coatings (COT PSPC) or protected by an alternative means of corrosion protection or utilization of corrosion resistance material (already adopted at MSC87). In this connection, maintenance and repair guidelines for such cargo oil tank coatings (non mandatory) were approved.
- (2) Unified interpretations on the application of SOLAS, MARPOL and Load Lines requirements to conversions of single-hull tankers to double-hull tankers or bulk carriers were almost finalized. However, regarding requirements for navigation bridge visibility, it is necessary to be considered at NAV57 (June 2011) and approved as an MSC-MEPC Circular by MEPC62. The unified interpretations were approved at this meeting with such conditions.

(To be continued)

- (3) Considering that the 2009 MODU Code would be adopted, the provision in paragraph 2.6, Chapter 2, Part B of the 2008 IS Code was amended to refer to the stability requirements provided in the MODU Code as follows. Part B of the IS Code is non-mandatory.
 - Chapter 3 of the 2009 MODU Code (for ships constructed on or after 1 January 2012)
 - Chapter 3 of the 1989 MODU Code (for ships constructed before 1 January 2012, but on or after 1 May 1991)
 - Chapter 3 of resolution A.414 (XI) (for ships constructed before 1 May 1991)
- (4) MSC Circular on "Lists of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted" was approved. This Circular has been updated based on the current MSC/Circ.1146, and modifications to address cargoes that are not listed in the IMSBC Code are included in the Circular.
- (5) Unified interpretation of SOLAS regulation III/15.1 concerning stowage of marine evacuation systems, which was developed based on IACS UI SC143, was approved.
- (6) Unified interpretation of SOLAS regulation III/15.1 concerning steering control systems, which was developed based on IACS UI SC94 (rev. 1), was approved.
- (7) Revised Recommendations for entering enclosed spaces aboard ships and Guidelines on tank entry for tankers using nitrogen as an inerting medium were approved. The Recommendations for entering enclosed spaces onboard ships are scheduled to be adopted at A27.

A summary of the outcomes of MSC89 is also available on the IMO web-site (<http://www.imo.org>).

For any questions about the above, please contact:

NIPPON KAIJI KYOKAI (ClassNK)
External Affairs Division, Administration Center, Head Office
Address: 4-7 Kioi-cho, Chiyoda-ku, Tokyo 102-8567, Japan
Tel.: +81-3-5226-2038
Fax: +81-3-5226-2024
E-mail: xad@classnk.or.jp

Attachment:

1. Amendments to the LSA Code IV/4.4.7.6 (Resolution MSC.320(89))
2. Amendments to SOLAS III/1.5 (Resolution MSC.317(89))
3. Guidelines for evaluation and replacement of lifeboat release and retrieval systems (MSC.1/Circ.1392)
4. MSC circular on Early application of new SOLAS regulation III/1.5 (MSC.1/Circ.1393)
5. Recommendation on testing of life-saving appliances (Resolution MSC.321(89))
6. Amendments to IMSBC Code (Resolution MSC.318(89))

ANNEX 4

**RESOLUTION MSC.320(89)
(adopted on 20 May 2011)**

**ADOPTION OF AMENDMENTS TO THE
INTERNATIONAL LIFE-SAVING APPLIANCE (LSA) 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.48(66), by which it adopted the International Life-Saving Appliance Code (hereinafter referred to as "the LSA Code"), which has become mandatory under chapter III of the International Convention for the Safety of Life at Sea, 1974 (hereinafter referred to as "the Convention"),

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

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

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the LSA Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 July 2012, unless prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;
3. INVITES Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2013 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL LIFE-SAVING
APPLIANCES (LSA) CODE**

**CHAPTER IV
SURVIVAL CRAFT**

1 In paragraph 4.4.7.6, the following new subparagraphs .2 to .6 are inserted after the existing subparagraph .1:

- "2 notwithstanding subparagraph .7.2 the mechanism shall only open when the release mechanism is operated with the boat fully waterborne or, if the boat is not waterborne, by multiple, deliberate and sustained action which shall include the removal or bypassing of safety interlocks designed to prevent premature or inadvertent release;
 - .2.1 the mechanism shall not be able to open due to wear, misalignment and unintended force within the hook assembly or operating mechanism, control rods or cables as may be connected to, or form part of the hook assembly and with trim of up to 10° and a list of up to 20° either way; and
 - .2.2 the functional criteria of 4.4.7.6.2 and 4.4.7.6.2.1 apply for the range of loads, representing 0% to 100% of the safe working load of the lifeboat release and retrieval system for which it may be approved;
- .3 unless a release mechanism is of the load over centre type, which is held fully closed by the weight of the lifeboat, the hook assembly shall be designed so that the moveable hook component is kept fully closed by the hook locking parts capable of holding its safe working load under any operational conditions until the hook locking part is deliberately caused to open by means of the operating mechanism. For designs utilizing the tail of the movable hook component and cam either directly or indirectly securing the tail of the movable hook component, the hook assembly shall continue to be closed and hold its safe working load through rotation of the cam of up to 45 degrees in either direction, or 45 degrees in one direction if restricted by design, from its locked position;
- .4 to provide hook stability, the release mechanism shall be designed so that, when it is fully reset in the closed position, the weight of the lifeboat does not cause any force to be transmitted to the operating mechanism;
- .5 locking devices shall be designed so that they can not turn to open due to forces from the hook load; and
- .6 if a hydrostatic interlock is provided, it shall automatically reset upon lifting the boat from the water."

- 2 In paragraph 4.4.7.6, the existing subparagraph .2 is replaced by the following:
- "7 the mechanism shall have two release capabilities: normal (off-load) release capability and on-load release capability:
 - .7.1 normal (off-load) release capability shall release the lifeboat when it is waterborne or when there is no load on the hooks, and not require manual separation of the lifting ring or shackle from the jaw of the hook; and
 - .7.2 on-load release capability shall release the lifeboat with a load on the hooks. This release mechanism shall be provided with a hydrostatic interlock unless other means are provided to ensure that the boat is waterborne before the release mechanism can be activated. In case of failure or when the boat is not waterborne, there shall be a means to override the hydrostatic interlock or similar device to allow emergency release. This interlock override capability shall be adequately protected against accidental or premature use. Adequate protection shall include special mechanical protection not normally required for off-load release, in addition to a danger sign. The protection shall be deliberately destroyed by applying a suitable minimum force, for instance by breaking a protection glass or translucent cover. A label or thin wire seal is not considered sufficiently robust. To prevent a premature on-load release, on-load operation of the release mechanism shall require multiple, deliberate and sustained action or actions by the operator;"
- 3 In paragraph 4.4.7.6, the existing subparagraph .3 is renumbered as subparagraph .8 and the words "without excessive force" are replaced by the words ", and any indicators shall not indicate the release mechanism is reset".
- 4 In paragraph 4.4.7.6, the following new subparagraph .9 is inserted after the renumbered subparagraph 8:
- "9 all components of the hook unit, release handle unit, control cables or mechanical operating links and the fixed structural connections in a lifeboat shall be of material corrosion resistant in the marine environment without the need for coatings or galvanizing. Design and manufacturing tolerances shall be such that anticipated wear throughout the service life of the mechanism shall not adversely affect its proper functioning. Mechanical operating links such as control cables shall be waterproof and shall have no exposed or unprotected areas;"
- 5 In paragraph 4.4.7.6, the existing subparagraphs .4 to .8 are renumbered as subparagraphs .10 to .14, respectively.
- 6 In paragraph 4.4.7.6, in the renumbered subparagraph .10, the word "clearly" is replaced by the word "unambiguously".
- 7 In paragraph 4.4.7.6, in the renumbered subparagraph .14, the words "the load-bearing components of the release mechanism and" are added at the beginning and the words "of the release mechanism" are deleted.

8 In paragraph 4.4.7.6, the following new subparagraphs .15 and .16 are inserted after the renumbered subparagraph .14:

".15 a hydrostatic interlock shall be designed for a factor of safety of not less than 6 times maximum operating force based on the ultimate strength of the materials used;

.16 the operating cables shall be designed for a factor of safety of not less than 2.5 times maximum operating force based on the ultimate strength of the materials used; and".

9 In paragraph 4.4.7.6, the existing subparagraph .9 is renumbered as subparagraph .17 and in the renumbered subparagraph .17, the references to paragraphs "4.4.7.6.2.2 and 4.4.7.6.3" are replaced by the references to paragraphs "4.4.7.6.7, 4.4.7.6.8 and 4.4.7.6.15".

10 In paragraph 4.4.7.6, the referenced subparagraph .9 is replaced by .17.

ANNEX 1

**RESOLUTION MSC.317(89)
(adopted on 20 May 2011)**

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

THE MARITIME SAFETY COMMITTEE,

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

RECALLING FURTHER article VIII(b) of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as "the Convention"), concerning the amendment procedure applicable to the Annex to the Convention, other than to the provisions of chapter I thereof,

HAVING CONSIDERED, at its eighty-ninth session, amendments to the Convention, proposed and circulated in accordance with article VIII(b)(i) thereof,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, 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 2012, unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;
3. INVITES SOLAS Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2013 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER 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, AS AMENDED**

**CHAPTER III
LIFE-SAVING APPLIANCES AND ARRANGEMENTS**

Regulation 1 – Application

The following new paragraph 5 is added after the existing paragraph 4:

"5 Notwithstanding paragraph 4.2, for all ships, not later than the first scheduled dry-docking after 1 July 2014, but not later than 1 July 2019, lifeboat on-load release mechanisms not complying with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the Code shall be replaced with equipment that complies with the Code.*

* Refer to the Guidelines for evaluation and replacement of lifeboat release and retrieval systems (MSC.1/Circ.1392)."

4 ALBERT EMBANKMENT
LONDON SE1 7SR
Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

MSC.1/Circ.1392
27 May 2011

**GUIDELINES FOR EVALUATION AND REPLACEMENT OF
LIFEBOAT RELEASE AND RETRIEVAL SYSTEMS**

1 The Maritime Safety Committee, at its eighty-ninth session (11 to 20 May 2011), approved the Guidelines for evaluation and replacement of lifeboat release and retrieval systems, set out in the annex, as per SOLAS regulation III/1.5, following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-fifth session, and the *Ad Hoc* Working Group on Lifeboat Release Hooks (16 to 18 March 2011).

2 Member Governments are invited to use the annexed Guidelines when applying SOLAS regulation III/1.5, as adopted by resolution MSC.317(89), and to bring them to the attention of all parties concerned.

3 Member Governments, shipowners and manufacturers of lifeboat release and retrieval systems are also strongly urged, pending the entry into force of SOLAS regulation III/1.5, to use the annexed Guidelines to evaluate existing lifeboat release and retrieval systems at the earliest available opportunity.*

4 Member Governments are strongly urged to ensure that all ships fitted with on-load release systems for lifeboats, are equipped with fall preventer devices as per paragraph 6 of these Guidelines at the earliest available opportunity.

5 Member Governments are encouraged to consider the results of evaluations reported to the Organization by other Member Governments on types of existing lifeboat release and retrieval systems.

* Reference is made to MSC.1/Circ.1393 on Early application of new SOLAS regulation III/1.5.

ANNEX

GUIDELINES FOR EVALUATION AND REPLACEMENT OF LIFEBOAT RELEASE AND RETRIEVAL SYSTEMS

General

1 New SOLAS regulation III/1.5, which is expected to enter into force on 1 January 2013, requires that for all ships, on-load release mechanisms* not complying with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, as amended by resolution MSC.320(89) (hereinafter called "the LSA Code"), be replaced or modified not later than the next scheduled dry-docking after 1 July 2014, but not later than 1 July 2019.

2 Considering that paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code represent important safety improvements, manufacturers should carry out a self assessment of their types of existing lifeboat release and retrieval systems in accordance with these Guidelines at the earliest available opportunity.

3 An Administration, or a recognized organization acting on its behalf, should carry out a design review to check that the type of existing lifeboat release and retrieval systems comply with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and should witness the performance test to check that it is performed in accordance with appendix 1 of these Guidelines. This evaluation should be completed not later than 1 July 2013 and the report should be submitted in accordance with paragraph 14 below.

4 Administrations, or recognized organizations acting on their behalf, should, when applying SOLAS regulation III/1.5, ensure that an evaluation of the type of existing lifeboat release and retrieval system is undertaken, for compliance with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, in accordance with these Guidelines.

5 A flowchart of the lifeboat release and retrieval system evaluation process, is set out in appendix 2.

6 On each ship, fall preventer devices in accordance with the Guidelines for the fitting and use of fall preventer devices (FPDs) (MSC.1/Circ.1327) should be employed for each existing lifeboat release and retrieval system until the system is:

- .1 found compliant with the LSA Code; or
- .2 modified and found compliant with the LSA Code; or
- .3 found compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and paragraphs 16 and 17 (overhaul examination) of these Guidelines; or
- .4 modified and found compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and paragraphs 16 and 17 (overhaul examination) of these Guidelines; or
- .5 replaced by a new lifeboat release and retrieval system.

* For the purpose of these Guidelines, the expression "on-load release mechanism" has been replaced by "lifeboat release and retrieval system" (see paragraph 9.1).

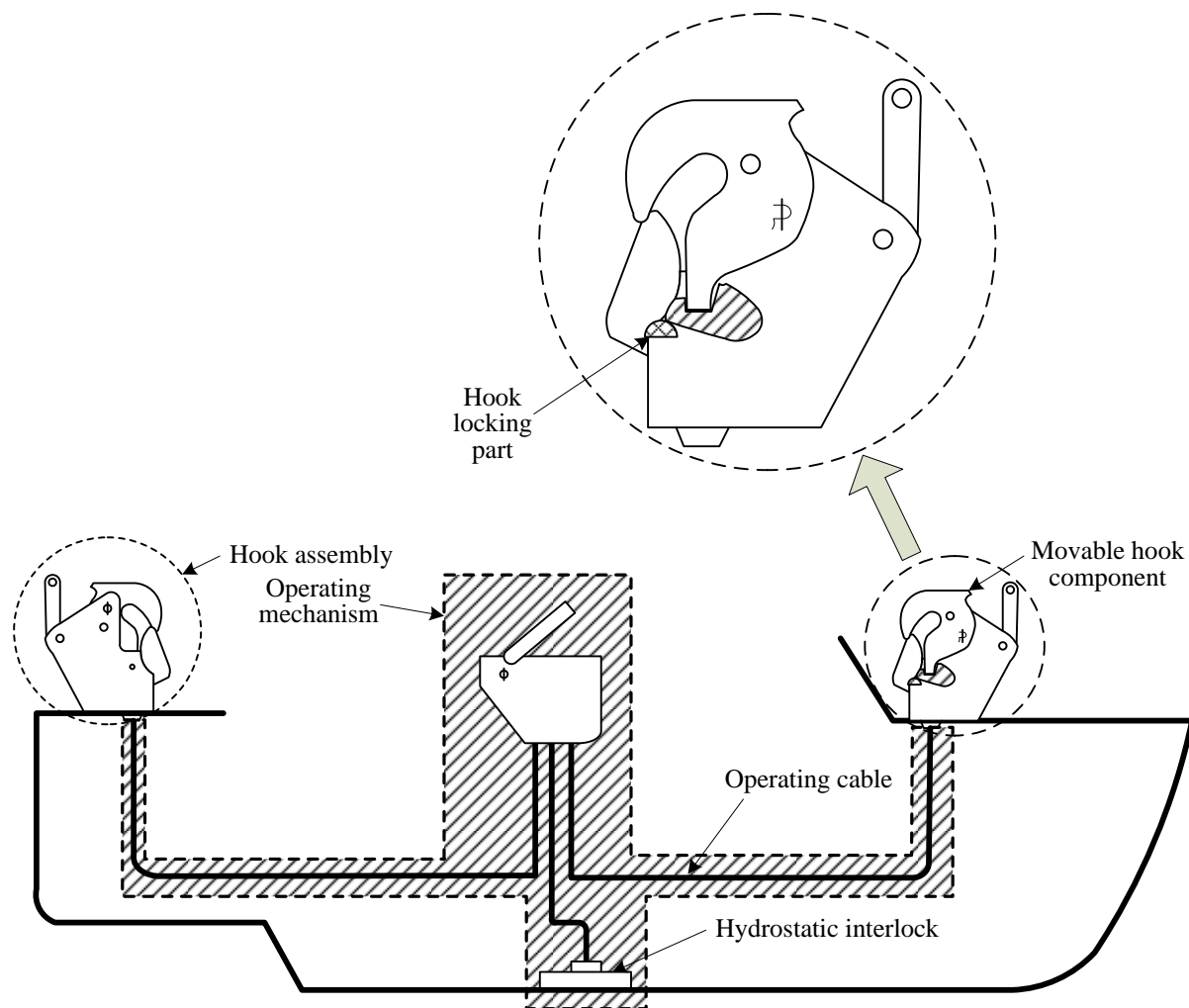
Modifications

7 A lifeboat release and retrieval system that has been determined to be non-compliant in accordance with these Guidelines may be modified to comply with the requirements of the revised paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and the requirements of the existing applicable Code, provided that the modified release and retrieval system is evaluated in accordance with these Guidelines.

8 A type of lifeboat release and retrieval system that, after modification, complies with the requirements of the revised paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and the requirements of the existing applicable Code should be identified as a system compliant after modification and reported as such. The report should include both the identification of the original type and the modified type.

Definitions

9 For the purpose of these Guidelines, the definitions given hereunder should apply, in accordance with the following figure.



Lifeboat release and retrieval system

9.1 *Lifeboat release and retrieval system* is the means by which the lifeboat is connected to, and released from, the lifeboat falls for lowering, launch and retrieval. It comprises the hook assembly and operating mechanism.

9.2 *Hook assembly* is the mechanism, attached to the lifeboat, which connects the lifeboat to the lifeboat falls.

9.3 *Movable hook component* is that part of the hook assembly in direct contact with the connection with the lifeboat falls which moves to enable release from the falls.

9.4 *Hook locking part* is the component(s) within a hook assembly which holds the movable hook component in the closed position until activated by the operating mechanism to release the hook. This activation may be performed through other components within the hook assembly.

9.5 *Operating mechanism* is the means by which the operator activates the opening, or release, of the movable hook component. It includes the operating handle, linkages/cables and hydrostatic interlock, if fitted.

9.6 *Type*, in relation to the design of a lifeboat release and retrieval system, means an identical lifeboat release and retrieval system of given safe working load, make and model (thus any change to the materials of construction, design arrangement or dimensions constitutes a change of type).

9.7 *On-load release* is the action of opening the lifeboat release and retrieval system whilst there is load on the hook assemblies.

9.8 *Evaluation* is a design review and a performance test of a type of lifeboat release and retrieval system.

9.9 *Manufacturer*, with respect to existing lifeboat release and retrieval systems, is:

- .1 the original equipment manufacturer; or
- .2 a manufacturer of lifeboat release and retrieval systems who has taken on the responsibility for a range or type of lifeboat release and retrieval system; or
- .3 any other person or entity which has taken responsibility for a range or type of lifeboat release and retrieval system when the original manufacturer no longer exists or supports the equipment.

9.10 *Modifications* are changes to the design of an approved lifeboat release and retrieval system which may affect compliance with the original approval requirements or the prescribed conditions for the use of the product.

9.11 *New lifeboat release and retrieval system* is a lifeboat release and retrieval system that has been approved in accordance with paragraph 4.4.7.6 of chapter IV of the LSA Code, as amended by resolution MSC.320(89).

9.12 *Existing lifeboat release and retrieval system* is a lifeboat release and retrieval system that has not been approved in accordance with paragraph 4.4.7.6 of chapter IV of the LSA Code, as amended by resolution MSC.320(89).

9.13 *Company* means company as defined in SOLAS regulation IX/1.2.

Design review

10 Documentation and information for each type of lifeboat release and retrieval system should be submitted to the Administration, or recognized organization acting on its behalf, in order that an assessment can be carried out to determine compliance with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code. The manufacturer should submit the approval certificate, along with all associated supporting design calculations, plans and testing documentation to the Administration or recognized organization acting on its behalf. The design information should include the specification and the installation instructions for the complete operating system as well as all safety instructions regarding the operating system and any interlocks provided. Any submission for testing of a lifeboat release and retrieval system that cannot be supported with the above-mentioned information should not be eligible for testing against the requirements of the LSA Code.

11 If the outcome of the design review is non-compliance with the applicable paragraphs of the LSA Code, the lifeboat release and retrieval system should be replaced or modified to be made compliant.

Performance test

12 After a successful completion of the design review, a performance test should be conducted by the manufacturer for each type of lifeboat release and retrieval systems for compliance with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, using the test specified in appendix 1 to these Guidelines. The performance test should be witnessed by the Administration or a recognized organization acting on its behalf.

13 Should any part of the lifeboat release and retrieval system fail at any stage during the test specified in paragraphs 1 to 4 of appendix 1, this type of lifeboat release and retrieval system should be deemed to be non-compliant and reported as such.

Reporting of the results of evaluation of existing lifeboat release and retrieval system

14 The Administration should report the results of each type of existing lifeboat release and retrieval system evaluation carried out in accordance with these Guidelines to the Organization, based on the reporting procedure, as set out in appendix 3.

15 Depending on the outcome of the evaluation, every lifeboat release and retrieval system should be categorized as being either compliant, compliant after modification or non-compliant. Thereafter:

- .1 systems categorized as being compliant, or compliant after modification, may remain in service; and
- .2 every system categorized as being non-compliant should be replaced with a new system or modified to be made compliant.

One-time follow-up overhaul examination

16 Not later than the first scheduled dry-docking after 1 July 2014, every lifeboat release and retrieval system of a type found to be compliant in respect of the existing lifeboat release and retrieval system evaluation should be subject to an overhaul examination according to annex 1 to the Measures to prevent accidents with lifeboats (MSC.1/Circ.1206/Rev.1) by the manufacturer or by one of their representatives. The examination also includes verification that

the system examined is of the same type as the system that passed the evaluation and is suitable for the ship.

17 The scope of the overhaul examination should also include a detailed assessment of the condition of the components of the lifeboat release and retrieval system to observe the extent of wear, corrosion, erosion and other types of material degradation that may have occurred. Upon satisfactory completion of the overhaul examination, the manufacturer or one of their representatives should issue a factual statement to confirm this, for retention on board.

Procedure for replacement of non-compliant lifeboat release and retrieval systems

18 The procedure outlined below should be followed in all cases where a lifeboat is to be fitted with replacement lifeboat release and retrieval systems with on-load release capability. It is noted that every lifeboat, complete with lifeboat release and retrieval system, is type-approved at manufacture and it is important to recognize that a lifeboat which is retro-fitted with a replacement lifeboat release and retrieval system to the satisfaction of the Administration should be regarded as offering a level of safety which is higher than that of the original installation.

19 Companies should, where possible, select replacement equipment acceptable to the lifeboat manufacturer. However, in cases where the lifeboat manufacturer is unable to offer a suitable replacement lifeboat release and retrieval system, the Company may select an alternative lifeboat release and retrieval system, with the agreement, if possible, of the lifeboat manufacturer.

20 The replacement equipment should be approved by the Administration or a recognized organization acting on its behalf, under the provisions of the LSA Code. Prior to the installation commencing, the Company should submit to the Administration, or a recognized organization acting on its behalf, for review and approval, as a minimum the following information:

- .1 the proposed replacement equipment including approval certification;
- .2 the engineering analysis of the replacement installation including:
 - .1 drawings of the original lifeboat release and retrieval system arrangement;
 - .2 detailed drawings showing clearly the proposed changes (e.g., position of suspension, lifeboat release and retrieval system, fixed structural connections of the release mechanism, link plates, including materials used for nuts and bolts with regard to strength and corrosion resistance); and
 - .3 if the drawings show that forces and/or force couples will change and/or the lifeboat release and retrieval system fixed structural connections of the release mechanism will change, calculation of static forces including a safety factor of 6, according to the LSA Code, from lifeboat release and retrieval system into lifeboat structure, including tension and shear forces in bolts, link plates, welds and keel shoe(s);
- .3 considering that a lifeboat release and retrieval system does not consist just of the hook assemblies themselves, but also of release handles, cabling, etc., in the lifeboat, the evaluation of a replacement hook assembly other than that originally provided in the lifeboat should include such factors as loadings of the release handle on the console, efficiency of any hydrostatic interlock in light and

loaded conditions, whether the size/configuration of the replacement equipment would affect the stability or seating space of the lifeboat, and its compatibility with its launching appliance;

- .4 amended operating and training manuals; and
- .5 identification of the person(s) responsible for design appraisal, installation work and post-installation testing and evidence of their competence.

21 The Administration, or a recognized organization acting on its behalf, may allow that hook fixed structural connections of the release mechanism and supporting structure which are not made of material corrosion resistant in the marine environment, as required by paragraph 4.4.7.6.9 of the LSA Code, need not be replaced if they are in a good condition and installed in a sheltered position inside the lifeboat.

22 A copy of the engineering drawing(s) approved by the Administration, or by the recognized organization acting on its behalf, should be used during installation and testing and retained on board.

23 The installation should be carried out by the manufacturer or by one of their representatives. All work carried out should be witnessed by the Administration, or by a recognized organization acting on its behalf. Valid operating and safety instructions should be posted at the operating position and adjacent to the lifeboat release and retrieval system(s).

24 Post-installation testing should be carried out by the manufacturer or by one of their representatives and comprise the following:

- .1 1.1 x load and simultaneous release test according to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), part 2, paragraph 5.3.1, or an equivalent method acceptable to the Administration;
- .2 load test according to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), part 2, paragraph 5.3.4, as amended by resolution MSC.226(82), if the fixed structural connections of the release mechanism of the lifeboat is modified; and
- .3 if the lifeboat is also a rescue boat and/or is installed on a cargo ship of 20,000 gross tonnage or above, the 5 knots installation test should be carried out, in accordance with the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), part 2, paragraph 5.4.

25 All tests should be witnessed by the Administration, or by a recognized organization acting on its behalf, which should also verify that the installation complies in all respects with the documentation submitted by the Company and approved by the Administration, or a recognized organization acting on its behalf.

26 Following completion of installation testing, the Administration, or a recognized organization acting on its behalf, should issue a Statement of Acceptance, using the template set out in appendix 4, to the Company, for retention on board.

APPENDIX 1

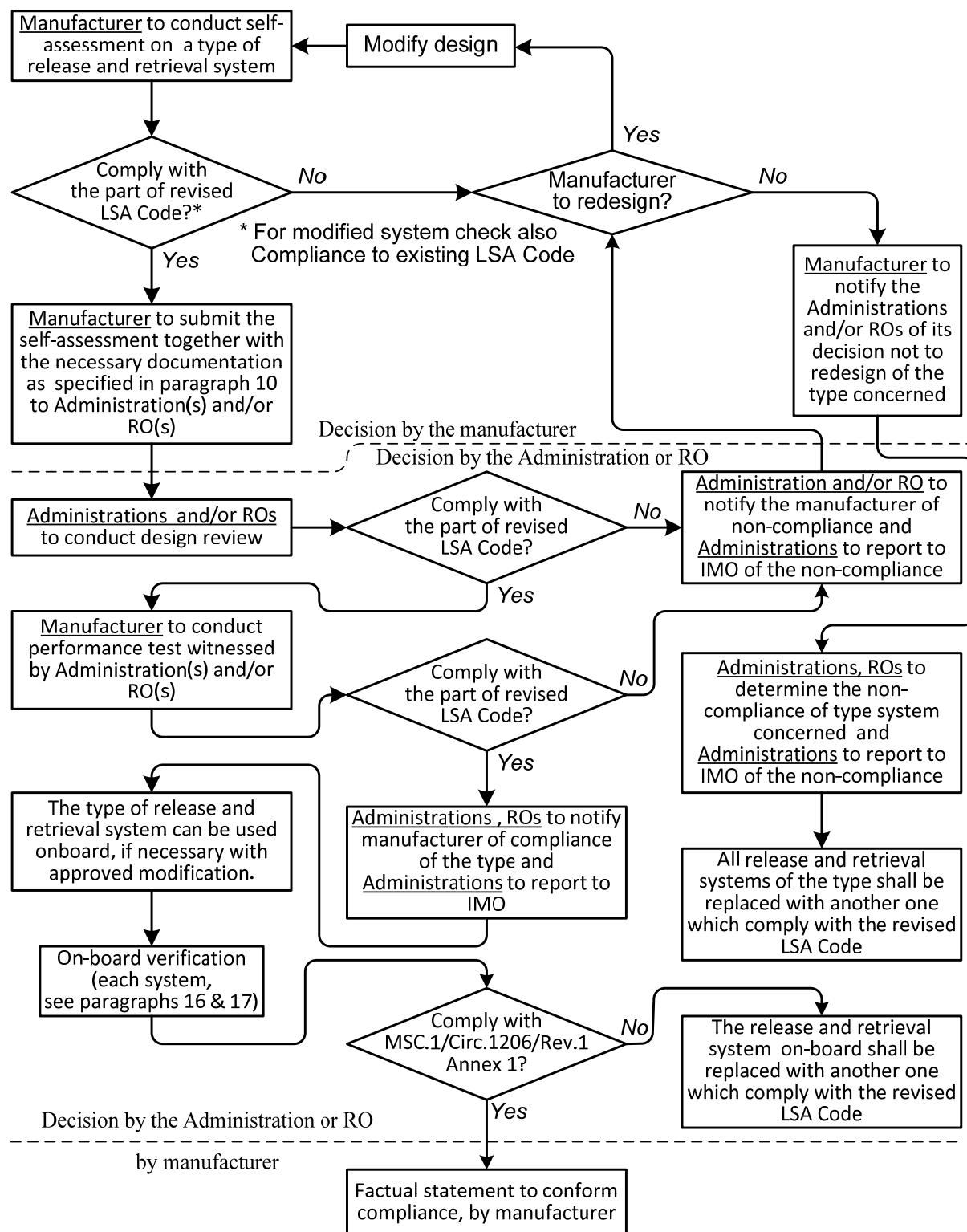
TEST REQUIREMENTS FOR THE EVALUATION OF LIFEBOAT RELEASE AND RETRIEVAL SYSTEMS

A release and retrieval system should be conditioned and tested as follows:

- .1 the lifeboat release and retrieval system and the longest used connection cable/linkage associated with the system should be mounted and adjusted according to instructions from the original equipment manufacturer and then loaded to 100% of its safe working load and released. Load and release should be repeated 50 times. During the 50 releases, the lifeboat release and retrieval system should be released simultaneously from each fall to which it is connected without any binding or damage to any part of the lifeboat release and retrieval system. The system should be considered as "failed" if any failure during the conditioning or unintended release occurs when load is applied but the system has not yet been operated;
- .2 the lifeboat release and retrieval system should then be disassembled, the parts examined and wear recorded. The release and retrieval system should then be reassembled;
- .3 the hook assembly, whilst disconnected from the operating mechanism, should then be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release and retrieval system has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL; and
- .4 the cable and operating mechanism should then be reconnected to the hook assembly; and the lifeboat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load. The actuation force should be no less than 100 N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the lifeboat. The demonstration should verify that any interlocks, including hydrostatic interlocks, where fitted, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer. The release and retrieval system is deemed to have passed the testing under this appendix when the tests have been conducted successfully. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.

APPENDIX 2

EXISTING LIFEBOAT RELEASE AND RETRIEVAL SYSTEM
EVALUATION PROCESS FLOW CHART



APPENDIX 3

**INFORMATION ON THE EVALUATION OF EXISTING
LIFEBOAT RELEASE AND RETRIEVAL SYSTEMS TO BE REPORTED**

The following information should be provided for each lifeboat release and retrieval system:

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| Manufacturer's Details | Name |
| | Address |
| | E-mail address |
| Lifeboat release and retrieval system | Type (see paragraph 9.6) and identification |
| In case of modification | Original type and identification |
| | Details of modification |
| Specification of type (e.g., Maximum Safe Working Load (SWL)) | |
| Details of the Administration, or recognized organization acting on its behalf, undertaking the evaluation of the lifeboat release and retrieval system | Name |
| | Address |
| | E-mail address |
| Evaluation report details | No. |
| | Date |
| Evaluation result | Compliant / Non-compliant / Compliant after modification |
| Report information | Link to the relevant report (url) |
| Reported by | Name of the Administration |

APPENDIX 4

STATEMENT OF ACCEPTANCE OF THE INSTALLATION OF REPLACEMENT RELEASE AND RETRIEVAL SYSTEM TO AN EXISTING LIFEBOAT

*Issued in accordance with the provisions of regulation I/5 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, under the authority of [Administration]**

Name of ship:
Port of registry:
IMO Number:

Lifeboat details:
Replacement release and retrieval system details:

| Lifeboat identity | Lifeboat serial number | Release and retrieval system serial number (fwd) | Release and retrieval system serial number (aft) |
|-------------------|------------------------|--------------------------------------------------|--------------------------------------------------|
| No.1 (Stbd) | | | |
| No.2 (Port) | | | |

The above release and retrieval system has been installed and tested under the supervision of the [Administration or a recognized organization authorized to act on its behalf]*, as documented in Survey report no...; certificate no.... dated ... and [installation] drawing(s) no(s) ... dated

This statement is to confirm that:

- .1 The replacement release and retrieval system meets the relevant requirements of the LSA Code, chapter IV, section 4.4.7.6.
- .2 The replacement release and retrieval system construction and the equipment of the above-mentioned ship was found to comply with the provisions of SOLAS regulation III/4 when tested in accordance with the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), part 2, section 5.3.1. [The test required by paragraph 5.3.4 is waived as impracticable for this replacement procedure.]
- .3 The validity of the relevant Safety Certificate is not affected by the installation of the replacement release and retrieval system.
- .4 The installation of the replacement release and retrieval system offers a level of safety which is at least as effective as the original manufacturer's equipment.

The [Administration, or a recognized organization authorized to act on its behalf]* certifies that this Statement of Acceptance augments and supersedes the affected sections of the original lifeboat approval certification. The statement must be kept on board the ship with all other relevant documentation at all times.

..... (Date) (Stamp)

* Insert as appropriate.

4 ALBERT EMBANKMENT
LONDON SE1 7SR
Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

MSC.1/Circ.1393
27 May 2011

EARLY APPLICATION OF NEW SOLAS REGULATION III/1.5

1 The Maritime Safety Committee, at its eighty-ninth session (11 to 20 May 2011), adopted, by resolution MSC.317(89), new SOLAS regulation III/1.5 and, by resolution MSC.320(89), related amendments to chapter IV of the LSA Code, which are expected to enter into force on 1 January 2013. The Committee also approved the associated Guidelines for evaluation and replacement of lifeboat release and retrieval systems (MSC.1/Circ.1392).

2 In light of the provision of the new SOLAS regulation III/1.5, the Committee agreed that:

- .1 for ships constructed on or after 1 July 2014, on-load release and retrieval systems shall comply with the LSA Code, as amended by resolution MSC.320(89); and
- .2 Member Governments are encouraged to ensure that ships constructed on or after 20 May 2011 but before 1 July 2014, on-load release and retrieval systems comply with the LSA Code, as amended by resolution MSC.320(89).

3 In order for parties concerned to take relevant actions with regard to paragraph 2 above, Member Governments are encouraged to initiate, at the earliest opportunity, approval processes for new on-load release and retrieval systems, which comply with the LSA Code, as amended by resolution MSC.320(89).

4 In adopting the aforementioned amendments, the Committee agreed to the recommendation by the Sub-Committee on Ship Design and Equipment, at its fifty-fifth session (21 to 25 March 2011), that parties concerned should be encouraged to take necessary action to evaluate existing lifeboat release and retrieval systems, based on the aforementioned Guidelines, at the earliest available opportunity, pending the entry into force of new SOLAS regulation III/1.5.

5 Member Governments, shipyards and shipowners are invited to take account of this circular and bring it to the attention of all parties concerned. In particular, manufacturers are urged to evaluate existing lifeboat release and retrieval systems at the earliest available opportunity, in accordance with the aforementioned Guidelines.

ANNEX 5

**RESOLUTION MSC.321(89)
(adopted on 20 May 2011)**

**ADOPTION OF AMENDMENTS TO THE REVISED RECOMMENDATION ON TESTING OF
LIFE-SAVING APPLIANCES (RESOLUTION MSC.81(70)), AS AMENDED**

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.689(17) entitled "Testing of life-saving appliances", by which the Assembly, at its seventeenth session, adopted the Recommendation on testing of life-saving appliances,

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

NOTING resolution MSC.81(70), by which, at its seventieth session, it adopted the Revised recommendation on testing of life-saving appliances, introducing more precise provisions for the testing of life-saving appliances based on the requirements of the International Life-Saving Appliances (LSA) Code,

RECOGNIZING the need to appropriately align the relevant provisions of the Revised recommendation on testing of life-saving appliances with the associated amendments to the LSA Code adopted by resolution MSC.320(89),

HAVING CONSIDERED, at its eighty-ninth session, proposed amendments to the Revised recommendation on testing of life-saving appliances, prepared by the Sub-Committee on Ship Design and Equipment at its fifty-fifth session,

1. ADOPTS amendments to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), the text of which is set out in the Annex to the present resolution;
2. RECOMMENDS Governments to apply the annexed amendments when testing life-saving appliances.

ANNEX

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

**PART 1
PROTOTYPE TESTS FOR LIFE-SAVING APPLIANCES**

- 1 The existing paragraphs 6.9.3 and 6.9.4 are replaced by the following:

"6.9.3 With the operating mechanism disconnected it should be demonstrated when the lifeboat is loaded with its full complement of persons and equipment and towed at speeds of 5 knots that the moveable hook component stays closed. Furthermore, with the operating mechanism connected, it should be demonstrated that the lifeboat when loaded with its full complement of persons and equipment when towed at speeds of 5 knots can be released. Both of the above should be demonstrated as follows as follows:

- .1 a force equal to 25% of the safe working load of the hook should be applied to the hook in the lengthwise direction of the boat at an angle of 45° to the vertical. This test should be conducted in the aftward as well as the forward direction;
- .2 a force equal to the safe working load of the hook should be applied to the hook in an athwartships direction at an angle of 20° to the vertical. This test should be conducted on both sides; and
- .3 a force equal to the safe working load of the hook should be applied to the hook in a direction halfway between the positions of tests 1 and 2 (i.e. 45° to the longitudinal axis of the boat in plan view) at an angle of 33° to the vertical. This test should be conducted in four positions.

There should be no damage as a result of these tests.

- 6.9.4 A release mechanism should be conditioned and tested as follows:

- .1 the lifeboat release and retrieval system and the longest used connection cable/linkage associated with the system should be mounted and adjusted according to instructions from the original equipment manufacturer and then loaded to 100% of its safe working load and released. Load and release should be repeated 50 times. During the 50 releases, the lifeboat release and retrieval system should be released simultaneously from each fall to which it is connected without any binding or damage to any part of the lifeboat release and retrieval system. The system should be considered as "failed" if any failure during the conditioning or unintended release occurs when load is applied but the system has not yet been operated;
- .2 the lifeboat release and retrieval system should then be disassembled, the parts examined and wear recorded. The release and retrieval system should then be reassembled;

- .3 the hook assembly, whilst disconnected from the operating mechanism, should then be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release mechanism has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL. For cam-type designs, the test should be carried out at an initial cam rotation of 0° (fully reset position), and repeated at 45° in either direction, or 45° in one direction if restricted by design. The specimen should remain closed during the test. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs; and
- .4 the cable and operating mechanism should then be reconnected to the hook assembly; and the lifeboat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load. The actuation force should be no less than 100 N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the lifeboat. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer. The release mechanism is deemed to have passed the testing under paragraph 6.9.4 when the tests have been conducted successfully. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.

6.9.5 A second release mechanism should be tested as follows:

- .1 the actuation force of the release mechanism should be measured loaded with 100% of its safe working load. The actuation force should be no less than 100 N and no more than 300 N. If a cable is used, it should be of the maximum length specified by the manufacturer, and secured in the same manner it would be secured in a lifeboat. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer; and
- .2 the release mechanism should be mounted on a tensile strength testing device. The load should be increased to at least six times the working load of the release mechanism without failure of the release mechanism."

2 The existing paragraphs 6.9.5 and 6.9.6 are renumbered as 6.9.6 and 6.9.7, respectively.

3 In paragraph 6.11.3, the referenced paragraph number "6.9.4" is replaced with "6.9.3".

4 In paragraphs 7.1.1 and 7.4.1, the referenced paragraph numbers "6.9.5" and "6.9.6" are replaced by "6.9.6" and "6.9.7", respectively.

5 In paragraphs 7.2.1, 7.3.1, 7.5 and 7.6, the referenced paragraph numbers "6.9.1 to 6.9.4" are replaced by "6.9.1 to 6.9.5".

ANNEX 2

**RESOLUTION MSC.318(89)
(adopted on 20 May 2011)**

**ADOPTION OF AMENDMENTS TO THE INTERNATIONAL MARITIME
SOLID BULK CARGOES (IMSBC) 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.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 chapters VI and VII of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as "the Convention"),

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

HAVING CONSIDERED, at its eighty-ninth 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 2012, unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;
3. INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2013 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 2012;
5. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
6. FURTHER 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

**AMENDMENT 01-11 TO THE INTERNATIONAL MARITIME
SOLID BULK CARGOES (IMSBC) CODE**

APPENDIX 1

INDIVIDUAL SCHEDULES OF SOLID BULK CARGOES

ALUMINIUM FERROSILICON POWDER, UN 1395

PRECAUTIONS

1 In the second sentence, the words "competent Authority" are replaced by the word "Administration".

ALUMINIUM NITRATE, UN 1438

PRECAUTIONS

2 At the end of the paragraph, the following sentence is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amounts of water may be necessary."

ALUMINIUM SILICON POWDER, UNCOATED UN 1398

PRECAUTIONS

3 In the second sentence, the words "competent Authority" are replaced by the word "Administration".

AMMONIUM NITRATE UN 1942

with not more than 0.2% total combustible substances including any organic substance calculated as carbon, to the exclusion of any other added substance

DESCRIPTION

4 The words "Supporter of combustion. Hygroscopic." are deleted.

5 A new note after Description is added, as follows:

"Note:

This schedule should only be used for substances that do not exhibit properties of class 1 when tested in accordance to Test Series 1 and 2 of class 1 (see UN Manual of Tests and Criteria, part 1)."

HAZARD

6 At the beginning of the first paragraph, the words "Oxidizer, supports combustion." are added.

7 In the existing first sentence, the words "these materials" are replaced by the words "this cargo".

STOWAGE & SEGREGATION

8 In the first sentence, the word "should" is replaced by the word "shall".

LOADING

9 In the first sentence, the references "4 and 5" are replaced by the references "4, 5 and 6".

During loading, the following provisions shall be complied with:

10 The first bullet related to smoking is deleted.

PRECAUTIONS

11 In the first paragraph, the existing third sentence is replaced by the following text:

"The master and officers are to note that the ship's fixed gas fire-extinguishing installation will be ineffective on the fire involving this cargo and that applying copious amount of water may be necessary."

12 In the first paragraph, the last sentence is deleted.

CARRIAGE

13 A new second sentence is added, as follows:

"The temperature of this cargo shall be monitored and recorded daily during the voyage to detect decomposition, which may result in heating and oxygen depletion."

DISCHARGE

14 The second sentence is replaced by the following text:

"Bunkering of fuel oil shall not be allowed. Pumping of fuel oil in spaces adjacent to the cargo spaces for this cargo, other than the engine-room, shall not be allowed."

EMERGENCY PROCEDURES

15 In the provisions regarding Fire in cargo space containing this material, the word "installation" is inserted after the words "Ship's fixed gas fire-extinguishing".

16 In the provisions regarding Fire in cargo space containing this material, the words "Use copious quantities of water" are replaced by the words "Use copious amount of water and isolate the source of heat, if any".

AMMONIUM NITRATE BASED FERTILIZER UN 2067

DESCRIPTION

17 In subparagraph .2, after the word "dolomite", the words "and/or mineral calcium sulphate" are inserted.

NOTES:

18 In note 3, the word "explosive" is deleted.

STOWAGE & SEGREGATION

19 In the fourth sentence, the words "any tank or double bottom" are replaced by the words "any tank, double bottom or pipe".

LOADING

20 In the first sentence, the references "4 and 5" are replaced by the references "4, 5 and 6".

PRECAUTIONS

21 After the first sentence, the following sentence is added:

"The master and officers are to note that the ship's fixed gas fire-extinguishing installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

CARRIAGE

22 In the second sentence, the words "resulting in spontaneous" are replaced by the words "which may result in".

DISCHARGE

23 The first sentence is replaced by the following text:

"Bunkering of fuel oil shall not be allowed. Pumping of fuel oil in spaces adjacent to the cargo spaces for this cargo, other than the engine-room, shall not be allowed."

24 After the second new sentence, the following text is added:

"Ammonium nitrate based fertilizers are hygroscopic and may cake in overhangs, impairing safety during discharge."

EMERGENCY PROCEDURES

25 In the provisions regarding Fire in cargo space containing this material, the words "Ship's fixed fire-fighting installation" are replaced by the words "Ship's fixed gas fire-extinguishing installation".

26 In the provisions regarding Fire in cargo space containing this material, in the third sentence, after the word "water", the words "and isolate the source of heat, if any" are inserted.

AMMONIUM NITRATE BASED FERTILIZER UN 2071

DESCRIPTION

27 In the second paragraph, a footnote associated with "(see UN Manual of Tests and Criteria, part III, subsection 38.2)" is inserted, as follows:

" See also section 5 of Appendix 2 to this Code."

HAZARD

28 In the first paragraph, the word "mixtures" is replaced by the word "cargoes" in the first sentence, and in the last sentence the words "mixtures is subject to the" are replaced by the words "cargoes are subject to an".

STOWAGE & SEGREGATION

29 In the last sentence, after the word "standard,", the words "this cargo shall be stowed" are inserted.

LOADING

30 In the first paragraph, first sentence, the references "4 and 5" are replaced by the references "4, 5 and 6".

During loading, the following provisions shall be complied with:

31 A new bullet is added, as follows:

- "• As far as reasonably practicable, combustible securing and protecting materials shall not be used. When wooden dunnage is necessary, only a minimum amount shall be used."

PRECAUTIONS

32 After the first sentence, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

33 The first sentence is replaced by the following text:

"Bunkering of fuel oil shall not be allowed. Pumping of fuel oil in spaces adjacent to the cargo spaces for this cargo, other than the engine-room, shall not be allowed."

34 After the second new sentence, the following sentence is added:

"Ammonium nitrate based fertilizers are hygroscopic and may cake in overhangs, impairing safety during discharge."

EMERGENCY PROCEDURES

35 In the provisions regarding Fire in cargo space containing this material, the words "Ship's fixed fire-fighting installation" are replaced by the words "Ship's fixed gas fire-extinguishing installation".

AMMONIUM NITRATE BASED FERTILIZER (non-hazardous)

DESCRIPTION

36 In subparagraph .2, after the word "dolomite", the words "and/or mineral calcium sulphate" are inserted.

37 In subparagraph .4, a footnote associated with "(see UN Manual of Tests and Criteria, part III, subsection 38.2)" is inserted, as follows:

" See also section 5 of Appendix 2 to this Code."

HAZARD

38 The entire text under this heading is replaced by the following text:

"This cargo is non combustible or has a low fire risk. Even though this cargo is classified as non-hazardous, some of the properties of the ammonium nitrate based fertilizer classified in class 9 under UN 2071 are exhibited when heated strongly. When this cargo is heated strongly, it will decompose and give off toxic gases with the risk of toxic fumes in the cargo space, adjacent spaces and on deck. Monitoring of the cargo temperature may give an early indication of decomposition. Fertilizer dust might be irritating to skin and mucous membranes. It is hygroscopic cargo and will cake if wet."

STOWAGE & SEGREGATION

39 In the third sentence, the words "any tank or double bottom" are replaced by the words "any tank, double bottom or pipe".

40 In the fourth sentence, after the words "this type", the word "should" is replaced by the word "shall".

41 In the fifth sentence, the word "barrier" is replaced by the word "arrangement".

42 In the last paragraph, the last sentence is replaced by the following text:

"This requirement need not apply if the bulkhead is class A-60 or to short international voyages."

LOADING

43 In the first paragraph, first sentence, the references "4 and 5" are replaced by the references "4, 5 and 6".

PRECAUTIONS

44 After the first sentence, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

CARRIAGE

45 The second sentence is deleted.

DISCHARGE

46 The first sentence is replaced by the following text:

"Bunkering of fuel oil shall not be allowed. Pumping of fuel oil in spaces adjacent to the cargo spaces for this cargo, other than the engine-room, shall not be allowed. Ammonium nitrate based fertilizers are hygroscopic and may cake in overhangs, impairing safety during discharge."

EMERGENCY PROCEDURES

47 In the provisions regarding Fire in cargo space containing this material, the words "Ship's fixed fire-fighting installation" are replaced by the words "Ship's fixed gas fire-extinguishing installation".

48 In the provisions regarding Fire in cargo space containing this material, in the third sentence, after the word "water", the words "and isolate the source of heat, if any" are inserted.

AMMONIUM SULPHATE

HAZARD

49 At the end of the paragraph, the following text is added:

"This cargo is hygroscopic and will cake if wet."

LOADING

50 In the last sentence, the references " 4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

51 At the beginning of the paragraph, the following text is added:

"Ammonium sulphate is hygroscopic and may cake in overhangs, impairing safety during discharge."

BARIUM NITRATE, UN 1446

PRECAUTIONS

52 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

BORAX (PENTAHYDRATE CRUDE)

DISCHARGE

53 At the beginning of the paragraph, the following text is added:

"Borax (pentahydrate crude) is hygroscopic and may cake in overhangs, impairing safety during discharge."

BORAX, ANHYDROUS (crude or refined)

LOADING

54 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

55 At the beginning of the paragraph, the following text is added:

"Borax anhydrous (crude or refined) is hygroscopic and may cake in overhangs, impairing safety during discharge."

BROWN COAL BRIQUETTES

HAZARD

56 The text is replaced by the following text:

"This cargo is easily ignited, is liable to heat spontaneously, may ignite spontaneously and may deplete oxygen in the cargo space."

APPENDIX

57 In paragraph 1.1, in the section for Precautions, the words "and opening cargo space enclosures" are deleted.

CALCIUM NITRATE, UN 1454

PRECAUTIONS

58 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

59 At the beginning of the paragraph, the following text is added:

"Calcium nitrate is hygroscopic and may cake in overhangs, impairing safety during discharge."

CALCIUM NITRATE FERTILIZER

LOADING

60 The references "4 and 5" are replaced by the references "4, 5 and 6".

CLAY

CLEAN-UP

61 The text is replaced by "After discharge of this cargo, particular attention shall be given to the bilge wells of the cargo spaces".

DIAMMONIUM PHOSPHATE (D.A.P.)

LOADING

62 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

63 At the beginning of the paragraph, the following text is added:

"Diammonium phosphate is hygroscopic and may cake in overhangs, impairing safety during discharge."

DISTILLERS DRIED GRAINS WITH SOLUBLES

64 After existing schedule on DIRECT REDUCED IRON (C), the new schedule on DISTILLERS DRIED GRAINS WITH SOLUBLES is added, as follows:

"DISTILLERS DRIED GRAINS WITH SOLUBLES

DESCRIPTION

A dried blend of coarse grains and condensed distillers solubles that remain after the fermentation of the starch fraction of corn with yeasts and enzymes to produce ethanol and carbon dioxide. Yellowish brown in colour with a cooked corn odour. Moisture content not more than 13% and oil content not more than 11%. This schedule is not applicable to wet distillers grain (WDG) and distillers dried grain (DDG), which are not transported in bulk.

CHARACTERISTICS

| ANGLE OF REPOSE | BULK DENSITY (kg/m³) | STOWAGE FACTOR (m³/t) |
|------------------------|----------------------------------------|-----------------------------------------|
| Not applicable | 450 to 520 | 1.92 to 2.22 |
| SIZE | CLASS | GROUP |
| Not applicable | Not applicable | C |

HAZARD

No special hazards.

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

STOWAGE & 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 shall be closed.

LOADING

Load in open unconfined areas. Trim in accordance with the relevant provision required under sections 4 and 5 of the Code.

PRECAUTIONS

No special requirements.

VENTILATION

No special requirements.

CARRIAGE

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

DISCHARGE

If this cargo has hardened, it shall be trimmed to avoid the formation of overhanging faces, as necessary.

CLEAN-UP

No special requirements."

FERROPHOSPHORUS (including briquettes)

CARRIAGE

65 The text is replaced by the following text:

"For quantitative measurement of flammable and toxic gases such as Phosphine, which may be evolved from this cargo in accordance with the cargo information, suitable detectors for each gas or combination of gases shall be on board while this cargo is carried. The detectors shall be of certified safe type for use in explosive atmosphere. The concentrations of these gases in the cargo spaces carrying this cargo shall be measured regularly, during the voyage, and the results of the measurements shall be recorded and kept on board."

FERROSILICON UN 1408

APPENDIX – DETAILED REQUIREMENTS

66 In the first sentence, the words "competent Authority" are replaced by the word "Administration", in all cases.

FERROSILICON with 25% to 30% silicon, or 90% or more silicon

LOADING

67 The second sentence is replaced by the following text:

"As the density of the cargo is extremely high, the tanktop may be overstressed unless the cargo is evenly spread across the tanktop for homogenous weight distribution. Due consideration shall be paid to ensure that the tanktop is not overstressed during voyage and during loading by a pile of the cargo. Refer to the appendix to this schedule."

APPENDIX – DETAILED REQUIREMENTS

68 In the first and second sentences, the words "competent Authority" are replaced by the word "Administration".

FERROUS SULPHATE HEPTAHYDRATE

69 After existing schedule on FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS UN 2793, a new schedule on FERROUS SULPHATE HEPTAHYDRATE is added, as follows:

"FERROUS SULPHATE HEPTAHYDRATE

DESCRIPTION

Pale green crystals. Highly soluble in water. Product commonly referred to as "Copperas".

CHARACTERISTICS

| ANGLE OF REPOSE | BULK DENSITY (kg/m ³) | STOWAGE FACTOR (m ³ /t) |
|-----------------|-----------------------------------|------------------------------------|
| Not applicable | 750 to 1250 | 0.8 to 1.3 |
| SIZE | CLASS | GROUP |
| Crystals | Not applicable | C |

HAZARD

Harmful if swallowed. Causes serious eye irritation. Causes skin irritation.

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

Tends to caking when damp.

This cargo is highly soluble and will be acidic when wet.

Excessive levels spilt into water systems may result in oxygen depletion from the water.

STOWAGE & SEGREGATION

"Separated from" Oxidizing substances.

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 shall be closed.

LOADING

Trim in accordance with the relevant provision required under sections 4 and 5 of the Code.

PRECAUTIONS

Avoid contact with eyes and skin. Persons who may be in contact with the product shall wear protective clothing, gloves and eye protection. Typically, this is a non-dusty product, however, in particularly dry conditions, if dust is generated a filter mask shall also be worn. 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 voyage.

CARRIAGE

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

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."

FERTILIZERS WITHOUT NITRATES (non-hazardous)

DISCHARGE

70 At the beginning of the paragraph, the following text is added:

"Fertilizers without nitrates are hygroscopic and may cake in overhangs, impairing safety during discharge."

FLY ASH

71 In the title of the schedule of FLY ASH, the word ", DRY" is added.

FLY ASH, WET

72 After existing schedule on FLY ASH, a new schedule on FLY ASH, WET is added, as follows:

"FLY ASH, WET

DESCRIPTION

Greyish powder. This cargo is a mixture of the light, finely divided dusty fine powder residue from coal and oil fired power stations and water (not less than 10% of water). Ammonia odour.

CHARACTERISTICS

| ANGLE OF REPOSE | BULK DENSITY (kg/m ³) | STOWAGE FACTOR (m ³ /t) |
|-----------------|-----------------------------------|------------------------------------|
| Not applicable | 900 to 1300 | 0.77 – 1.11 |
| SIZE | CLASS | GROUP |
| Under 1 mm | Not applicable | A |

HAZARD

Wet fly ash is liable to flow if it has sufficiently high moisture content.
It is non-combustible or has a low fire-risk.

STOWAGE & SEGREGATION

"Separated from" foodstuffs.

HOLD CLEANLINESS

No special requirements.

WEATHER PRECAUTIONS

When a cargo is carried in a ship other than specially constructed or fitted cargo ship complying with the requirements in subsection 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 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 provided that the actual moisture content of the cargo is sufficiently less than its TML so that the actual moisture content is not liable to be increased beyond the TML by the precipitation.
- .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 the Code.

PRECAUTIONS

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 voyage.

CARRIAGE

The appearance of the surface of this cargo shall be checked regularly during voyage. If free water above the cargo or fluid state of the cargo is observed during 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

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."

GRANULAR FERROUS SULPHATE

73 After the new schedule on FLY ASH, WET, a new schedule on GRANULAR FERROUS SULPHATE is added, as follows:

"GRANULAR FERROUS SULPHATE

DESCRIPTION

Grey to brown granules. Absorbs moisture and is highly soluble in water.

CHARACTERISTICS

| ANGLE OF REPOSE | BULK DENSITY (kg/m³) | STOWAGE FACTOR (m³/t) |
|------------------------|----------------------------------------|-----------------------------------------|
| 30° to 45° | 1100 to 1600 | 0.63 – 0.9 |
| SIZE | CLASS | GROUP |
| Up to 15 mm | Not applicable | C |

HAZARD

Harmful if swallowed. Causes serious eye irritation. Causes skin irritation.
This cargo is non-combustible or has a low fire-risk.
Tends to caking when damp.
It is highly soluble and will be acidic when wet.
Excessive levels spilt into water systems may result in oxygen depletion from the water.

STOWAGE & SEGREGATION

"Separated from" oxidizing substances.

HOLD AND 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 shall be closed.

LOADING

Trim in accordance with the relevant provision required under sections 4, 5 and 6 of the Code.

PRECAUTIONS

Avoid contact with eyes and skin. Persons who may be in contact with the product shall wear protective clothing, gloves and eye protection. Minimize dust generation when loading. If dust is generated a filter mask shall also be worn.
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 voyage.

CARRIAGE

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

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."

GYPSUM

WEATHER PRECAUTIONS

74 In the second and third sentences, the words "handled" and "handling" are replaced by the words "loaded" and "loading", respectively.

LEAD NITRATE, UN 1469

PRECAUTIONS

75 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

MAGNESIUM NITRATE, UN 1474

PRECAUTIONS

76 The sentence is replaced by the following text:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

77 At the beginning of the paragraph, the following text is added:

"Magnesium nitrate is hygroscopic and may cake in overhangs, impairing safety during discharge."

MAGNESIUM SULPHATE FERTILIZERS

78 After existing schedule on MAGNESIUM NITRATE, UN 1474, a new schedule on MAGNESIUM SULPHATE FERTILIZERS is added, as follows:

"MAGNESIUM SULPHATE FERTILIZERS

DESCRIPTION

Powdered fertilizers or fertilizer components containing magnesium sulphate.
Grey to brown powder. Partially soluble in water and may be dusty.

CHARACTERISTICS

| ANGLE OF REPOSE | BULK DENSITY (kg/m³) | STOWAGE FACTOR (m³/t) |
|------------------------|----------------------------------------|-----------------------------------------|
| 30° to 35° | 850 to 1150 | 0.87 – 1.18 |
| SIZE | CLASS | GROUP |
| Powder | Not applicable | C |

HAZARD

May be harmful if swallowed. May cause skin or eye irritation.
This cargo is non-combustible or has a low fire-risk.
It is partially soluble.
Dusty but may cake if wetted.

STOWAGE & 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. 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 shall be closed.

LOADING

Trim in accordance with the relevant provision required under sections 4, 5 and 6 of the Code.

PRECAUTIONS

Avoid contact with eyes and skin. Minimize dust generation when loading. Persons who may be exposed to the dust of the cargo shall wear goggles or other equivalent dust eye protection and dust filter mask. Those persons shall wear protective clothing, 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 voyage.

CARRIAGE

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

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."

METAL SULPHIDE CONCENTRATES

LOADING

79 The text ", in particular on smaller ships, i.e. 100 m long or less." is deleted.

MINERAL CONCENTRATES

BULK CARGO SHIPPING NAMES

80 The sentence "All known Bulk Cargo Shipping Names (BCSN) of mineral concentrates are listed above but the list is not exhaustive" after the list of Bulk Cargo Shipping Names is deleted.

LOADING

81 The text ", in particular on smaller ships, i.e. 100 m long or less." is deleted.

MONOAMMONIUM PHOSPHATE (M.A.P.)

LOADING

82 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

83 At the beginning of the paragraph, the following text is added:

"Monoammonium phosphate is hygroscopic and may cake in overhangs, impairing safety during discharge."

PHOSPHATE ROCK (calcined)

DISCHARGE

84 At the beginning of the paragraph, the following text is added:

"Phosphate rock (calcined) is hygroscopic and may cake in overhangs, impairing safety during discharge."

POTASH

LOADING

85 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

86 At the beginning of the paragraph, the following text is added:

"Potash is hygroscopic and may cake in overhangs, impairing safety during discharge."

POTASSIUM CHLORIDE

LOADING

87 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

88 At the beginning of the paragraph, the following text is added:

"Potassium chloride is hygroscopic and may cake in overhangs, impairing safety during discharge."

POTASSIUM NITRATE UN 1486

LOADING

89 The references "4 and 5" are replaced by the references "4, 5 and 6".

PRECAUTIONS

90 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

91 At the beginning of the paragraph, the following text is added:

"Potassium nitrate is hygroscopic and may cake in overhangs, impairing safety during discharge."

POTASSIUM SULPHATE

LOADING

92 The references "4 and 5" are replaced by the references "4, 5 and 6".

PYRITES, CALCINED (Calcined Pyrites)

PRECAUTIONS

93 In the third sentence, the words "lime before loading" are replaced by the words "protective coating such as lime-wash before loading to avoid any potential corrosive reaction between the cargo, water and steel."

RASORITE (ANHYDROUS)

DISCHARGE

94 At the beginning of the paragraph, the following sentence is added:

"Rasorite (anhydrous) is hygroscopic and may cake in overhangs, impairing safety during discharge."

SALT

WEATHER PRECAUTIONS

95 In the second and third sentences, the words "handled" and "handling" are replaced by the words "loaded" and "loading", respectively.

SEED CAKE, containing vegetable oil UN 1386 (b)

DESCRIPTION

96 In the last paragraph, after the first sentence, the following text is added:

"The provisions of this schedule should also not apply to mechanically expelled citrus pulp pellets containing not more than 2.5% oil and 14% oil and moisture combined."

PRECAUTIONS

97 In the fifth sentence the words "it becomes apparent that fire is not liable to take place in the cargo space, to avoid the possibility of ignition of solvent vapours" are replaced by the words "fire is apparent".

REMARKS

98 The first sentence is deleted.

SEED CAKE UN 2217

PRECAUTIONS

99 In the existing fourth sentence, the words "it becomes apparent that fire is not liable to take place in the cargo space, to avoid the possibility of ignition of solvent vapours" are replaced by the words "fire is apparent".

REMARKS

100 The first sentence is deleted.

SEED CAKE (non-hazardous)

DESCRIPTION

101 At the end of the first paragraph, the following sentence is added:

"The provisions of this schedule also apply to mechanically expelled citrus pulp pellets containing not more than 2.5% oil and 14% oil and moisture combined."

SODIUM NITRATE, UN 1498

PRECAUTIONS

102 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

103 At the beginning of the paragraph, the following text is added:

"Sodium nitrate is hygroscopic and may cake in overhangs, impairing safety during discharge."

SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE UN 1499

LOADING

104 The references "4 and 5" are replaced by the references "4, 5 and 6".

PRECAUTIONS

105 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

106 At the beginning of the paragraph, the following text is added:

"Sodium nitrate and potassium nitrate mixture is hygroscopic and may cake in overhangs, impairing safety during discharge."

SULPHUR (formed, solid)

PRECAUTIONS

107 The third sentence "Holds including trimming plates and tanktops shall be treated with effective, commercially available protective coating or lime-washed to avoid any potential corrosive reaction between sulphur, water and steel" is replaced by the sentence "Holds including trimming plates and tanktops shall be treated with protective coating such as lime-wash to avoid any potential corrosive reaction between sulphur, water and steel."

SUPERPHOSPHATE

LOADING

108 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

109 At the beginning of the paragraph, the following text is added:

"Superphosphate is hygroscopic and may cake in overhangs, impairing safety during discharge."

TAPIOCA

LOADING

110 The references "4 and 5" are replaced by the references "4, 5 and 6".

UREA

LOADING

111 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

112 At the beginning of the paragraph, the following text is added:

"Urea is hygroscopic and may cake in overhangs, impairing safety during discharge."

WOOD PELLETS

LOADING

113 The references "4 and 5" are replaced by the references "4, 5 and 6".

CARRIAGE

No special requirements.

DISCHARGE

No special requirements.

CLEAN-UP

No special requirements.

EMERGENCY PROCEDURES

SPECIAL EMERGENCY EQUIPMENT TO BE CARRIED

Self-contained breathing apparatus and an oxygen meter should be available.

EMERGENCY PROCEDURES

Nil

EMERGENCY ACTION IN THE EVENT OF FIRE

Batten down; use ship's fixed fire-fighting installation if fitted. Exclusion of air may be sufficient to control fire.

MEDICAL FIRST AID

Refer to Medical First Aid Guide (MFAG), as amended.

WOOD PULP PELLETS

115 The existing schedule on WOOD PULP PELLETS is deleted in its entirety.

APPENDIX 3

Properties of solid bulk cargoes

116 In subsection 1.1, the following bulk cargo shipping names are deleted:

CASTOR BEANS
SODIUM NITRATE

117 In subsection 1.1, the following bulk cargo shipping names are added:

GRANULAR FERROUS SULPHATE
MAGNESIUM SULPHATE FERTILIZERS
TAPIOCA
WOOD PELLETS

APPENDIX 4

Index

118 The BCSN "FLY ASH" is replaced by "FLY ASH, DRY".

119 The following rows are added in the table:

| MATERIAL | GROUP | REFERENCES |
|----------------------------------------------|--------------|---------------------------------------------|
| DISTILLERS DRIED GRAINS WITH SOLUBLES | C | |
| FERROUS SULPHATE HEPTAHYDRATE | C | |
| FLY ASH, WET | A | |
| GRANULAR FERROUS SULPHATE | C | |
| LOGS | B | see Wood Products – General schedule |
| MAGNESIUM SULPHATE FERTILIZERS | C | |
| PULP WOOD | B | see Wood Products – General schedule |
| ROUNDWOOD | B | see Wood Products – General schedule |
| SAW LOGS | B | see Wood Products – General schedule |
| TIMBER | B | see Wood Products – General schedule |
| Wood Products – General | B | |

120 The words "WOOD PULP PELLETS" and "Pellets, wood pulp" are deleted.
