



# Technical Circular

No.: 007/2014

Date: 25 February 2014

## **Subject: Plan and procedures for recovery of persons from the water.**

To Whomsoever it may concern

1. SOLAS amendment vide Resolution MSC.338(91) adopted on 30 Nov 2012 and which enters into force on 1 July 2014, introduces regulation 17.1 that requires all ships to have ship specific plan and procedures for recovery of persons from the water.
2. Resolution MSC.346 (91) invites the SOLAS contracting governments to determine the extent of application of requirements of regulation 17-1 to various categories of ships to which SOLAS Chapter III does not apply.
3. Ships constructed on or after 1 July 2014 are to comply with the requirements when put into operation. Ships constructed before 1 July 2014 are required to comply with the requirement by first periodical or renewal survey after 1 July 2014, whichever comes first.
4. Ro-ro passenger ships which comply with SOLAS regulation III/26.4 having means of rescue in accordance with MSC/Circ.810, are deemed to comply with the requirements of regulation III/17.1.
5. The plans and procedures are to identify the equipment intended to be used for recovery purposes and measures to be taken to minimize the risk to shipboard personnel involved in recovery operation.
6. The ship specific plans and procedure are to take into account the "Guidelines for the development of plans and procedures for recovery of persons from the water (MSC.1/Circ.1447)". As per guidelines, among others, following are also to be considered while developing plans and procedures:-
  - 6.1 A risk assessment to be conducted and documented for the recovery of persons including equipment intended to be used and taking into account the anticipated conditions and ship specific characteristics.
  - 6.2 The recovery plans and procedures should facilitate the transfer of persons from the water to the ship while minimizing the risk of injury from impact with the ship's side or other structures, including the recovery appliance itself.

- 6.3 Ship-specific procedures for the recovery of persons from the water should specify the anticipated conditions under which a recovery operation may be conducted without causing undue hazard to the ship and the ship's crew, taking into account, but not limited to:
- .1 manoeuvrability of the ship;
  - .2 freeboard of the ship;
  - .3 points on the ship to which casualties may be recovered;
  - .4 characteristics and limitations of equipment intended to be used for recovery operations;
  - .5 available crew and personal protective equipment (PPE);
  - .6 wind force, direction and spray;
  - .7 significant wave height (Hs);
  - .8 period of waves;
  - .9 swell; and
  - .10 safety of navigation.
7. MSC.1/Circ.1447 – Guidelines for the development of plans and procedures for recovery of persons from the water is to be read in conjunction with Guide to recovery techniques (MSC.1/Circ.1182) and the Guide for cold water survival (MSC.1/Circ.1185/Rev.1).
8. Drills should be organized to ensure that crew are familiar with the plans, procedures and equipment for recovery of persons from the water. Such drills may be conducted in conjunction with routine man-overboard drills.

**Enclosure:** Click individual enclosures to open

1. MSC.338(91) - SOLAS Amendments.
2. MSC.1/Circ.1447 - Guidelines for the development of plans and procedures for recovery of persons from the water.
3. MSC/Circ.810 - Recommendation on means of rescue on ro-ro passenger ships.
4. MSC.1/Circ.1182 - Guide to recovery techniques.
5. MSC.1/Circ.1185/Rev.1 – Guide for cold water survival.
6. MSC.92/INF.7.

---

Whilst the utmost care has been taken in the compilation of the Technical Information, neither Indian Register of Shipping, its affiliates and subsidiaries if any, nor any of its directors, officers, employees or agents assume any responsibility and shall not be liable to any person for any loss, damage or expense caused in any manner whatsoever by reliance on the information in this document.

**ANNEX 2**

**RESOLUTION MSC.338(91)  
(adopted on 30 November 2012)**

**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 ALSO 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 ninety-first 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 January 2014, 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 per cent 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 July 2014 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. ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

\* \* \*

ANNEX

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

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

**Part A-1  
Structure of ships**

- 1 The following new regulation 3-12 is added after the existing regulation 3-11:

**"Regulation 3-12 – Protection against noise**

- 1 This regulation shall apply to ships of 1,600 gross tonnage and above:
- .1 for which the building contract is placed on or after 1 July 2014; or
  - .2 in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 January 2015; or
  - .3 the delivery of which is on or after 1 July 2018,

unless the Administration deems that compliance with a particular provision is unreasonable or impractical.

- 2 On ships delivered before 1 July 2018 and:
- .1 contracted for construction before 1 July 2014 and the keels of which are laid or which are at a similar stage of construction on or after 1 January 2009 but before 1 January 2015; or
  - .2 in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 January 2009 but before 1 January 2015,

measures\* shall be taken to reduce machinery noise in machinery spaces to acceptable levels as determined by the Administration. If this noise cannot be sufficiently reduced the source of excessive noise shall be suitably insulated or isolated or a refuge from noise shall be provided if the space is required to be manned. Ear protectors shall be provided for personnel required to enter such spaces, if necessary.

- 3 Ships shall be constructed to reduce onboard noise and to protect personnel from the noise in accordance with the *Code on noise levels on board ships*, adopted by the Maritime Safety Committee by resolution MSC.337(91), as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of Article VIII of the present Convention concerning the amendment procedures

applicable to the annex other than chapter I. For the purpose of this regulation, although the Code on noise levels on board ships is treated as a mandatory instrument, recommendatory parts as specified in chapter I of the Code shall be treated as non-mandatory, provided that amendments to such recommendatory parts are adopted by the Maritime Safety Committee in accordance with its Rules of Procedure.

4 Notwithstanding the requirements of paragraph 1, this regulation does not apply to types of ships listed in paragraph 1.3.4 of the Code on noise levels on board ships.

---

\* Refer to the *Code on Noise levels on board ships*, adopted by the Organization by resolution A.468(XII)."

### **Part C** **Machinery installations**

2 The existing regulation 36 is deleted and left blank.

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

### **Part A** **General**

#### **Regulation 1 – Application**

3 The following footnote is added to the title of Regulation 1:

"\* The application date of 1 July 2012 was introduced by resolution MSC.308(88). However, this resolution amended, under chapter II-2, regulations II-2/3.23 (definition of "Fire Test Procedures Code") and II-2/7.4.1 (new subparagraph .3) only, and all other regulations with the original application date of 1 July 2002 were not amended."

4 In the existing paragraph 2.4, the following new subparagraphs are added after the existing subparagraph .6:

".7 cargo ships of 500 gross tonnage and upwards and passenger ships constructed on or after 1 February 1992 but before 1 July 2002 need not comply with regulation 19.3.3 provided that they comply with regulation 54.2.3 as adopted by resolution MSC.13(57); and

.8 cargo ships of 500 gross tonnage and upwards and passenger ships constructed on or after 1 September 1984 but before 1 July 2002 need not comply with regulations 19.3.1, 19.3.5, 19.3.6, 19.3.9, provided that they comply with regulations 54.2.1, 54.2.5, 54.2.6, 54.2.9 as adopted by resolution MSC.1(XLV)."

5 The following new paragraph 2.5 is added:

"2.5 Ships constructed before 1 July 2012 shall also comply with regulation 10.1.2, as adopted by resolution MSC.338(91)."

## **Part C**

### **Suppression of fire**

#### **Regulation 9 – Containment of fire**

6 In table 9.3, column (11) (Special category and ro-ro spaces), row (2) (Corridors), the symbol "A-15" is replaced by the symbol "A-30<sup>g</sup>".

7 In table 9.3, column (11) (Special category and ro-ro spaces), row (4) (Stairways), the symbol "A-15" is replaced by the symbol "A-30<sup>g</sup>".

8 In table 9.3, column and row (11) (Special category and ro-ro spaces), the symbol "A-0" is replaced by the symbol "A-30<sup>g</sup>".

9 In table 9.4, column (11) (Special category and ro-ro spaces), row (1) (Control stations), the symbol "A-30" is replaced by the symbol "A-60<sup>g</sup>".

10 In table 9.4, column (11) (Special category and ro-ro spaces), row (2) (Corridors), the symbol "A-0" is replaced by the symbol "A-30<sup>g</sup>".

11 In table 9.4, column (11) (Special category and ro-ro spaces), row (4) (Stairways), the symbol "A-0" is replaced by the symbol "A-30<sup>g</sup>".

12 In table 9.4, column and row (11) (Special category and ro-ro spaces), the symbol "A-0" is replaced by the symbol "A-30<sup>g</sup>".

13 In table 9.4, column (2) (Corridors), row (11) (Special category and ro-ro spaces), the symbol "A-15" is replaced by the symbol "A-30<sup>g</sup>".

14 In table 9.4, column (4) (Stairways), row (11) (Special category and ro-ro spaces), the symbol "A-15" is replaced by the symbol "A-30<sup>g</sup>".

15 In table 9.4, column (6) (Machinery spaces of category A), row (11) (Special category and ro-ro spaces), the symbol "A-30" is replaced by the symbol "A-60<sup>g</sup>".

16 In table 9.4, a new note is added as follows:

"<sup>g</sup> Ships constructed before 1 July 2014 shall comply, as a minimum, with the previous requirements applicable at the time the ship was constructed, as specified in regulation 1.2."

17 In table 9.5, column and row (11) (Ro-ro and vehicle spaces), the symbol "A-0" is replaced by the symbol "A-30<sup>j</sup>".

18 In table 9.6, column (11) (Ro-ro and vehicle spaces), row (10) (Open decks), the symbol "\*" is replaced by the symbol "A-0<sup>j</sup>".

19 In table 9.6, column and row (11) (Ro-ro and vehicle spaces), the symbol "\*\*<sup>h</sup>" is replaced by the symbol "A-30<sup>j</sup>".

20 In table 9.6, column (10) (Open decks), row (11) (Ro-ro and vehicle spaces), the symbol "\*" is replaced by the symbol "A-0<sup>j</sup>".

21 In table 9.6, the existing text of note "h" is replaced with the word "deleted".

22 In table 9.6, a new note is added as follows:

"<sup>j</sup> Ships constructed before 1 July 2014 shall comply, as a minimum, with the previous requirements applicable at the time the ship was constructed, as specified in regulation 1.2."

23 Paragraphs 6.2 and 6.3 are deleted and the subsequent paragraphs are renumbered accordingly.

## **Regulation 10 – Fire fighting**

24 In paragraph 5.6.3, the existing subparagraph .1 is replaced by the following:

".1 the fire hazard portions of internal combustion machinery or, for ships constructed before 1 July 2014, the fire hazard portions of internal combustion machinery used for the ship's main propulsion and power generation;"

25 The existing paragraph 10.1 is replaced by the following:

"10.1 Types of firefighter's outfits

.1 Fire-fighter's outfits shall comply with the Fire Safety Systems Code; and

.2 Self-contained compressed air breathing apparatus of fire-fighter's outfits shall comply with paragraph 2.1.2.2 of chapter 3 of the Fire Safety Systems Code by 1 July 2019."

26 After the existing paragraph 10.3, the following new paragraph is added:

"10.4 Fire-fighter's communication

For ships constructed on or after 1 July 2014, a minimum of two two-way portable radiotelephone apparatus for each fire party for fire-fighter's communication shall be carried on board. Those two-way portable radiotelephone apparatus shall be of an explosion-proof type or intrinsically safe. Ships constructed before 1 July 2014 shall comply with the requirements of this paragraph not later than the first survey after 1 July 2018."

## **Part E**

### **Operational requirements**

#### **Regulation 15 – Instructions, onboard training and drills**

27 After the existing paragraph 2.2.5, the following new paragraph is added:

"2.2.6 An onboard means of recharging breathing apparatus cylinders used during drills shall be provided or a suitable number of spare cylinders shall be carried on board to replace those used."

## **Part G**

### **Special requirements**

#### **Regulation 20 – Protection of vehicle, special category and ro-ro spaces**

28 The existing paragraph 6.1, including paragraphs 6.1.1 and 6.1.2, are replaced by the following:

##### **"6.1 Fixed fire-extinguishing systems**

(The requirements of paragraphs 6.1.1 and 6.1.2 shall apply to ships constructed on or after 1 July 2014. Ships constructed before 1 July 2014 shall comply with the previously applicable requirements of paragraphs 6.1.1 and 6.1.2.)

6.1.1 Vehicle spaces and ro-ro spaces, which are not special category spaces and are capable of being sealed from a location outside of the cargo spaces, shall be fitted with one of the following fixed fire-extinguishing systems:

- .1 a fixed gas fire-extinguishing system complying with the provisions of the Fire Safety Systems Code;
- .2 a fixed high-expansion foam fire-extinguishing system complying with the provisions of the Fire Safety Systems Code; or
- .3 a fixed water-based fire fighting system for ro-ro spaces and special category spaces complying with the provisions of the Fire Safety Systems Code and paragraphs 6.1.2.1 to 6.1.2.4.

6.1.2 Vehicle spaces and ro-ro spaces not capable of being sealed and special category spaces shall be fitted with a fixed water-based fire-fighting system for ro-ro spaces and special category spaces complying with the provisions of the Fire Safety Systems Code which shall protect all parts of any deck and vehicle platform in such spaces. Such a water-based fire-fighting system shall have:

- .1 a pressure gauge on the valve manifold;
- .2 clear marking on each manifold valve indicating the spaces served;
- .3 instructions for maintenance and operation located in the valve room; and
- .4 a sufficient number of drainage valves to ensure complete drainage of the system."



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

**Part B  
Requirements for ships and life-saving appliances**

29 After existing regulation 17, the following new regulation 17-1 is inserted:

**"Regulation 17-1  
Recovery of persons from the water**

1 All ships shall have ship-specific plans and procedures for recovery of persons from the water, taking into account the guidelines developed by the Organization.\* The plans and procedures shall identify the equipment intended to be used for recovery purposes and measures to be taken to minimize the risk to shipboard personnel involved in recovery operations. Ships constructed before 1 July 2014 shall comply with this requirement by the first periodical or renewal safety equipment survey of the ship to be carried out after 1 July 2014, whichever comes first.

2 Ro-ro passenger ships which comply with regulation 26.4 shall be deemed to comply with this regulation.

---

\* Refer to the Guidelines for the development of plans and procedures for recovery of persons from the water (MSC.1/Circ.1412)."

**APPENDIX  
CERTIFICATES**

30 All the forms of certificates and records of equipment contained in the appendix to the annex are replaced by the following:

**FORM OF SAFETY CERTIFICATE FOR PASSENGER SHIPS**

**PASSENGER SHIP SAFETY CERTIFICATE**

This Certificate shall be supplemented by a Record of Equipment for Passenger Ship Safety (Form P)

(Official seal)

(State)

for *an/a short*<sup>1</sup> international voyage

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE  
AT SEA, 1974, as amended

under the authority of the Government of

\_\_\_\_\_  
(name of the State)

by

\_\_\_\_\_  
(person or organization authorized)

**Particulars of ship**<sup>2</sup>

Name of ship .....  
Distinctive number or letters .....  
Port of registry .....  
Gross tonnage .....  
Sea areas in which ship is certified to operate (regulation IV/2) .....  
IMO Number<sup>3</sup> .....  
Date of build:  
    Date of building contract .....  
    Date on which keel was laid or ship was at similar stage of construction .....  
    Date of delivery .....  
    Date on which work for a conversion or an alteration or modification of a major  
    character was commenced (where applicable) .....

All applicable dates shall be completed.

**THIS IS TO CERTIFY:**

- 1 That the ship has been surveyed in accordance with the requirements of regulation I/7 of the Convention.
- 2 That the survey showed that:
  - 2.1 the ship complied with the requirements of the Convention as regards:
    - .1 the structure, main and auxiliary machinery, boilers and other pressure vessels;
    - .2 the watertight subdivision arrangements and details;
    - .3 the following subdivision load lines:

Subdivision load lines assigned and marked on the ship's side amidships (regulation II-1/18) <sup>4</sup>	Freeboard	To apply when the spaces in which passengers are carried include the following alternative spaces
P1	.....	.....
P2	.....	.....
P3	.....	.....

<sup>1</sup> Delete as appropriate.

<sup>2</sup> Alternatively, the particulars of the ship may be placed horizontally in boxes.

<sup>3</sup> In accordance with *IMO ship identification number scheme*, adopted by the Organization by resolution A.600(15).

<sup>4</sup> For ships constructed before 1 January 2009, the applicable subdivision notation "C.1, C.2 and C.3" should be used.

- 2.2 the ship complied with the requirements of the Convention as regards structural fire protection, fire safety systems and appliances and fire control plans;
- 2.3 the life-saving appliances and the equipment of the lifeboats, liferafts and rescue boats were provided in accordance with the requirements of the Convention;
- 2.4 the ship was provided with a line-throwing appliance and radio installations used in life-saving appliances in accordance with the requirements of the Convention;
- 2.5 the ship complied with the requirements of the Convention as regards radio installations;
- 2.6 the functioning of the radio installations used in life-saving appliances complied with the requirements of the Convention;
- 2.7 the ship complied with the requirements of the Convention as regards shipborne navigational equipment, means of embarkation for pilots and nautical publications;
- 2.8 the ship was provided with lights, shapes, means of making sound signals and distress signals, in accordance with the requirements of the Convention and the International Regulations for Preventing Collisions at Sea in force;
- 2.9 in all other respects the ship complied with the relevant requirements of the Convention;
- 2.10 the ship was/was not<sup>1</sup> subjected to an alternative design and arrangements in pursuance of regulation(s) II-1/55 / II-2/17 / III/38<sup>1</sup> of the Convention;
- 2.11 a Document of approval of alternative design and arrangements for machinery and electrical installations/fire protection/life-saving appliances and arrangements<sup>1</sup> is/is not<sup>1</sup> appended to this Certificate.
- 3 That an Exemption Certificate has/has not<sup>1</sup> been issued.

***This certificate is valid until .....***

Completion date of the survey on which this certificate is based: ..... (dd/mm/yyyy)

Issued at .....  
(Place of issue of certificate)

.....  
(Date of issue)

.....  
(Signature of authorized official issuing the certificate)

(Seal or stamp of the issuing authority, as appropriate)

---

<sup>1</sup> Delete as appropriate.

## RECORD OF EQUIPMENT FOR PASSENGER SHIP SAFETY (FORM P)

RECORD OF EQUIPMENT FOR COMPLIANCE WITH  
THE INTERNATIONAL CONVENTION FOR THE SAFETY  
OF LIFE AT SEA, 1974, AS AMENDED

### 1 *Particulars of ship*

Name of ship .....  
Distinctive number or letters .....  
Number of passengers for which certified .....  
Minimum number of persons with required qualifications to operate the radio installations .....

### 2 *Details of life-saving appliances*

1	Total number of persons for which life-saving appliances are provided .....		
		<b>Port Side</b>	<b>Starboard side</b>
2	Total number of lifeboats	.....	.....
2.1	Total number of persons accommodated by them	.....	.....
2.2	Number of partially enclosed lifeboats (regulation III/21 and LSA Code, section 4.5)	.....	.....
2.3	Number of self-righting partially enclosed lifeboats (regulation III/43 <sup>1</sup> )	.....	.....
2.4	Number of totally enclosed lifeboats (regulation III/21 and LSA Code, section 4.6)	.....	.....
2.5	Other lifeboats		
2.5.1	Number	.....	.....
2.5.2	Type	.....	.....
3	Number of motor lifeboats (included in the total lifeboats shown above)	.....	.....
3.1	Number of lifeboats fitted with searchlights	.....	.....
4	Number of rescue boats	.....	.....
4.1	Number of boats which are included in the total lifeboats shown above	.....	.....
4.2	Number of boats which are fast rescue boats	.....	.....
5	Liferafts		
5.1	Those for which approved launching appliances are required		
5.1.1	Number of liferafts	.....	.....
5.1.2	Number of persons accommodated by them	.....	.....
5.2	Those for which approved launching appliances are not required		
5.2.1	Number of liferafts	.....	.....
5.2.2	Number of persons accommodated by them	.....	.....
6	Number of Marine Evacuation Systems (MES)	.....	.....
6.1	Number of liferafts served by them	.....	.....
6.2	Number of persons accommodated by them	.....	.....
7	Buoyant apparatus		
7.1	Number of apparatus	.....	.....
7.2	Number of persons capable of being supported	.....	.....

<sup>1</sup> Refer to the 1983 amendments to SOLAS (MSC.6(48)), applicable to ships constructed on or after 1 July 1986, but before 1 July 1998.

**2 Details of life-saving appliances (continued)**

8	Number of lifebuoys	.....
9	Number of lifejackets (total)	.....
9.1	Number of adult lifejackets	.....
9.2	Number of child lifejackets	.....
9.3	Number of infant lifejackets	.....
10	Immersion suits	.....
10.1	Total number	.....
10.2	Number of suits complying with the requirements for lifejackets	.....
11	Number of anti-exposure suits	.....
12	Number of thermal protective aids <sup>2</sup>	.....
13	Radio installations used in life-saving appliances	.....
13.1	Number of search and rescue locating devices	.....
13.1.1	Radar search and rescue transponders (SART)	.....
13.1.2	AIS search and rescue transmitters (AIS-SART)	.....
13.2	Number of two-way VHF radiotelephone apparatus	.....

**3 Details of radio facilities**

Item		Actual provision
1	Primary systems	
1.1	VHF radio installation	
1.1.1	DSC encoder	.....
1.1.2	DSC watch receiver	.....
1.1.3	Radiotelephony	.....
1.2	MF radio installation	
1.2.1	DSC encoder	.....
1.2.2	DSC watch receiver	.....
1.2.3	Radiotelephony	.....
1.3	MF/HF radio installation	
1.3.1	DSC encoder	.....
1.3.2	DSC watch receiver	.....
1.3.3	Radiotelephony	.....
1.3.4	Direct-printing radiotelegraphy	.....
1.4	Inmarsat ship earth station	.....
2	Secondary means of alerting	.....
3	Facilities for reception of maritime safety information	
3.1	NAVTEX receiver	.....
3.2	EGC receiver	.....
3.3	HF direct-printing radiotelegraph receiver	.....
4	Satellite EPIRB	
4.1	COSPAS-SARSAT	.....
5	VHF EPIRB	.....
6	Ship's search and rescue locating device	
6.1	Radar search and rescue transponder (SART)	.....
6.2	AIS search and rescue transmitter (AIS- SART)	.....

<sup>2</sup> Excluding those required by the LSA Code, paragraphs 4.1.5.1.24, 4.4.8.31 and 5.1.2.2.13.

4 **Methods used to ensure availability of radio facilities** (regulations IV/15.6 and 15.7)

- 4.1 Duplication of equipment .....
- 4.2 Shore-based maintenance .....
- 4.3 At-sea maintenance capability.....

5 **Details of navigational systems and equipment**

Item		Actual provision
1.1	Standard magnetic compass <sup>3</sup>	.....
1.2	Spare magnetic compass <sup>3</sup>	.....
1.3	Gyro-compass <sup>3</sup>	.....
1.4	Gyro-compass heading repeater <sup>3</sup>	.....
1.5	Gyro-compass bearing repeater <sup>3</sup>	.....
1.6	Heading or track control system <sup>3</sup>	.....
1.7	Pelorus or compass bearing device <sup>3</sup>	.....
1.8	Means of correcting heading and bearings	.....
1.9	Transmitting heading device (THD) <sup>3</sup>	.....
2.1	Nautical charts/Electronic chart display and information system (ECDIS) <sup>4</sup>	.....
2.2	Back-up arrangements for ECDIS	.....
2.3	Nautical publications	.....
2.4	Back-up arrangements for electronic nautical publications	.....
3.1	Receiver for a global navigation satellite system/terrestrial radionavigation system <sup>3,4</sup>	.....
3.2	9 GHz radar <sup>3</sup>	.....
3.3	Second radar (3 GHz/9 GHz) <sup>4,3</sup>	.....
3.4	Automatic radar plotting aid (ARPA) <sup>3</sup>	.....
3.5	Automatic tracking aid <sup>3</sup>	.....
3.6	Second automatic tracking aid <sup>3</sup>	.....
3.7	Electronic plotting aid <sup>3</sup>	.....
4.1	Automatic identification system (AIS)	.....
4.2	Long-range identification and tracking system	.....
5	Voyage data recorder (VDR)	.....
6.1	Speed and distance measuring device (through the water) <sup>3</sup>	.....
6.2	Speed and distance measuring device (over the ground in the forward and athwartships direction) <sup>3</sup>	.....
7	Echo-sounding device <sup>3</sup>	.....
8.1	Rudder, propeller, thrust, pitch and operational mode indicator <sup>3</sup>	.....
8.2	Rate-of-turn indicator <sup>3</sup>	.....
9	Sound reception system <sup>3</sup>	.....
10	Telephone to emergency steering position <sup>3</sup>	.....
11	Daylight signalling lamp <sup>3</sup>	.....
12	Radar reflector <sup>3</sup>	.....
13	International Code of Signals	.....
14	IAMSAR Manual, Volume III	.....
15	Bridge navigational watch alarm system (BNWAS)	.....

<sup>3</sup> Alternative means of meeting this requirement are permitted under regulation V/19. In case of other means they shall be specified.

<sup>4</sup> Delete as appropriate.



**FORM OF SAFETY CONSTRUCTION CERTIFICATE FOR CARGO SHIPS**

**CARGO SHIP SAFETY CONSTRUCTION CERTIFICATE**

(Official seal)

(State)

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, as amended  
under the authority of the Government of

\_\_\_\_\_  
(name of the State)

by

\_\_\_\_\_  
(person or organization authorized)

**Particulars of ship<sup>1</sup>**

Name of ship .....  
Distinctive number or letters .....  
Port of registry .....  
Gross tonnage .....  
Deadweight of ship (metric tons)<sup>2</sup> .....  
IMO Number<sup>3</sup> .....

Type of ship<sup>4</sup>

Bulk carrier  
Oil tanker  
Chemical tanker  
Gas carrier  
Cargo ship other than any of the above

Date of build:

Date of building contract .....  
Date on which keel was laid or ship was at similar stage of construction .....  
Date of delivery .....  
Date on which work for a conversion or an alteration or modification of a major character  
was commenced (where applicable) .....

All applicable dates shall be completed.

---

<sup>1</sup> Alternatively, the particulars of the ship may be placed horizontally in boxes.

<sup>2</sup> For oil tankers, chemical tankers and gas carriers only.

<sup>3</sup> In accordance with the *IMO ship identification number scheme*, adopted by the Organization by resolution A.600(15).

<sup>4</sup> Delete as appropriate.



**THIS IS TO CERTIFY:**

1. That the ship has been surveyed in accordance with the requirements of regulation I/10 of the Convention.
2. That the survey showed that the condition of the structure, machinery and equipment as defined in the above regulation was satisfactory and the ship complied with the relevant requirements of chapters II-1 and II-2 of the Convention (other than those relating to fire safety systems and appliances and fire control plans).
3. That an Exemption Certificate has/has not<sup>4</sup> been issued.
4. That the ship was/was not<sup>4</sup> subjected to an alternative design and arrangements in pursuance of regulation(s) II-1/55 / II-2/17<sup>4</sup> of the Convention.
5. That a Document of approval of alternative design and arrangements for machinery and electrical installations/fire protection<sup>4</sup> is/is not<sup>4</sup> appended to this Certificate.

***This certificate is valid until*** .....

Completion date of the survey on which this certificate is based: ..... (dd/mm/yyyy)

Issued at .....  
(Place of issue of certificate)

.....  
(Date of issue)

.....  
(Signature of authorized official issuing the certificate)

(Seal or stamp of the issuing authority, as appropriate)

---

<sup>4</sup> Delete as appropriate.

**FORM OF SAFETY EQUIPMENT CERTIFICATE FOR CARGO SHIPS**

**CARGO SHIP SAFETY EQUIPMENT CERTIFICATE**

This Certificate shall be supplemented by a Record of Equipment for Cargo Ship Safety (Form E)

(Official seal)

(State)

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, as amended  
under the authority of the Government of

\_\_\_\_\_  
(name of the State)

by

\_\_\_\_\_  
(person or organization authorized)

**Particulars of ship<sup>1</sup>**

Name of ship .....  
Distinctive number or letters .....  
Port of registry .....  
Gross tonnage .....  
Deadweight of ship (metric tons)<sup>2</sup> .....  
Length of ship (regulation III/3.12) .....  
IMO Number<sup>3</sup> .....

Type of ship<sup>4</sup>

Bulk carrier  
Oil tanker  
Chemical tanker  
Gas carrier  
Cargo ship other than any of the above

Date on which keel was laid or ship was at a similar stage of construction or,  
where applicable, date on which work for a conversion or an alteration  
or modification of a major character was commenced .....

**THIS IS TO CERTIFY:**

- 1 That the ship has been surveyed in accordance with the requirements of regulation I/8 of the Convention.
- 2 That the survey showed that:
  - 2.1 the ship complied with the requirements of the Convention as regards fire safety systems and appliances and fire control plans;

---

<sup>1</sup> Alternatively, the particulars of the ship may be placed horizontally in boxes.

<sup>2</sup> For oil tankers, chemical tankers and gas carriers only.

<sup>3</sup> In accordance with the *IMO ship identification number scheme*, adopted by the Organization by resolution A.600(15).

<sup>4</sup> Delete as appropriate.

- 2.2 the life-saving appliances and the equipment of the lifeboats, liferafts and rescue boats were provided in accordance with the requirements of the Convention;
- 2.3 the ship was provided with a line-throwing appliance and radio installations used in life-saving appliances in accordance with the requirements of the Convention;
- 2.4 the ship complied with the requirements of the Convention as regards shipborne navigational equipment, means of embarkation for pilots and nautical publications;
- 2.5 the ship was provided with lights, shapes and means of making sound signals and distress signals in accordance with the requirements of the Convention and the International Regulations for Preventing Collisions at Sea in force;
- 2.6 in all other respects the ship complied with the relevant requirements of the Convention;
- 2.7 the ship was/was not<sup>4</sup> subjected to an alternative design and arrangements in pursuance of regulation(s) II-2/17 / III/38<sup>4</sup> of the Convention;
- 2.8 a Document of approval of alternative design and arrangements for fire protection/ life-saving appliances and arrangements<sup>4</sup> is/is not<sup>4</sup> appended to this Certificate.
- 3 That the ship operates in accordance with regulation III/26.1.1.1<sup>5</sup> within the limits of the trade area .....
- 4 That an Exemption Certificate has/has not<sup>4</sup> been issued.

***This certificate is valid until.....***

Completion date of the survey on which this certificate is based: ..... (dd/mm/yyyy)

Issued at.....  
(Place of issue of certificate)

.....  
(Date of issue) (Signature of authorized official issuing the certificate)

(Seal or stamp of the issuing authority, as appropriate)

<sup>4</sup> Delete as appropriate.

<sup>5</sup> Refer to the 1983 amendments to SOLAS (MSC.6(48)), applicable to ships constructed on or after 1 July 1986, but before 1 July 1998 in the case of self-righting partially enclosed lifeboat(s) on board.

## RECORD OF EQUIPMENT FOR CARGO SHIP SAFETY (FORM E)

### RECORD OF EQUIPMENT FOR COMPLIANCE WITH THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED

#### 1 *Particulars of ship*

Name of ship .....

Distinctive number or letters .....

#### 2 *Details of life-saving appliances*

1	Total number of persons for which life-saving appliances are provided .....		
		<b>Port side</b>	<b>Starboard side</b>
2	Total number of lifeboats	.....	.....
2.1	Total number of persons accommodated by them	.....	.....
2.2	Number of self-righting partially enclosed lifeboats (regulation III/43 <sup>1</sup> )	.....	.....
2.3	Number of totally enclosed lifeboats (regulation III/31 and LSA Code, section 4.6)	.....	.....
2.4	Number of lifeboats with a self-contained air support system (regulation III/31 and LSA Code, section 4.8)	.....	.....
2.5	Number of fire-protected lifeboats (regulation III/31 and LSA Code, section 4.9)	.....	.....
2.6	Other lifeboats		
2.6.1	Number	.....	.....
2.6.2	Type	.....	.....
2.7	Number of free-fall lifeboats	.....	.....
2.7.1	Totally enclosed (regulation III/31 and LSA Code, section 4.7)	.....	.....
2.7.2	Self-contained (regulation III/31 and LSA Code, section 4.8)	.....	.....
2.7.3	Fire-protected (regulation III/31 and LSA Code, section 4.9)	.....	.....
3	Number of motor lifeboats (included in the total lifeboats shown above)	.....	.....
3.1	Number of lifeboats fitted with searchlights	.....	.....
4	Number of rescue boats	.....	.....
4.1	Number of boats which are included in the total lifeboats shown above	.....	.....
5	Liferafts		
5.1	Those for which approved launching appliances are required		
5.1.1	Number of liferafts	.....	.....
5.1.2	Number of persons accommodated by them	.....	.....

<sup>1</sup> Refer to the 1983 amendments to SOLAS (MSC.6(48)), applicable to ships constructed on or after 1 July 1986, but before 1 July 1998.

2 **Details of life-saving appliances (continued)**

5.2	Those for which approved launching appliances are not required	
5.2.1	Number of liferafts	.....
5.2.2	Number of persons accommodated by them	.....
5.3	Number of liferafts required by regulation III/31.1.4	.....
6	Number of lifebuoys	.....
7	Number of lifejackets	.....
8	Immersion suits	
8.1	Total number	.....
8.2	Number of suits complying with the requirements for lifejackets	.....
9	Number of anti-exposure suits	.....
10	Radio installations used in life-saving appliances	
10.1	Number of search and rescue locating devices	
10.1.1	Radar search and rescue transponders (SART)	.....
10.1.2	AIS search and rescue transmitters (AIS-SART)	.....
10.2	Number of two-way VHF radiotelephone apparatus	.....

3 **Details of navigational systems and equipment**

Item	Actual provision
1.1 Standard magnetic compass <sup>2</sup>	.....
1.2 Spare magnetic compass <sup>2</sup>	.....
1.3 Gyro-compass <sup>2</sup>	.....
1.4 Gyro-compass heading repeater <sup>2</sup>	.....
1.5 Gyro-compass bearing repeater <sup>2</sup>	.....
1.6 Heading or track control system <sup>2</sup>	.....
1.7 Pelorus or compass bearing device <sup>2</sup>	.....
1.8 Means of correcting heading and bearings	.....
1.9 Transmitting heading device (THD) <sup>2</sup>	.....
2.1 Nautical charts/Electronic chart display and information system (ECDIS) <sup>3</sup>	.....
2.2 Back-up arrangements for ECDIS	.....
2.3 Nautical publications	.....
2.4 Back-up arrangements for electronic nautical publications	.....
3.1 Receiver for a global navigation satellite system/terrestrial radionavigation system <sup>2, 3</sup>	.....
3.2 9 GHz radar <sup>2</sup>	.....
3.3 Second radar (3 GHz/9 GHz <sup>3</sup> ) <sup>2</sup>	.....
3.4 Automatic radar plotting aid (ARPA) <sup>2</sup>	.....
3.5 Automatic tracking aid <sup>2</sup>	.....
3.6 Second automatic tracking aid <sup>2</sup>	.....
3.7 Electronic plotting aid <sup>2</sup>	.....

<sup>2</sup> Alternative means of meeting this requirement are permitted under regulation V/19. In case of other means, they shall be specified.

<sup>3</sup> Delete as appropriate.

3 **Details of navigational systems and equipment** (continued)

Item	Actual provision
4.1 Automatic identification system (AIS)	.....
4.2 Long-range identification and tracking system	.....
5.1 Voyage data recorder (VDR) <sup>3</sup>	.....
5.2 Simplified voyage data recorder (S-VDR) <sup>3</sup>	.....
6.1 Speed and distance measuring device (through the water) <sup>2</sup>	.....
6.2 Speed and distance measuring device (over the ground in the forward and athwartships direction) <sup>2</sup>	.....
7 Echo-sounding device <sup>2</sup>	.....
8.1 Rudder, propeller, thrust, pitch and operational mode indicator <sup>2</sup>	.....
8.2 Rate-of-turn indicator <sup>2</sup>	.....
9 Sound reception system <sup>2</sup>	.....
10 Telephone to emergency steering position <sup>2</sup>	.....
11 Daylight signalling lamp <sup>2</sup>	.....
12 Radar reflector <sup>2</sup>	.....
13 International Code of Signals	.....
14 IAMSAR Manual, Volume III	.....
15 Bridge navigational watch alarm system (BNWAS)	.....

**THIS IS TO CERTIFY** that this Record is correct in all respects.

Issued at .....  
(Place of issue of the Record)

.....  
(Date of issue) (Signature of duly authorized official issuing the Record)

(Seal or stamp of the issuing authority, as appropriate)

<sup>2</sup> Alternative means of meeting this requirement are permitted under regulation V/19. In case of other means, they shall be specified.

<sup>3</sup> Delete as appropriate.

**FORM OF SAFETY RADIO CERTIFICATE FOR CARGO SHIPS**

**CARGO SHIP SAFETY RADIO CERTIFICATE**

This Certificate shall be supplemented by a Record of Equipment  
for Cargo Ship Safety Radio (Form R)

(Official seal)

(State)

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE  
AT SEA, 1974, as amended

under the authority of the Government of

\_\_\_\_\_  
(name of the State)

by

\_\_\_\_\_  
(person or organization authorized)

**Particulars of ship<sup>1</sup>**

Name of ship .....  
Distinctive number or letters .....  
Port of registry .....  
Gross tonnage .....  
Sea areas in which ship is certified to operate (regulation IV/2) .....  
IMO Number<sup>2</sup> .....  
Date on which keel was laid or ship was at a similar stage of construction or,  
where applicable, date on which work for a conversion or an alteration or  
modification of a major character was commenced .....

**THIS IS TO CERTIFY:**

- 1 That the ship has been surveyed in accordance with the requirements of regulation I/9 of the Convention.
- 2 That the survey showed that:
  - 2.1 the ship complied with the requirements of the Convention as regards radio installations;
  - 2.2 the functioning of the radio installations used in life-saving appliances complied with the requirements of the Convention.
- 3 That an Exemption Certificate has/has not<sup>3</sup> been issued.

<sup>1</sup> Alternatively, the particulars of the ship may be placed horizontally in boxes.

<sup>2</sup> In accordance with the *IMO ship identification number scheme*, adopted by the Organization by resolution A.600(15).

<sup>3</sup> Delete as appropriate.

***This certificate is valid until***.....

Completion date of the survey on which this certificate is based: ..... (dd/mm/yyyy)

Issued at .....  
(Place of issue of certificate)

.....  
(Date of issue)

.....  
(Signature of authorized official issuing the certificate)

(Seal or stamp of the issuing authority, as appropriate)



## RECORD OF EQUIPMENT FOR CARGO SHIP SAFETY RADIO (FORM R)

### RECORD OF EQUIPMENT FOR COMPLIANCE WITH THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED

#### 1 *Particulars of ship*

Name of ship .....  
Distinctive number or letters .....  
Minimum number of persons with required  
qualifications to operate the radio installations .....

#### 2 *Details of radio facilities*

Item		Actual provision
1	Primary systems	
1.1	VHF radio installation	
1.1.1	DSC encoder	.....
1.1.2	DSC watch receiver	.....
1.1.3	Radiotelephony	.....
1.2	MF radio installation	
1.2.1	DSC encoder	.....
1.2.2	DSC watch receiver	.....
1.2.3	Radiotelephony	.....
1.3	MF/HF radio installation	
1.3.1	DSC encoder	.....
1.3.2	DSC watch receiver	.....
1.3.3	Radiotelephony	.....
1.3.4	Direct-printing telegraphy	.....
1.4	Inmarsat ship earth station	.....
2	Secondary means of alerting	.....
3	Facilities for reception of maritime safety information	
3.1	NAVTEX receiver	.....
3.2	EGC receiver	.....
3.3	HF direct-printing radiotelegraph receiver	.....
4	Satellite EPIRB	.....
4.1	COSPAS-SARSAT	.....
5	VHF EPIRB	.....
6	Ship's search and rescue locating device	
6.1	Radar search and rescue transponder (SART)	.....
6.2	AIS search and rescue transmitter (AIS-SART)	.....

- 3        **Methods used to ensure availability of radio facilities** (regulations IV/15.6 and 15.7)
- 3.1      Duplication of equipment .....
- 3.2      Shore-based maintenance .....
- 3.3      At-sea maintenance capability .....

**THIS IS TO CERTIFY** that this Record is correct in all respects.

Issued at .....  
(Place of issue of the Record)

.....  
(Date of issue)

.....  
(Signature of duly authorized official issuing the Record)

(Seal or stamp of the issuing authority, as appropriate)

**FORM OF EXEMPTION CERTIFICATE**

**EXEMPTION CERTIFICATE**

(Official seal)

(State)

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE  
AT SEA, 1974, as amended

under the authority of the Government of

by \_\_\_\_\_  
(name of the State)  
\_\_\_\_\_  
(person or organization authorized)

**Particulars of ship<sup>1</sup>**

Name of ship .....  
Distinctive number or letters .....  
Port of registry .....  
Gross tonnage .....  
IMO Number<sup>2</sup> .....

**THIS IS TO CERTIFY:**

That the ship is, under the authority conferred by regulation.....  
of the Convention, exempted from the requirements of .....  
..... of the Convention.

Conditions, if any, on which the Exemption Certificate is granted:

.....  
.....

Voyages, if any, for which the Exemption Certificate is granted:

.....  
.....

**This certificate is valid until**..... subject  
to the ..... Certificate,  
to which this certificate is attached, remaining valid.

Issued at .....  
(Place of issue of certificate)

.....  
(Date of issue) (Signature of authorized official issuing the certificate)

(Seal or stamp of the issuing authority, as appropriate)

<sup>1</sup> Alternatively, the particulars of the ship may be placed horizontally in boxes.

<sup>2</sup> In accordance with the *IMO ship identification number scheme*, adopted by the Organization by resolution A.600(15).

**FORM OF NUCLEAR PASSENGER SHIP SAFETY CERTIFICATE**

**NUCLEAR PASSENGER SHIP SAFETY CERTIFICATE**

This Certificate shall be supplemented by a Record of Equipment for Passenger Ship Safety (Form P)

(Official seal)

(State)

for *an / a short*<sup>1</sup> international voyage

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE  
AT SEA, 1974, as amended

under the authority of the Government of

\_\_\_\_\_  
(name of the State)

by

\_\_\_\_\_  
(person or organization authorized)

**Particulars of ship<sup>2</sup>**

Name of ship .....  
Distinctive number or letters .....  
Port of registry .....  
Gross tonnage .....  
Sea areas in which ship is certified to operate (regulation IV/2) .....  
IMO Number<sup>3</sup> .....

Date of build:

Date of building contract .....  
Date on which keel was laid or ship was at similar stage of construction .....  
Date of delivery .....  
Date on which work for a conversion or an alteration or modification of a major character  
was commenced (where applicable) .....

All applicable dates shall be completed.

**THIS IS TO CERTIFY:**

- 1 That the ship has been surveyed in accordance with the requirements of regulation VIII/9 of the Convention.
- 2 That the ship, being a nuclear ship, complied with all the requirements of chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship; and that:
  - 2.1 the ship complied with the requirements of the Convention as regards:
    - .1 the structure, main and auxiliary machinery, boilers and other pressure vessels, including the nuclear propulsion plant and the collision protective structure;

---

<sup>1</sup> Delete as appropriate.

<sup>2</sup> Alternatively, the particulars of the ship may be placed horizontally in boxes.

<sup>3</sup> In accordance with the *IMO ship identification number scheme*, adopted by the Organization by resolution A.600(15).

- .2 the watertight subdivision arrangements and details;  
.3 the following subdivision load lines:

Subdivision load lines assigned and marked on the ship's side amidships (regulation II-1/18) <sup>4</sup>	Freeboard	To apply when the spaces in which passengers are carried include the following alternative spaces
P1	.....	.....
P2	.....	.....
P3	.....	.....

- 2.2 the ship complied with the requirements of the Convention as regards structural fire protection, fire safety systems and appliances and fire control plans;
- 2.3 the ship complied with the requirements of the Convention as regards radiation protection systems and equipment;
- 2.4 the life-saving appliances and the equipment of the lifeboats, liferafts and rescue boats were provided in accordance with the requirements of the Convention;
- 2.5 the ship was provided with a line-throwing appliance and radio installations used in life-saving appliances in accordance with the requirements of the Convention;
- 2.6 the ship complied with the requirements of the Convention as regards radio installations;
- 2.7 the functioning of the radio installations used in life-saving appliances complied with the requirements of the Convention;
- 2.8 the ship complied with the requirements of the Convention as regards shipborne navigational equipment, means of embarkation for pilots and nautical publications;
- 2.9 the ship was provided with lights, shapes, means of making sound signals and distress signals, in accordance with the requirements of the Convention and the International Regulations for Preventing Collisions at Sea in force;
- 2.10 in all other respects the ship complied with the relevant requirements of the Convention;
- 2.11 the ship was/was not<sup>1</sup> subjected to an alternative design and arrangements in pursuance of regulation(s) II-1/55 / II-2 /17 / III/38<sup>1</sup> of the Convention;
- 2.12 a Document of approval of alternative design and arrangements for machinery and electrical installations/fire protection/life-saving appliances and arrangements<sup>1</sup> is/is not<sup>1</sup> appended to this Certificate.

***This certificate is valid until***.....

Completion date of the survey on which this certificate is based: .....( dd/mm/yyyy)

Issued at .....  
(Place of issue of certificate)

.....  
(Date of issue) (Signature of authorized official issuing the certificate)

(Seal or stamp of the issuing authority, as appropriate)

<sup>1</sup> Delete as appropriate.

<sup>4</sup> For ships constructed before 1 January 2009, the applicable subdivision notation "C.1, C.2 and C.3" should be used.

**FORM OF NUCLEAR CARGO SHIP SAFETY CERTIFICATE**

**NUCLEAR CARGO SHIP SAFETY CERTIFICATE**

This Certificate shall be supplemented by a Record of Equipment for Cargo Ship Safety (Form C)

(Official seal)

(State)

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE  
AT SEA, 1974, as amended

under the authority of the Government of

\_\_\_\_\_  
(name of the State)

by

\_\_\_\_\_  
(person or organization authorized)

**Particulars of ship<sup>1</sup>**

Name of ship .....  
Distinctive number or letters .....  
Port of registry .....  
Gross tonnage .....  
Deadweight of ship (metric tons)<sup>2</sup> .....  
Length of ship (regulation III/3.12) .....  
Sea areas in which ship is certified to operate (regulation IV/2) .....  
IMO Number<sup>3</sup> .....

**Type of ship<sup>4</sup>**

Bulk carrier  
Oil tanker  
Chemical tanker  
Gas carrier  
Cargo ship other than any of the above

Date of build:

Date of building contract .....  
Date on which keel was laid or ship was at similar stage of construction .....  
Date of delivery .....  
Date on which work for a conversion or an alteration or modification of a major character  
was commenced (where applicable) .....

All applicable dates shall be completed.

---

<sup>1</sup> Alternatively, the particulars of the ship may be placed horizontally in boxes.

<sup>2</sup> For oil tankers, chemical tankers and gas carriers only.

<sup>3</sup> In accordance with the *IMO ship identification number scheme*, adopted by the Organization by resolution A.600(15).

<sup>4</sup> Delete as appropriate.

**THIS IS TO CERTIFY:**

- 1 That the ship has been surveyed in accordance with the requirements of regulation VIII/9 of the Convention.
- 2 That the ship, being a nuclear ship, complied with all the requirements of chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship; and that:
  - 2.1 the condition of the structure, machinery and equipment as defined in regulation I/10 (as applicable to comply with regulation VIII/9), including the nuclear propulsion plant and the collision protective structure, was satisfactory and the ship complied with the relevant requirements of chapter II-1 and chapter II-2 of the Convention (other than those relating to fire safety systems and appliances and fire control plans);
  - 2.2 the ship complied with the requirements of the Convention as regards fire safety systems and appliances and fire control plans;
  - 2.3 the life-saving appliances and the equipment of the lifeboats, liferafts and rescue boats were provided in accordance with the requirements of the Convention;
  - 2.4 the ship was provided with a line-throwing appliance and radio installations used in life-saving appliances in accordance with the requirements of the Convention;
  - 2.5 the ship complied with the requirements of the Convention as regards radio installations;
  - 2.6 the functioning of the radio installations used in life-saving appliances complied with the requirements of the Convention;
  - 2.7 the ship complied with the requirements of the Convention as regards shipborne navigational equipment, means of embarkation for pilots and nautical publications;
  - 2.8 the ship was provided with lights, shapes, means of making sound signals and distress signals, in accordance with the requirements of the Convention and the International Regulations for Preventing Collisions at Sea in force;
  - 2.9 in all other respects the ship complied with the relevant requirements of the regulations, so far as these requirements apply thereto;
  - 2.10 the ship was/was not<sup>3</sup> subjected to an alternative design and arrangements in pursuance of regulation(s) II-1/55 / II-2/17 / III/38<sup>3</sup> of the Convention;
  - 2.11 a Document of approval of alternative design and arrangements for machinery and electrical installations/fire protection/life-saving appliance and arrangements<sup>3</sup> is/is not<sup>3</sup> appended to this Certificate.

***This certificate is valid until*** .....

Completion date of the survey on which this certificate is based: ..... (dd/mm/yyyy)

Issued at .....  
(Place of issue of certificate)

.....  
(Date of issue) (Signature of authorized official issuing the certificate)

(Seal or stamp of the issuing authority, as appropriate)

<sup>3</sup> Delete as appropriate.

## RECORD OF EQUIPMENT FOR CARGO SHIP SAFETY (FORM C)

### RECORD OF EQUIPMENT FOR COMPLIANCE WITH THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED

#### 1 **Particulars of ship**

Name of ship .....  
Distinctive number or letters .....  
Minimum number of persons with required qualifications to operate the radio installations .....

#### 2 **Details of life-saving appliances**

1	Total number of persons for which life-saving appliances are provided:		
		<b>Port side</b>	<b>Starboard side</b>
2	Total number of lifeboats	.....	.....
2.1	Total number of persons accommodated by them	.....	.....
2.2	Number of self-righting partially enclosed lifeboats (regulation III/43 <sup>1</sup> )	.....	.....
2.3	Number of totally enclosed lifeboats (regulation III/31 and LSA Code, section 4.6)	.....	.....
2.4	Number of lifeboats with a self-contained air support system (regulation III/31 and LSA Code, section 4.8)	.....	.....
2.5	Number of fire-protected lifeboats (regulation III/31 and LSA Code, section 4.9)	.....	.....
2.6	Other lifeboats		
2.6.1	Number	.....	.....
2.6.2	Type	.....	.....
2.7	Number of free-fall lifeboats	.....	
2.7.1	Totally enclosed (regulation III/31 and LSA Code, section 4.7)	.....	
2.7.2	Self-contained (regulation III/31 and LSA Code, section 4.8)	.....	
2.7.3	Fire-protected (regulation III/31 and LSA Code, section 4.9)	.....	
3	Number of motor lifeboats (included in the total lifeboats shown above)	.....	
3.1	Number of lifeboats fitted with searchlights	.....	
4	Number of rescue boats	.....	
4.1	Number of boats which are included in the total lifeboats shown above	.....	

<sup>1</sup> Refer to the 1983 amendments to SOLAS (MSC.6(48)), applicable to ships constructed on or after 1 July 1986, but before 1 July 1998.



2 **Details of life-saving appliances** (continued)

5	Liferafts	
5.1	Those for which approved launching appliances are required	
5.1.1	Number of liferafts	.....
5.1.2	Number of persons accommodated by them	.....
5.2	Those for which approved launching appliances are not required	
5.2.1	Number of liferafts	.....
5.2.2	Number of persons accommodated by them	.....
5.3	Number of liferafts required by regulation III/31.1.4	.....
6	Number of lifebuoys	.....
7	Number of lifejackets	.....
8	Immersion suits	
8.1	Total number	.....
8.2	Number of suits complying with the requirements for lifejackets	.....
9	Number of anti-exposure suits	.....
10	Radio installations used in life-saving appliances	
10.1	Number of search and rescue locating devices	
10.1.1	Radar search and rescue transponders (SART)	.....
10.1.2	AIS search and rescue transmitters (AIS-SART)	.....
10.2	Number of two-way VHF radiotelephone apparatus	.....

3 **Details of radio facilities**

Item		Actual provision
1	Primary systems	
1.1	VHF radio installation	
1.1.1	DSC encoder	.....
1.1.2	DSC watch receiver	.....
1.1.3	Radiotelephony	.....
1.2	MF radio installation	
1.2.1	DSC encoder	.....
1.2.2	DSC watch receiver	.....
1.2.3	Radiotelephony	.....
1.3	MF/HF radio installation	
1.3.1	DSC encoder	.....
1.3.2	DSC watch receiver	.....
1.3.3	Radiotelephony	.....
1.3.4	Direct-printing telegraphy	.....
1.4	Inmarsat ship earth station	.....
2	Secondary means of alerting	.....
3	Facilities for reception of maritime safety information	
3.1	NAVTEX receiver	.....
3.2	EGC receiver	.....
3.3	HF direct-printing radiotelegraph receiver	.....
4	Satellite EPIRB	
4.1	COSPAS-SARSAT	.....
5	VHF EPIRB	.....
6	Ship's search and rescue locating device	
6.1	Radar search and rescue transponder (SART)	.....
6.2	AIS search and rescue transmitter (AIS-SART)	.....

4 **Methods used to ensure availability of radio facilities** (regulations IV/15.6 and 15.7)

- 4.1 Duplication of equipment .....
- 4.2 Shore-based maintenance .....
- 4.3 At-sea maintenance capability .....

5 **Details of navigational systems and equipment**

Item		Actual provision
1.1	Standard magnetic compass <sup>2</sup>	.....
1.2	Spare magnetic compass <sup>2</sup>	.....
1.3	Gyro-compass <sup>2</sup>	.....
1.4	Gyro-compass heading repeater <sup>2</sup>	.....
1.5	Gyro-compass bearing repeater <sup>2</sup>	.....
1.6	Heading or track control system <sup>2</sup>	.....
1.7	Pelorus or compass bearing device <sup>2</sup>	.....
1.8	Means of correcting heading and bearings	.....
1.9	Transmitting heading device (THD) <sup>2</sup>	.....
2.1	Nautical charts/Electronic chart display and information system (ECDIS) <sup>3</sup>	.....
2.2	Back-up arrangements for ECDIS	.....
2.3	Nautical publications	.....
2.4	Back-up arrangements for electronic nautical publications	.....
3.1	Receiver for a global navigation satellite system/terrestrial radionavigation system <sup>2, 3</sup>	.....
3.2	9 GHz radar <sup>2</sup>	.....
3.3	Second radar (3 GHz/9 GHz) <sup>3, 2</sup>	.....
3.4	Automatic radar plotting aid (ARPA) <sup>2</sup>	.....
3.5	Automatic tracking aid <sup>2</sup>	.....
3.6	Second automatic tracking aid <sup>2</sup>	.....
3.7	Electronic plotting aid <sup>2</sup>	.....
4.1	Automatic identification system (AIS)	.....
4.2	Long-range identification and tracking system	.....
5.1	Voyage data recorder (VDR) <sup>3</sup>	.....
5.2	Simplified voyage data recorder (S-VDR) <sup>3</sup>	.....
6.1	Speed and distance measuring device (through the water) <sup>2</sup>	.....
6.2	Speed and distance measuring device (over the ground in the forward and athwartships direction) <sup>2</sup>	.....
7	Echo-sounding device <sup>2</sup>	.....

<sup>2</sup> Alternative means of meeting this requirement are permitted under regulation V/19. In case of other means they shall be specified.

<sup>3</sup> Delete as appropriate.

5 **Details of navigational systems and equipment** (continued)

8.1	Rudder, propeller, thrust, pitch and operational mode indicator <sup>2</sup>	.....
8.2	Rate-of-turn indicator <sup>2</sup>	.....
9	Sound reception system <sup>2</sup>	.....
10	Telephone to emergency steering position <sup>2</sup>	.....
11	Daylight signalling lamp <sup>2</sup>	.....
12	Radar reflector <sup>2</sup>	.....
13	International Code of Signals	.....
14	IAMSAR Manual, Volume III	.....
15	Bridge navigational watch alarm system (BNWAS)	.....

**THIS IS TO CERTIFY** that this Record is correct in all respects.

Issued at .....

(Place of issue of the Record)

.....  
(Date of issue)

.....  
(Signature of duly authorized official issuing the Record)

(Seal or stamp of the issuing authority, as appropriate)

\*\*\*

<sup>2</sup> Alternative means of meeting this requirement are permitted under regulation V/19. In case of other means they shall be specified.

---

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

MSC.1/Circ.1447  
14 December 2012

**GUIDELINES FOR THE DEVELOPMENT OF PLANS AND PROCEDURES  
FOR RECOVERY OF PERSONS FROM THE WATER**

1 The Maritime Safety Committee, at its ninety-first session (26 to 30 November 2012), approved the *Guidelines for the development of plans and procedures for recovery of persons from the water*, set out in the annex, aiming at providing additional guidance on the application of the requirements in SOLAS regulation III/17-1.

2 Member Governments are invited to bring the annexed Guidelines to the attention of all interested parties.

\*\*\*



## ANNEX

### GUIDELINES FOR THE DEVELOPMENT OF PLANS AND PROCEDURES FOR RECOVERY OF PERSONS FROM THE WATER

#### 1 General

1.1 Life-saving and other equipment carried on board may be used to recover persons from the water, even though this may require using such equipment in unconventional ways.

1.2 These Guidelines should be read in conjunction with the *Guide to recovery techniques* (MSC.1/Circ.1182) and the *Guide for cold water survival* (MSC.1/Circ.1185/Rev.1).

1.3 In particular, the *Guide to recovery techniques* (MSC.1/Circ.1182) provides a number of examples of how certain types of equipment can be used to recover persons from the water; and can also be used for the development of plans and procedures for recovery of persons from the water.

1.4 The initiation or continuation of recovery operations should be at the discretion of the master of the recovering ship, in accordance with the provisions of SOLAS regulation III/17-1.

1.5 The plans and procedures should be considered as a part of the emergency preparedness plan required by paragraph 8 of part A of the International Safety Management (ISM) Code.

#### 2 Matters to be considered when developing plans and procedures

2.1 A risk assessment should be conducted and documented when developing plans and procedures for recovery of persons from the water, including equipment intended to be used, taking into account the anticipated conditions and ship-specific characteristics.

2.2 The recovery plans and procedures should facilitate the transfer of persons from the water to the ship while minimizing the risk of injury from impact with the ship's side or other structures, including the recovery appliance itself.

2.3 To the extent practicable, recovery procedures should provide for recovery of persons in a horizontal or near-horizontal ("deck-chair") position. Recovery in a vertical position should be avoided whenever possible as it risks cardiac arrest in hypothermic casualties (refer to the *Guide for cold water survival* (MSC.1/Circ.1185/Rev.1)).

2.4 If carried, dedicated recovery equipment should be clearly marked with the maximum number of persons it can accommodate, based on a weight of 82.5 kg per person.

2.5 Recovery operations should be conducted at a position clear of the ship's propellers and, as far as practicable, within the ship's parallel mid-body section.

2.6 A source of illumination and, where required, a source of power should be available for the area where the recovery operation is conducted.

2.7 Ship-specific procedures for the recovery of persons from the water should specify the anticipated conditions under which a recovery operation may be conducted without causing undue hazard to the ship and the ship's crew, taking into account, but not limited to:

- .1 manoeuvrability of the ship;
- .2 freeboard of the ship;
- .3 points on the ship to which casualties may be recovered;
- .4 characteristics and limitations of equipment intended to be used for recovery operations;
- .5 available crew and personal protective equipment (PPE);
- .6 wind force, direction and spray;
- .7 significant wave height ( $H_s$ );
- .8 period of waves;
- .9 swell; and
- .10 safety of navigation.

### **3 Competence and familiarization**

Drills should ensure that crew are familiar with the plans, procedures and equipment for recovery of persons from the water. Such drills may be conducted in conjunction with routine man-overboard drills.

---



INTERNATIONAL MARITIME ORGANIZATION  
4 ALBERT EMBANKMENT  
LONDON SE1 7SR  
Telephone: 0171-735 7611  
Fax: 0171-5873210  
Telex: 23588 IMOLDN G

MSC/Circ. 810  
30 June 1997

**IMO**

Ref. T1/3.02

## **RECOMMENDATION ON MEANS OF RESCUE ON RO-RO PASSENGER SHIPS**

- 1 The Maritime Safety Committee, at its sixty-eighth session (28 May to 6 June 1997), noted that the 1995 SOLAS Conference, in adopting amendments to the 1974 SOLAS Convention concerning the safety of ro-ro passenger ships, also adopted a new SOLAS regulation III/24-1\* on Life-saving appliances for ro-ro passenger ships, which, inter alia, included provisions for means of rescue, as specified in paragraph 4 of the said regulation.
- 2 The Committee, having considered a draft Recommendation on means of rescue on ro-ro passenger ships, prepared by the Sub-Committee on Ship Design and Equipment at its fortieth session, approved it, as set out in the annex.
- 3 Member Governments are invited to bring the annexed Recommendation to the attention of those concerned and use the provisions contained therein, as appropriate, in conjunction with the relevant requirements of SOLAS regulation III/24-1.4.

\* This regulation has been included as regulation 26.4 in new SOLAS chapter III adopted by resolution MSC.47(66), which is expected to enter into force on 1 July 1998.

## **RECOMMENDATION ON MEANS OF RESCUE ON RO-RO PASSENGER SHIPS**

### **1 Application**

This recommendation should apply to means of rescue on ro-ro passenger ships required by SOLAS regulation III/24-1.4. \*

### **2 Requirements for means of rescue**

2.1 The means of rescue should provide for the safe transfer of persons, including helpless persons, from the water level to the deck of the ship.

2.2 The means of rescue should provide an area of at least 9 m<sup>2</sup> at water level to receive rescued persons.

2.3 The rescue area into which the means of rescue is launched should be adequately illuminated from the deck of the ship.

2.4 The means of rescue should be one of the following:

.1 A marine evacuation system complying with the requirements of paragraph 6.2 \*\* providing a suitable floating platform, with a ladder or other means to ascend to the deck for able-bodied persons, and a mechanically powered means to safely hoist persons lying down. If an inclined passage of a marine evacuation system is intended to provide the means of transfer from the platform to the deck of the ship for able-bodied persons, the inclined passage should be provided with suitable handholds or portable ladders with steps having an efficient non-slip surface.

.2 A device complying with the requirements for davit-launched liferafts in paragraph 4.1.3.1, 4.1.4.1, 4.1.5.1.1, and in the case of an inflatable device, 4.2.2, 4.2.2.1, 4.2.2.3, 4.2.2.4, 4.2.7, 4.2.8.1, 4.2.8.2 (if fitted) and 4.2.9.1; or in the case of a rigid device, 4.3.1, 4.3.2, 4.3.6.2, 4.3.6.3, 4.3.6.4, 4.3.6.6, 4.3.6.9, 4.3.6.10 and 4.3.7,10 provide a suitable floating platform The device should be used with a launching appliance, meeting the requirements of 6.1 or equivalent, with a powered winch motor capable of raising the loaded device from the water to the deck of the ship with the total number of persons for which it is approved as a means of rescue at a rate of not less than 0.3 m/s. A safety device should be fitted to prevent over stressing the launching appliance. Additionally, the device should comply with the following:

\* This regulation has been included as regulation 26.4 in new SOLAS chapter III adopted by resolution MSC.47(66), which is expected to enter into force on 1 July 1998.

\*\* Unless indicated otherwise, paragraphs referred to in this recommendation are those of the International Life-Saving Appliance (LSA) Code (resolution MSC.48(66)).

- .2.1 the device should be of a highly visible colour, and should be protected against damage when moving against the ship's side;
- .2.2 the occupants should be protected against injury caused by the launching appliance;
- .2.3 two boarding ramps complying with 4.2.4.1 or 4.3.4.1 should be fitted;
- .2.4 the maximum number of persons permitted on the device should be conspicuously marked;
- .2.5 the floor should be self-draining;
- .2.6 suitable means should be provided for bowing in the device to the ship's side;
- .2.7 one knife of a type described in 4.1.5.1.2 should be stowed in a pocket close to each bowing line attachment patch;
- .2.8 a special arrangement should be fitted to close the gap between the loaded device and the deck when the rescued persons board the ship;
- .2.9 the device should be conspicuously marked to prevent confusion with liferafts;
- .2.10 if inflatable, the inflation system should be quickly initiated by a manual control; and
- .2.11 means should be provided for preventing occupants from falling from the device on impact with the ship's side.
- .3 A means of rescue approved by the Administration in accordance with SOLAS regulation III/4.3.

### **3 Testing**

- 3.1 It should be demonstrated that the means of rescue has the capability to receive and accommodate rescued persons out of the water at water level.
- 3.2 It should be demonstrated that the means of rescue has the capability to rapidly transfer persons from the water level to the deck of the ship.
- 3.3 It should be demonstrated that a means of rescue meeting the requirements of 2.4.2 above, is designed to the same structural requirements as a davit-launched liferaft of equivalent capacity and tested under section 5 of part I of the annex to resolution A.689(17).
- 3.4 The bowing line system should be subjected to the test specified in 5.6 of part 1 of the annex to resolution A.689(17).

3.5 It should be demonstrated that the floor of the means of rescue is self-draining to minimize a build-up of water.

3.6 It should be demonstrated that the means of rescue is able to lift from the water to the deck of the ship a mass equal to the mass of the number of persons for which it is approved at 0.3 m/s.

3.7 A means of rescue meeting the requirements of 2.4.2 above, should be subjected to the tests specified in part 2 of the Annex to resolution A.689(17) for davit-launched liferafts and launching appliances.



Ref: T6/6.01

MSC.1/Circ.1182  
31 May 2006

## GUIDE TO RECOVERY TECHNIQUES

1 The Maritime Safety Committee, at its eighty-first session (10 to 19 May 2006), with a view to providing specific guidance to seafarers on recovery techniques, approved the Guide on recovery techniques, prepared by the Sub-Committee on Radiocommunications and Search and Rescue at its tenth session (6 to 10 March 2006), as set out in the annex.

2 Member Governments and international organizations in consultative status are invited to bring the annexed guide to the attention of all concerned, in particular distribution to seafarers.

3 Member Governments, international organizations and others concerned are encouraged to enhance the attached Guide with pictorial and other relevant information, as appropriate.

\*\*\*



## ANNEX

### GUIDE TO RECOVERY TECHNIQUES

#### 1 INTRODUCTION: YOUR PART IN RECOVERY AT SEA

1.1 As a seafarer, you may suddenly be faced with having to recover people in distress at sea. This might be a person overboard from your own ship – a fellow crew member, or a passenger – or your ship might be responding to someone else's emergency; for example a ship abandoned because of flooding, fire or a ditched aircraft.

1.2 You may have to prepare, with little or no notice, to recover people – maybe very many people. Whoever they are, their lives may be in your hands.

1.3 In many areas of the world, especially when out of range of shore-based search and rescue (SAR) facilities, your ship may be the first, or the only, rescue unit to reach them. Even if you are joined by specialized units, you will still have a vital role to play, especially in a major incident. If you are required to recover people in distress, it is your capability and your ship that matters. You may have to find a unique solution to a unique lifesaving problem. To ensure that you can respond safely and effectively, you need to think about the general issues *beforehand*.

1.4 The recovery process is often far from simple. For example, it may be complicated by:

- .1 difference in size between your ship and the survival craft: survivors may have to climb or be lifted considerable distances to get into your ship;
- .2 differences in relative movement between your ship and the survival craft alongside: it may be difficult to keep the survival craft alongside and for survivors to get onto ladders etc or in through shell openings; or
- .3 physical capability of those to be recovered: if they are incapacitated, they may be able to do little or nothing to help themselves.

1.5 This guide discusses some of these underlying problems, as well as some of the solutions. It suggests some practical recovery techniques which have been used successfully to recover people in distress.

#### 2 AIMS OF THIS GUIDE

2.1 This guide focuses on recovery and the work you may have to do to achieve it. The need for recovery is rare, and your ship may not be designed for the task. However, you may find yourself faced with having to attempt it.

2.2 This guide is intended to be used as a reference document. You should read it now and you should refer to it again while proceeding to the scene of the emergency, as part of your preparation for the recovery operation.

- 2.3 The guide's principal aims are to help **you** – as master or crew of a responding ship – to:
- .1 **ASSESS** and decide upon appropriate means of recovery aboard your own vessel;
  - .2 **TRAIN** in the use of these means of recovery, in general preparation for emergencies; and
  - .3 **PREPARE** yourselves and your vessel when actually responding to an emergency.
- 2.4 This guide supports the recovery guidance in Volume III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, 'MOBILE FACILITIES', which should be available on board. Additional guidance is also in the Appendix to this guide.
- 2.5 Recovery – getting people in distress into your ship – is just a part of the overall rescue operation. For guidance on SAR operations as a whole you should refer to the IAMSAR Manual.
- 2.6 For simplicity, this guide refers to lifeboats, liferafts, etc. as 'survival craft'. It is also possible that you will be recovering people from other small craft such as: small SAR units; directly from small vessels in distress such as yachts or fishing boats; or from the water, etc. In general the same recovery principles apply throughout.

### **3 THE TASK OF RECOVERY: POSSIBLE PROBLEMS**

- 3.1 When proceeding to the scene of an emergency at sea, it is likely that you will only have limited information about what you will find when you get there. What you may well find are people in survival craft or in the water. You should prepare for their recovery.
- 3.2 Unless it is properly prepared for, the recovery process may be a difficult and dangerous operation. The following list covers some of the problems which you may have to face.
- .1 Recovery from survival craft is not simple – see paragraph 3.3 below.
  - .2 In a rapid or uncontrolled abandonment, when not everybody has been able to get into survival craft, you may also find people in the water, or clinging to floating wreckage, etc. These people are less likely to be able to help themselves than if they were in survival craft. Nor will they survive so long.
  - .3 People may still be aboard the craft in distress and direct recovery may be required without the intermediate use of survival craft.
  - .4 Small craft are especially vulnerable if they are in close proximity to your ship. Their masts, rigging or other gear may become entangled and there is the danger of crushing or other damage as the two vessels move in the seaway.
  - .5 People may need to be recovered from other places which they have reached before your arrival (rocks, reefs, sandbanks, shorelines only accessible from the sea, navigational marks, moored vessels, etc.).



- .6 In addition to recovering people yourself, you may have to receive people from other SAR units such as rescue boats or helicopters. These units may wish to transfer people to your ship rather than take them directly ashore, so that they can return to pick up others more quickly. Many of the problems associated with recovering people from survival craft also apply to the transfer of people from (small) rescue boats into (large) ships.
- .7 Transfer from helicopters has its own special requirements, including training and preparation on board – see IAMSAR Volume III Section 2: ‘Helicopter operations’.

3.3 There are likely to be further complications, even after a controlled evacuation in which people have entered survival craft successfully.

- .1 Types of survival craft vary.
  - .1 Powered survival craft may be able to manoeuvre themselves alongside the recovering ship (your ship), but those without power cannot do so.
  - .2 Many survival craft are covered and these covers may not be removable. Covers assist survival while waiting for help to arrive, but they can get in the way during the recovery process. Getting out of enclosed survival craft may be difficult when the craft is in a seaway, particularly if the exit points are small and difficult to negotiate.
- .2 Those awaiting recovery may lack the ability to help themselves or to help others to help them. This may be because of injury, illness (including seasickness after a period in a survival craft), the effects of cold or heat, age (whether elderly or very young) or infirmity.
- .3 It is likely that people awaiting recovery will have little or no experience of transferring between small craft like their survival craft and larger ones such as your ship. For example, stepping onto a pilot ladder and then climbing it is not difficult for a fit person used to doing so, but this may be effectively impossible for others.
- .4 There may be language difficulties. If instructions are not properly understood, the consequences may be dangerous. You may not have a language in common with the person to be recovered and, even when you do, they may not understand your instructions.
- .5 There may be a large number of people to recover. In the case of a passenger ship, this number may amount to hundreds or even thousands of people. This possibility brings additional problems with it, including:
  - .1 **SCALE:** the sheer size of the problem can be daunting and the stress of the situation may lead you to lose focus and efficiency.
  - .2 **PRIORITY:** who should be recovered first? It is clear that people in the water should take priority over those in survival craft. It is less clear whether the injured or infirm should take priority over the more capable, who can be recovered more quickly.

- .3 **RESOURCES:** facilities aboard your ship may become overwhelmed. Survivors will need shelter and, subsequently, warmth, water, food and, probably, some medical attention.
- .4 **PEOPLE:** you will need sufficient numbers of people to navigate your ship, operate the means of recovery and escort those recovered to shelter.

#### **4 PLANNING FOR RECOVERY**

4.1 The circumstances you find when you arrive at the scene will differ from incident to incident; but general planning can, and should, be done.

4.2 In planning how best to bring people aboard your ship, you should consider:

- .1 who will be required for the recovery process;
- .2 who will manage the ship in the meantime;
- .3 what can be done to help people prior to recovery;
- .4 the means of recovery available to you;
- .5 where on the ship the survivors should be taken after recovery;
- .6 how they will be looked after once they are aboard; and
- .7 how you will keep your own crew and passengers informed of what's going on.

4.3 Effective recovery of survivors will only occur through planning and preparation:

- .1 have a plan;
- .2 make sure everyone understands the plan and their own place in it;
- .3 be prepared; and
- .4 have everyone ready, with all the equipment they need, before commencing the recovery operation.

4.4 You may not have much time to think about details when the emergency happens; but if you have thought about your capabilities beforehand and you have trained to use them effectively – in short, if you are *prepared* – you will not need much time.

4.5 Remember that plans are of no use unless you know how to put them into effect. This requires training, and the testing of both plans and training by exercise.

## **5 PROVIDING ASSISTANCE PRIOR TO RECOVERY**

5.1 People can still die after you have found them but before you can get them on board. Recovery takes time – and those in distress may not have much time, especially if they are in the water, unprotected and/or unsupported. You should be ready to help them stay alive until you are able to recover them.

5.2 Depending on how long the recovery is likely to take, they may need:

- .1 buoyancy aids such as lifebuoys, lifejackets and liferafts;
- .2 detection aids such as high-visibility/retro-reflective material, lights, a SART and an EPIRB;
- .3 survival aids such as shelter, clothing, drink, food and first aid supplies; and
- .4 communications equipment such as a handheld radio, for example.

5.3 The simpler buoyant items – lifebuoys in particular – can be dropped or thrown to those in distress on an early pass by the ship. If possible, contact should be established by messenger (e.g. rocket line, rescue throw-line or heaving line) and the items passed under control. Remember that not all lines are buoyant, and that you will need to get them very close to those in distress if they are to have a chance of seeing and getting hold of them.

5.4 Buoyant items may be veered down to those in distress while the ship stands clear, by drifting them down on lines made fast to a lifebuoy, for example, or by towing them into a position where those in distress can get hold of them.

5.5 If the recovery operation looks like it might be protracted, one or more of your own liferafts can be deployed. Remember, however, that a liferaft might drift faster than those in distress can swim. You will need to guide it to the people you are assisting, and this means making a line fast to the raft before deploying it: do not rely on the raft's own painter, which may tear away.

5.6 You can also help those in distress while you ready your ship for the recovery operation by making a lee for them or, if contact can be established by line, by towing them out of immediate danger such as that posed by the wreck itself or by spilt hazardous cargo, or by a lee shore.

## **6 THE RECOVERY PROCESS**

6.1 During the recovery process itself, there will be three basic tasks to complete:

- .1 bringing people to the side of the ship so that they can be recovered;
- .2 getting people into the ship; and
- .3 dealing with them once they are aboard.

6.2 Some information on each of the above tasks is given below. Think carefully about each of them in your planning and preparation. If you have done so, the recovery process should be easier when you have to carry it out.

- .1 **PREPARE** your means of recovery before you arrive at the scene;
- .2 **PREPARE** yourself and your crew before you arrive at the scene. Everyone should know their duties and stick to them as much as possible;
- .3 **PREPARE** on-board communications, so that lookouts and the recovery team will be able to communicate readily with the Bridge team;
- .4 **THINK** about the approach before making it:
  - .1 **DETERMINE** what will be the most significant factor in creating a lee for the casualty – wind, sea or swell;
  - .2 **ASSESS** navigational hazards on scene;
  - .3 **DECIDE** on which side you want to make the lee, bearing in mind your own ship's manoeuvring characteristics;
  - .4 **CONSIDER** running by the casualty first, if time permits, to help you make your assessment;
  - .5 **CONSIDER** stopping well short of the casualty during the final approach, to get the way off your vessel and to assess the effects of wind, sea and swell when stopped/at slow speeds;
  - .6 **APPROACH** with the significant element (wind, sea or swell) fine on the weather bow and your recovery target fine on the lee bow; and
  - .7 as you come up to the craft or person in the water, **TURN AWAY** from the weather and stop to create the lee, with your recovery target close on your lee side;
- .5 **ENSURE** that you have sufficient lookouts who can communicate with the Bridge. Remember that during the final approach to a survival craft or a person in the water they may not be visible from the Bridge;
- .6 **ENSURE** that the lookouts know their duties; and
- .7 **BE READY** to receive craft and/or people alongside, with boat ropes rigged and other equipment (including safety lines and buoyant equipment) ready to hand.

## 7 BRINGING PEOPLE TO THE SIDE OF THE SHIP

7.1 If people in survival craft or in the water cannot put themselves in a position from which they can be brought safely aboard the recovering ship, someone (or something) has to go and get them.

7.2 Manoeuvring a large ship in a seaway to come alongside, and then remain alongside, a small target like a survival craft or a person in the water will be difficult.

- .1 The main danger in this case is that of running over and/or crushing the target.
- .2 It is also possible to over-compensate for that risk, so that the survival craft or person will be missed because still too far away.
- .3 Both your ship and the target are likely to be affected, unequally, by wind, sea state, and water currents.

7.3 There may be other factors which make this task more difficult still. Be prepared for them. For example:

- .1 Room to manoeuvre may be limited by nearby navigational hazards, or there may be more than one survival craft in the area: you may have to avoid some while manoeuvring alongside another.
- .2 Beware of running down people in the water (who may be very hard to see) while making your approach to your chosen target. Post good lookouts with direct communications to the Bridge while in the incident area.
- .3 Although powered survival craft may be able to get themselves (and other units they are towing) alongside your ship and keep themselves there, this can be difficult in a seaway. In rough seas, the survival craft or the people aboard them may be damaged if thrown against the ship's side. Have boat ropes ready, and fenders if you have them.
- .4 People in the water may be able to swim (over short distances) to get to the ship's side. It is possible that people will enter the water from survival craft in order to do so as you approach, although they should be told not to if possible – at least until you are ready to recover them.

7.4 Overcoming the problems of manoeuvring is a matter of seamanship – and of preparation. Manoeuvring your own ship at slow speed, judging its movement and that of the survival craft or person in the water, is a skill. Appropriate training should be encouraged by owners and operators of all ships.

7.5 However, it may be unsafe – or simply impossible – to bring the survival craft or the people in the water alongside your ship directly. You may have to find another way of reaching them. One way to do this is to launch a rescue craft from your own ship, *if this can be achieved safely*.

7.6 Launching a rescue craft will serve three purposes:

- .1 it will make the final approach to the target easier;
- .2 primary recovery (into the rescue craft) will be easier, because of the rescue craft's lower freeboard and similar motion to that of the target; and

- .3 completing the recovery by returning to the ship and being lifted back aboard using the rescue craft's own recovery system should also be easier – always provided that it can be done safely.

7.7 Only limited numbers of people can be brought aboard on each occasion, but this may be a safer option than direct recovery. It also introduces a number of control measures, allowing more time for dealing with those who have been recovered once they are aboard the ship.

7.8 The best lee for launching and recovery of rescue craft is likely to be obtained by putting the sea on a quarter, steaming slowly ahead, and doing the boat work on the opposite side.

7.9 For most ships, however, launching rescue craft may only be an option in reasonably good weather conditions. In moderate sea conditions or worse, launch and recovery may be too hazardous, putting your own crew into danger and making an already difficult situation worse.

7.10 The use of your own rescue craft must be for the master to decide, depending on the particular circumstances of the incident. Factors to consider include:

- .1 **the severity of the risk to those in distress:** can they be left where they are until more suitable help arrives (supported in other ways by the assisting ship in the meantime – see below) or are alternative means of recovery available;
- .2 **on scene weather conditions:** particularly sea state, but also wind strength and direction, ambient temperatures and visibility;
- .3 **the capability of the rescue craft:**
  - .1 the efficiency of the rescue craft launch and recovery equipment;
  - .2 the competence and experience of the rescue craft's crew;
  - .3 the availability of personal protective equipment for the rescue craft's crew;
  - .4 the effectiveness of communications between the rescue craft and the recovery ship;
  - .5 the proximity of navigational hazards to the rescue craft; and
  - .6 the rescue craft's ability to navigate, whether independently or conned from the ship, so as to avoid hazards and to locate the person(s) in distress;
- .4 **the manoeuvrability of the recovering ship:** can you get into a position to launch and recover the rescue craft safely; and
- .5 **the proximity of navigational hazards:** limiting your ability to manoeuvre or to provide alternative help to those in distress.

7.11 An alternative to sending out a rescue craft is to pass lines to those needing recovery, so that they may be pulled alongside the ship. Rocket lines, rescue throw-lines and heaving lines may be used for this purpose, and all should be made available for use: lines will be needed in any event for securing survival craft alongside, etc.

7.12 Buoyant appliances such as lifebuoys or an inflated liferaft may be veered down to those in distress on secure lines, and then pulled back to the ship.

7.13 Streaming lines astern is another option, preferably with buoyancy and means of attracting attention to them attached – lifebuoys, for example, with lights at night. The ship should then be manoeuvred around those in distress so that they may take hold of the streamed line. Once this is done the ship may stop and those in need of recovery pulled alongside.

## **8 GETTING PEOPLE ABOARD THE SHIP: FACTORS TO CONSIDER**

8.1 Once people are in a position from which they can be recovered, the next part of the task is to get them aboard the ship. This will depend on:

- .1 the prevailing weather and sea conditions;
- .2 the condition of the people to be recovered;
- .3 the size of your ship;
- .4 your ship's design;
- .5 the equipment available; and
- .6 the competency of those using it.

8.2 Weather and sea conditions on scene will be important, particularly the sea state.

- .1 How is the recovery target moving in relation to your ship?
  - .1 In a seaway a large ship moves very differently to a small craft (or person) alongside her. The smaller target tends to react to every sea and swell wave, while the large ship does not.
  - .2 The recovery target in the water may be run down, crushed, capsized or swamped by your ship, or it may be left behind.
  - .3 It may be very difficult to transfer from a small craft onto your ship as the two move vertically relative to each other.
  - .4 Your ship and the recovery target will be subject to leeway in different ways. Ship and target may be blown together or apart. Water currents may also have different effects on your ship and the target.

- .2 Your ship's own movements will also be a factor.
  - .1 As the ship moves in sea and swell, people may be swung against the ship's side as they climb or are lifted to an embarkation point.
  - .2 As people climb or are lifted into your ship, the craft they have just left may rise on a wave, striking or trapping them against the ship's side.
  - .3 People may swing away from the side and collide with another hazard, including the craft they have just left.

8.3 You should attempt to minimize the difficulties caused by rough seas. Consider the following when planning recovery operations:

- .1 Try to keep sufficiently off the wind to reduce the ship's roll and pitch and to create a lee. Find by experiment (if time permits) the position in which the recovery target lies most easily alongside.
- .2 Steaming slowly ahead with the recovery target secured alongside and the weather on the opposite quarter should ease differential movement, although it does introduce other risks. Craft may be damaged, lines may part, or people may fall into the water during the recovery operation, and drift astern.
- .3 Try to secure survival craft alongside if possible, to prevent them being blown away or left behind.
- .4 When lifting people, control lines should be rigged to the hoist and tended in an effort to minimize swinging.
- .5 Safety lines should always be used to secure the casualty in case he/she is injured and/or falls.
- .6 If the differential movement is too violent, you will need to consider other options.
- .7 It may be possible to transfer those to be recovered to an intermediate platform such as a liferaft veered down to them, or acting as a fender against the ship's side.
- .8 It may be necessary to have them enter the water, suitably equipped with flotation aids and safety lines from the ship, to be pulled across a safety gap between the ship and the survival craft.
- .9 Ultimately, however, the only option may be to abandon the attempt at recovery and to stand by the target, supplying whatever assistance you can until a more capable recovery unit arrives or conditions ease.



8.4 The condition of the people to be recovered is another critical factor. When responding to an emergency, you will usually not know the condition of those needing recovery until you arrive.

- .1 People's condition at recovery can range from the fit and healthy to the entirely helpless who, through injury, infirmity, hypothermia, or fear can do nothing to assist in their own recovery.
- .2 This wide range of capability may be found across a group of people to be recovered, so that some of the group will be able to climb unaided into the recovering ship while others will need assistance. It may be found in an individual: even the fit and experienced seafarer's capability will erode over time, and may erode quickly. Weather conditions – ambient temperatures in particular – and the level of protection available prior to recovery are critical.
- .3 You may find that people in distress are able to help themselves (and others). You may find that you will have to do all the work yourself because they cannot, or can no longer, help themselves. You are likely to find a mix of these conditions.
- .4 Fear is a factor deserving attention. Many of those awaiting recovery will be able to deal with it; others may not. The latter may try to be recovered first or (if afraid for missing friends or family members, for example, or if simply afraid of the recovery process itself) they may *resist* recovery. In either case they may act dangerously. Be as ready as you can for such unpredictable behaviour, including having extra lifesaving equipment to hand in case someone ends up in the water. The aim is to retain control of the recovery process overall: loss of control by individuals can be tolerated unless it directly affects others' safety.

8.5 Be ready to deal with each of these possibilities. You should plan ahead, so far as is practicable.

- .1 It may be best to bring at least some of the more capable survivors aboard first. You will probably be able to recover more capable people more quickly than you can recover the incapable, and, once aboard, they may be able to help you, by looking after other survivors for example. On the other hand, some of the most capable should also be among the last to be recovered, as you will need them to help prepare the incapable for recovery.
- .2 Communications with those awaiting recovery are therefore very important. A controlled and correctly prioritized recovery process should be established and maintained.

8.6 The size of your ship, relative to your recovery target, will affect differential movement, as discussed above.

8.7 It will also determine how far those being recovered have to climb or be lifted; which, in turn, may affect:

- .1 how long recovery takes;
- .2 how many people can be recovered;

- .3 whether they are exposed to additional risks such as swinging against the ship's side; and
- .4 how anxious they are about the operation.

8.8 The ship's design may make recovery simpler. A high-sided ship may be able to use low freeboard areas or openings in her hull such as pilot, bunkering, or cargo doors.

8.9 The best point of entry into the ship should be assessed with the prevailing conditions in mind. The questions to be considered include:

- .1 Where can ladders or other climbing devices be rigged?
- .2 Where can lifting devices be used? What are the power sources and leads for such devices?
- .3 Are there any low freeboard areas? Can they be safely accessed in bad weather or difficult sea conditions? Can the means of recovery be rigged there? Can those recovered be safely removed from there to shelter?
- .4 Are there any hull openings? Can they be safely accessed and opened in bad weather or difficult sea conditions? Can the means of recovery be rigged there? Can those recovered be safely removed from there to shelter?
- .5 If thinking of using accommodation ladders sited aft, is there a danger of survivors or craft near the foot of the ladder being trapped under the hull as it tapers to the stern?
- .6 Is there belting along the ship's sides? If so this is a particular hazard to small craft, with significant danger of the craft being trapped beneath it. Recovery points should be at any breaks in the belting.

8.10 The equipment available and the number of people competent to operate it are also key factors. If there aren't enough people trained to operate all available means of recovery, or if the recovering ship has plenty of people but hasn't prepared adequate recovery equipment, efficiency of recovery will obviously be impaired.

- .1 **ASSESS** your equipment.
- .2 **PLAN** its use.
- .3 **ASSIGN** people to operate it.
- .4 **ENSURE** that they know how to operate it.

## **9 GETTING PEOPLE ABOARD THE SHIP: CLIMBING AND LIFTING**

9.1 The methods of recovery discussed in this guide are *in addition to* purpose-built means of recovery carried aboard the ship. They are methods that seafarers have used successfully in the past. Consider which ones can be used aboard your ship; or whether you can devise others.

9.2 You may have to use these methods in the absence of purpose-built means of recovery; or in their place if they cannot be deployed in the prevailing circumstances. You may also need to use these methods as extra means of recovery if there are many people needing to be picked up – especially if recovery time is limited by likely survival times, or by the onset of darkness or bad weather, for example.

9.3 The following climbing devices should be considered:

- .1 pilot ladders and lifts;
- .2 accommodation ladders;
- .3 your own survival craft embarkation ladders; and
- .4 other ladders and nets.

9.4 Some or all of these may be rigged, in most cases whatever the conditions. The following points should be borne in mind:

- .1 Lifting survivors is preferable to having them climb a ladder or net – see below.
- .2 Ladders and nets should be so rigged as to minimize the climb; that is, where the freeboard is lowest or at suitable openings in the ship's side.
- .3 They should be rigged on the flat sides of the ship, away from bow and stern.
- .4 Their lower ends should be weighted so as to hang about two metres below the water level, enabling people in the water to get onto them.
- .5 If possible, rig nets and Jacob's ladders so that they hang clear of the ship's side, to enable people to grasp the rungs or cross-ropes more readily.
- .6 Pilot ladders – or, if they can be rigged safely in the prevailing conditions, accommodation ladders – are preferable to nets and Jacob's ladders.
- .7 All ladders and nets should be tended.
- .8 Safety lines should be deployed alongside them, with rescue strops or loops in the end for the casualty's use. These safety lines should be correctly secured and tended.
- .9 A liferaft can be deployed at the foot of the ladder or net, to act as a transfer platform.
- .10 People may not be able to make the climb. In such circumstances a crew member from the recovering ship, wearing personal protective equipment and a safety line, may have to go down to assist.
- .11 If people are incapable of making the climb, the ladder or net may have to be recovered with them secured to it. For individual survivors, this may be possible manually. Alternatively a winch or other power source will have to be used.

9.5 In general, lifting survivors is preferable to having them try to climb ladders or nets. The following lifting devices should be considered:

- .1 cranes (including stores cranes, etc.), gantries, derricks;
- .2 davits;
- .3 windlass, winches; and
- .4 proprietary recovery devices.

9.6 The following points should be borne in mind:

- .1 Lifting devices should be rigged so that those recovered can be lifted clear of hazards and landed on deck in a safe area.
- .2 So far as possible, lines led from windlass or winches should be rigged so that the casualty can be lifted above the deck edge.
- .3 Control lines should be rigged to the lower end of the lift, so that swinging against the ship's side can be limited.
- .4 The lower end of the lift should be equipped with at least a rescue strop or a secure loop.
- .5 A purpose-built or improvised rescue basket, or a proprietary recovery device, is usually better than strops and loops.
- .6 People who have been in the water, the injured and the incapable, should be lifted in a horizontal or near-horizontal position if possible (for example, in a basket, or in two strops; one under the arms, the other under the knees). This minimizes the risk of shock induced by sudden transfer from the water and possible hypothermia.
- .7 A crew member from the recovering ship, wearing personal protective equipment and a safety line, may be able to go down with the lift to assist those incapable of helping themselves into the strop, loop, basket or other device.

9.7 The rescue basket mentioned above is a particularly useful recovery tool. It may be possible to improvise such a basket; but it is not an expensive piece of equipment and it is recommended that a purpose-built unit be carried on board.

9.8 The rescue basket usually takes the form of a metal frame with floats/fenders around its perimeter and the lifting hook made fast to the top of the frame, clear of people inside. The basket floats partially submerged, so that people can easily enter it or be pulled into it. The floats double as fenders during the lift, should the basket swing against the ship's side. Some baskets are designed to fold for ease of stowage. The size of the basket, and how many people it can lift at once, largely depends on the ship's lifting capability.

9.9 The control lines mentioned above – usually rigged fore and aft along the ship's side, and tended during the lift in order to steady the lift and minimize swinging – may be supplemented by a line to the survival craft. This line serves two functions. It may be tended by those still aboard the survival craft as an additional means of controlling the hoist's lateral movements. It also serves to maintain contact with the survival craft throughout, so that the hoist may be brought back more easily to the survival craft for the next lift.

9.10 Your own ship's Survival Equipment may be used for recovery purposes.

- .1 Liferafts and lifeboats, left on the falls, may be used as lifts in relatively good conditions. Lowering these units to water level enables people to be transferred from survival craft and lifted to the recovering ship's embarkation deck. It should be noted that:
  - .1 Any quick-release gear should be disabled.
  - .2 Care will be needed not to overload davit winches not normally designed to recover craft with more than their own crew aboard: people can usually only be recovered in small numbers by this method.
- .2 Ships fitted with marine evacuation systems of the slide type can deploy them and recover people by pulling them up the slide.
  - .1 Light ladders may be carried for deployment down the slide, to enable people to climb it unaided: this will usually be easier than climbing a ladder up the vertical ship's side.
  - .2 Winches can be rigged so that people may be hauled up the slide on lines, secured by rescue strops or loops.

9.11 A further option to consider, if winch-fitted Helicopters are on scene, is to use them as transfer lifts. People can be winched from survival craft directly onto the recovering ship – which is a quicker operation than taking them into the helicopter's cabin first. The helicopter is effectively used as a crane.

## **10 STANDING BY WHEN PEOPLE CANNOT BE RECOVERED**

10.1 There will be times when recovery cannot be attempted or completed without unduly endangering the ship, her crew or those needing recovery. Only the assisting ship's master can decide when this is the case.

10.2 Assistance can still be given to those in distress, even if you cannot recover them. Standing by until other help arrives or conditions improve will:

- .1 give comfort to the survivors, especially if communications can be established;
- .2 assist the Rescue Co-ordination Centre, as you will be able to provide updated and detailed reports on the situation; and
- .3 assist other SAR facilities:
  - .1 your ship is easier for them to locate than a survival craft;
  - .2 you can provide updated and detailed reports; and
  - .3 units such as helicopters will be able to transfer casualties to you even when you cannot recover them directly.

10.3 But, as discussed above, more direct help can also be given.

- .1 Your own lifesaving appliances – liferafts in particular – can be deployed so that those in distress, particularly people in the water, can use them.
- .2 If lines can be passed to survival craft, they may be kept out of immediate danger; towed to a position where conditions are easier and recovery may be attempted; or even towed to a nearby place of safety.
- .3 You can provide a lee for survival craft, protecting them from the worst of the conditions, and making life a little easier for those aboard.
- .4 You may be able to supply more direct aid, passing supplies, including medical supplies, to the survival craft – by floating them down on lines fast to a lifebuoy, for example, or by towing them into a position where those in distress can get hold of them.

## **11 IMMEDIATE CARE OF PEOPLE RECOVERED**

11.1 Recovery does not end when the survivor sets foot on your deck. He or she still needs immediate help – and is still at some risk, in a strange environment and having been under great stress.

11.2 People recovered will need simple directions, and preferably an escort, to shelter, out of harm's way. You should decide beforehand where you wish survivors to go aboard your ship, how they are going to get there, who will take them, and who will look after them once they arrive. This should include provision for people who are disorientated and perhaps unable to understand instructions. It should also include provision for those who are physically incapable of moving about the ship.

11.3 Remember in particular the risk of shock induced by sudden transfer from the water and possible hypothermia. People, who have been in the water, the injured and the incapable, should, if possible, be taken from the water horizontally and should be carried in a horizontal or near-horizontal position. They should be placed in the unconscious position as quickly as possible and kept this way. Refer to guidance on the treatment of hypothermia.

11.4 You should also decide what you are going to do with the dead. Bodies may be recovered, or people recovered alive may die aboard your ship. Some immediate action should be taken, if it is only to remove them from the place where you are sheltering the living. Attention is drawn to guidance on the treatment of hypothermia and, in particular, to the advice that people suffering from hypothermia may *appear* to be dead, yet can still be resuscitated. Ask for medical advice.

11.5 Further guidance on the care of people recovered may be found in IAMSAR Volume III ('Mobile Facilities') Section 2 'Care of Survivors'. As this further care is post-recovery, it is beyond the scope of this guide. You are recommended to refer to the IAMSAR Manual for help with the next stage of the rescue operation (see also appendix).

## **12 CONCLUSIONS**

12.1 If you find yourself answering a distress call and faced with the prospect of recovering people at sea, it is certain that the circumstances will be unique – and it is possible that your response will have to be so too.

12.2 It helps to consider the possibilities beforehand: possible problems and possible solutions. It helps to plan and to prepare – and preparation means assessing the recovery options aboard your ship, and training in their use.

12.3 It could save a life (even yours!). It could save many lives.

- .1 **ASSESS** the recovery options aboard your ship;
- .2 **TRAIN** in their use; and
- .3 **PREPARE** to save lives.

## APPENDIX

### ADDITIONAL INFORMATION BASED ON VOLUME III OF THE IAMSAR MANUAL

#### GENERAL

1 The following is an extract from Volume III of the IAMSAR Manual: Mobile Facilities Volume. Volume III should be referred to for further guidance, for example on the transfer of survivors from helicopters and on the immediate care of survivors once successfully recovered.

#### RECOVERY OF SURVIVORS BY ASSISTING VESSELS

2 Seafarers should consider how to recover survivors into their own vessels under various environmental conditions. Recovery methods include:

- .1 using throwing rockets or heaving lines to pass lifebuoys and/or lines to survivors;
- .2 streaming a rope, with lifebuoys or other flotation attached;
- .3 rigging pilot ladders, Jacob's ladders or nets, preferably clear of the ship's side, with safety lines. If survivors are unable to climb, ladders or nets may have to be recovered with the survivors secured to them. Where practicable:
  - .1 rig ladders or nets from pilot doors or other low openings;
  - .2 deploy safety lines with rescue strops or loops;
  - .3 use suitably equipped crew members to assist survivors directly; and
  - .4 deploy a liferaft with the ladder or net to act as a transfer platform;
- .4 pulling survivors up suitable marine evacuation systems;
- .5 deploying liferafts or lifeboats for survivors to hold onto, or climb into;
- .6 using rafts or boats as lifts, leaving them on the falls if conditions permit;
- .7 lifting survivors using gantries, cranes, davits or derricks, with lines rigged to minimize swinging against the ship's side;
- .8 deploying purpose-built or improvised recovery baskets;
- .9 rigging a boat rope for boats and survival craft to secure alongside; and
- .10 lowering embarkation ladders.

3 Any lights in use must not be directed towards helicopters operating in the area.



4 Survivors in the water should be lifted in a horizontal or near-horizontal position if possible (for example, in two strops; one under the arms, the other under the knees) to minimize the risk of shock induced by sudden transfer from the water and possible hypothermia.

5 Assisting vessels should also be prepared to receive survivors from helicopters.\*

6 When the risks involved in recovery operations outweigh the risks of leaving the survivors in life saving appliances, consider the following actions:

- .1 using the ship to provide a lee for the survivors;
- .2 deploying life-saving appliances from the assisting vessel;
- .3 maintaining visual and communications contact with the survivors;
- .4 updating the co-ordinating authority; and
- .5 transferring essential survival and medical supplies.

---

---

\* Refer to IAMSAR Volume III Section 2: 'Helicopter Operations'.

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

MSC.1/Circ.1185/Rev.1  
30 November 2012

## **GUIDE FOR COLD WATER SURVIVAL**

1 The Maritime Safety Committee, at its ninety-first session (26 to 30 November 2012), taking into account the considerable medical progress which has been made in recent years, approved the revision of MSC.1/Circ.1185 on the Guide for cold water survival, prepared by the Sub-Committee on Radiocommunications and Search and Rescue, at its sixteenth session (12 to 16 March 2012), as set out in the annex.

2 Member Governments and international organizations are invited to bring the annexed Guide to the attention of all concerned.

3 This circular supersedes MSC.1/Circ.1185.

\*\*\*



## ANNEX

### GUIDE FOR COLD WATER SURVIVAL

#### 1 Introduction

This guidance is intended primarily for seafarers. It provides information which will help you if you are unlucky enough to fall into cold water, or have to enter it in an emergency, or have to use survival craft in cold conditions. It also provides information which will help seafarers, trained as first-aid providers, to treat those rescued from cold conditions.

This guide briefly examines the hazards of exposure to the cold that may endanger life, and provides advice based on the latest medical and scientific opinion on how to prevent or minimize those dangers. It is a sad fact that people continue to die at sea through a lack of this knowledge. Knowing what is likely to happen if you are exposed to cold water is a survival aid in itself. A thorough understanding of the information contained in this booklet may some day save your life – or someone else's.

It is most important to realize that you are not helpless to affect your own survival in cold water. Understanding your body's response and simple self-help techniques can extend your survival time, particularly if you are wearing a lifejacket. *You* can make a difference; this guide is intended to show you how.

The guidance is laid out as follows:

- an explanation of *cold water hazards and their effects*  
followed by sections on:
  - actions to be taken *prior to abandoning* your ship that will improve your chances of survival
  - actions to be taken during *the survival phase*, whether in survival craft or in the water
  - *the rescue phase*
  - *treatment of people recovered* from cold water or from survival craft in cold conditions
  - *treatment of the apparently dead.*

#### 2 Cold water hazards and their effects: knowledge that can improve survival chances

An understanding of how your body reacts to cold air or water exposure, and knowing the steps you can take to help your body delay the damaging effects of cold stress, will help you stay alive.

If you need to abandon your ship you should, if possible, avoid going into cold water at all. Cold water represents a much greater risk than cold air, partly because water takes heat away from the body much faster than air. Human beings cool four to five times faster in water than in air at the same temperature – and the colder the water is the more likely it is that you will suffer the physical reactions and medical problems described below. Therefore, you should try to enter survival or rescue craft directly, without entering the water.

The major threats of cold water immersion are:

- drowning
- hypothermia<sup>1</sup>
- collapse just before, during, or after rescue.

Four stages of immersion have been identified. Each is associated with particular risks, and it helps to understand these and so be better able to deal with them.

Initial responses to immersion in cold water may include:

- inability to hold your breath
- an involuntary gasp, followed by uncontrollable breathing
- increased stress placed on your heart.

These responses are caused by the sudden fall in skin temperature. *It is important to remember that they will last only about three minutes and will then ease.* Remember too that, at this stage:

- the fitter you are, the smaller the initial responses to cold water immersion and the smaller the chance of you experiencing heart problems
- wearing an appropriate lifejacket, properly fitted, will decrease the risk by helping to keep your airway clear of the water and reducing the need for you to exercise during this critical period
- wearing appropriate protective clothing will also decrease the risk by slowing the rate of skin cooling and thereby the size of the initial responses
- if you experience initial responses you should stay still for the first few minutes of immersion, doing as little as possible until you have regained control of your breathing: a lifejacket or other source of buoyancy will help you do this
- the period of possible self-rescue starts immediately after the initial responses (if experienced), and before hypothermia sets in.

Short term immersion effects follow the initial responses. During this phase cooling of the muscles and nerves close to the surface of the skin – particularly in the limbs – can lead to inability to perform physical tasks. Swimming ability will be significantly impaired. (Swimming accelerates the rate of cooling in any event.) It follows that:

- essential survival action that requires grip strength and/or manual dexterity – such as adjusting clothing or your lifejacket, or locating a lifejacket whistle or turning on a light, for example – should be taken as soon as possible after the initial responses to cold water immersion have passed

---

<sup>1</sup>

By medical convention clinical hypothermia is considered present when the "deep", or "core", body temperature falls below 35°C (95°F); that is, when about 2°C (3.5°F) has been lost. With continued cooling consciousness will be progressively impaired and then lost; eventually death will follow. However, in cold water death from hypothermia itself is relatively rare. More of a threat is the loss of heat from the muscles: incapacitation may then lead to the casualty being unable to keep their airway – the mouth and/or nose – clear of the water, so that they drown. Hence the importance of being well clothed and wearing a correctly fitted and adjusted lifejacket.

- you should not attempt to swim unless it is to reach a fellow survivor or a nearby shore, craft, or other floating object onto which you can hold or climb.

Stay calm. Evaluate your options. Can you reach a shore or floating object – knowing that your swimming ability will be less than normal? If not, stay where you are, conserve body heat (see below), and await rescue.

Long-term immersion effects include a fall in deep body temperature (a cooling of your vital organs such as your heart, lungs and brain) to hypothermic levels. However, the rate at which your deep body temperature falls depends on many factors, including the clothing you are wearing, your physique, and whether or not you exercise in the water – by swimming, for example. Your temperature will fall more slowly if you:

- wear several layers of clothing, including head covering – especially under a waterproof outer layer such as an immersion suit
- keep still – this is greatly facilitated by wearing a lifejacket.

The rescue phase is the fourth stage of immersion you should focus on. A significant percentage of people die just before they are rescued; during their rescue; or just after it. This may be because of:

- the way in which they are rescued
- relaxing too soon
- loss of buoyancy – actions such as waving, etc. may release air trapped in clothing. Again, wearing a lifejacket removes this threat.

It follows that:

- you should stay still in the water: blow a whistle or shout to attract attention – but do not wave unless you are wearing a lifejacket or have some other aid to flotation
- the rescue itself should be carried out appropriately (see *the rescue phase*, below)
- you should maintain your determination to survive throughout: do not relax too soon.

### **3 Actions prior to abandoning the ship**

Avoid abandoning for as long as safely possible: "*the ship is the best survival craft*".

When abandonment is necessary there may be little time to formulate a plan, so careful planning beforehand is essential. Here are some things to remember should you ever have to abandon a ship:

- Ensure distress alerts have been sent. If you have emergency location beacons – including personal beacons – switch them on, and leave them on.
- If possible keep the emergency location beacon with you. Rescue units are most likely to find the emergency location beacon first.

- Put on as many layers of warm clothing as possible, including your feet. Make sure to cover your head, neck, and hands. The outer layer should be as watertight as possible. Fasten clothing to improve insulation and to minimize cold water flushing in and out beneath the clothing.
- If an immersion suit is available put it on over the warm clothing.
- Put on a suitable lifejacket and secure it correctly. If in cold water you will quickly lose full use of your fingers. If the lifejacket is fitted with crotch and/or other retaining straps, make sure that they are pulled tight. They will hold the lifejacket in the right position, increasing buoyancy – you may not be able to tighten them once in the water. If the lifejacket is of the automatic inflation type, inflate it manually *after* leaving the interior of the ship but *before* entering the water.
- If time permits drink a lot before leaving the ship: warm sweet drinks are best – but no alcohol: it can reduce the chances of survival in cold water. Take extra water with you if possible.
- Before leaving the ship, or immediately after boarding the survival craft, take anti-seasickness medicine.
- Avoid entering the water at all if possible. If you must go into the water, avoid jumping in. If davit-launched survival craft, a marine escape system or other means of dry-shod embarkation are not available use over-side ladders if you can, or lower yourself slowly, by means of a rope or fire hose, for example.
- If jumping into the water is unavoidable, you should try to keep your elbows to your side and cover your nose and mouth with one hand while holding the wrist or elbow firmly with the other hand. Just before you jump look down to ensure the area beneath is clear of obstruction, and then jump with eyes fixed on the horizon to ensure you stay in a vertical position as you fall. Avoid jumping onto a liferaft canopy (you may injure yourself or people inside) and avoid jumping into the water astern of a liferaft still secured to the ship, in case the ship has some remaining headway.

#### **4 The survival phase: in a survival craft**

You should try to enter the survival craft "dry". But this may not be possible, and the craft is unlikely to be dry itself. You can still cool to dangerous levels – especially if wet to begin with, partly because of the evaporation of water in your clothing. Even if wearing an immersion suit, or a so-called "dry" suit, you may still be wet. But stay calm: there are things you can do to improve your situation:

- In survival craft without covers, try to give yourself a waterproof and windproof covering – plastic sheeting or bags, for example, if suitable clothing is not available.
- Enclosed survival craft give you better protection from the elements, but may still become wet inside. Having checked that there are no other survivors able to reach the raft, close the covers as soon as you can, before your hands get too cold.
- Try to avoid sitting in water: sit on your lifejacket if there is nothing else available.

- Squeeze as much water as you can out of sodden clothing before replacing it, to reduce body heat loss through evaporation.
- Huddling close to the other occupants of the survival craft will also conserve body heat – but ensure craft stability is not compromised.
- Follow your survival craft training (water and food rationing, etc.).
- Keep a positive attitude of mind about your survival and rescue: your will to live *does* make a difference! While you wait "*Stay warm; stay alive*" should be your motto.

## **5 The survival phase: in the water**

Because of the greater body heat loss in water, you are always better off out of the water than in it – despite how this may feel at first – and you are better off partially out of the water if you cannot get out of it entirely.

After the initial responses have passed and you have regained control of your breathing, you should:

- Orientate yourself and try to locate the ship, survival craft, other survivors, or other floating objects. If you were unable to prepare yourself before entering the water, button up clothing now. In cold water you may experience violent and distressing shivering and numbness. These are natural body responses that are not dangerous. You do, however, need to take action as quickly as possible before you lose full use of your hands.
- Do not attempt to swim unless it is to reach a fellow survivor or a nearby shore, craft, or other floating object onto which you can hold or climb. Staying calm and still conserves heat.
- If swimming, swim on your back, using only your legs if possible. The arms are critical to heat loss. Not using your arms to swim means that you can keep them folded over your torso to assist in insulation.
- Swim downwind of a floating object if you are trying to reach it, rather than straight towards it. The wind will bring it in your direction. Once upwind of a liferaft, for example, you are unlikely to be able to reach it. Keep checking the object's location and your progress towards it. If you decide that you cannot reach it, stop swimming, stay calm and stay still.
- The body position you assume in the water is very important in conserving heat. Try to float as still as possible, with your legs together, elbows close to your side, and arms folded across your chest. This position – which may only be fully achievable if you are wearing a lifejacket or dry suit – minimizes the exposure of the body surface to the cold water.
- If the lifejacket is fitted with a spray hood, put it on. The hood protects the airways against spray while drifting in the water.
- The floating body tends to turn towards on-coming waves, with the legs acting like a sea anchor. If you have to, paddle gently to maintain a back-to-wave position. Although this may increase heat loss, you need to protect your airway from wave splash.



- Link up with other survivors if you can: it helps location and rescue.
- Keep a positive attitude of mind about your survival and rescue. This will extend your survival time. Your will to live *does* make a difference!

## **6 The rescue phase: guidance for those engaged in search and rescue**

Search may have to come before rescue.

Remember to:

- Search long enough! Survival is possible, even after many hours in cold water.
- Ask the Rescue Coordination Centre for advice; including on how long to keep searching.
- Plan and prepare recovery methods for a variety of possible scenarios while searching. See the IMO's guidance on recovery, *A Pocket Guide to Recovery Techniques*.

## Rescue

Recovery from the water:

- Be aware of the dangers to people in the water of vessel drift, including side-splash – waves generated or reflected by the hull.
- Try to ensure that the survivor does not attempt to assist: full and coordinated use of their fingers and arms may not be possible, and lifting an arm to take hold of a rope can induce sinking and drowning unless they are wearing a lifejacket.
- Encourage the survivor to keep "fighting for survival". Do not let them relax too soon.
- Ideally, the survivor should be recovered in a horizontal or near-horizontal body position. Lifting a hypothermic person vertically can induce cardiac arrest. In a relatively high lift – up to the deck of a ship or into a helicopter, for example – use two strops or loops (one under the arms, the other under the knees) or other means of near-horizontal recovery: see the *Pocket Guide to Recovery Techniques*.
- However, if the survivor's airway is under threat – as it may be if alongside a vessel of any size, even in calm conditions, because of side-splash – recover by the quickest method possible.
- Keep the survivor slightly head-down during transport to a place of safety. In a fast rescue craft, for example, this will mean laying the survivor with his feet towards the bows.
- If a rescue craft has been deployed, survivors recovered should if possible remain in the craft during its recovery.

Recovery from survival craft:

- In high seas beware of swamping of enclosed craft on opening the hatch.
- Beware of the possibility of rescue collapse on recovery. This is especially likely in survivors who have been adrift for a long time.
- To avoid collapse employ the horizontal rescue procedures outlined above.

## **7 Treatment of people recovered from cold water**

Check for vital signs. Is the casualty breathing? Are they unconscious (unresponsive) or conscious?

Begin appropriate First Aid as described below. See also the flow diagram in the appendix.

*Always* obtain medical advice as soon as possible, even if the casualty has not been in cold water for long, and is conscious. Free advice may be obtained from a Telemedical Assistance Service (TMAS), which can be contacted via a Rescue Coordination Centre (RCC).

### **Unconscious casualty**

Adopt standard First Aid procedures.

#### If not breathing:

- Check/clear airway; if still not breathing give two full rescue breaths.
- Commence cardiopulmonary resuscitation (CPR) in accordance with First Aid training.
- While awaiting medical advice continue CPR at a compression rate of 100 per minute, with two rescue breaths every 30 compressions.
- Continue until exhausted if acting alone. If assistance is available, interchange every two minutes to avoid exhaustion.
- If the cardiac arrest was not witnessed; if medical advice is still not available and none is imminent; and if there are still no signs of life after 30 minutes, stop CPR but treat the casualty in accordance with the advice in section 9 below.
- If the cardiac arrest was witnessed, maintain CPR until you are either exhausted or receive medical advice.

#### If breathing but unconscious:

- Transfer to a sheltered location.
- Check for other injuries.
- Place in the recovery position.

- Beware of vomiting which is very common in seawater drowning.
- Seek medical advice.
- Monitor and record breathing and heart rate (neck/carotid pulse). An increasing breathing and/or heart rate may indicate the onset of drowning complications – and in a severely hypothermic person cardiac arrest can occur at any time.
- Provide oxygen by mask, if available.
- Provide additional insulation to prevent continued cooling. To provide protection against evaporative heat loss enclose in a large waterproof bag or sheeting.

### **Conscious casualty**

#### Short exposure (less than about 30 minutes): survivor is shivering

- Survivors who are fully alert, rational and capable of recounting their experiences, although shivering dramatically, will recover fully if they remove their wet clothing and are insulated with blankets, etc. If their exposure has been relatively short, 30 minutes or so, they can be re-warmed in a hot bath, or seated in a shower<sup>2</sup> – but only if shivering and while being supervised for early signs of dizziness or collapse associated with overheating.
- Alternatively, for survivors who are shivering and alert, physical exercise will speed up re-warming.
- Seek medical advice.

#### Long exposure (more than 30 minutes) and/or survivor is not shivering

- Insulate to prevent further heat loss through evaporation and exposure to wind.
- Avoid unnecessary manhandling – enclose in blankets and/or plastic, including head (but not face), neck, hands and feet.
- Move to a warm, sheltered location.
- Lay down in a semi-horizontal or half-sitting position (unless dizziness develops, when a horizontal attitude would be best).
- Oxygen should be given if available.
- If water was inhaled, encourage deep breathing and coughing.
- Monitor and record breathing and heart rate (neck/carotid pulse) at 5-minute intervals for the first 15 minutes and then, if no change, at 15-minute intervals. (An increasing breathing and/or heart rate may indicate the onset of drowning complications – and remember that in a severely hypothermic person cardiac arrest can occur at any time.)

---

<sup>2</sup> The bath or shower should be at a temperature of 39-41°C (102-106°F). Much less than this and the survivor's body will continue cooling, even if the water feels "warm". If you do not have a thermometer, dip your bare elbow in the water: the heat will be tolerable at about the correct temperature, but not above it.

- Seek medical advice.
- When alert and warm it is no longer necessary to maintain a semi-horizontal or horizontal position.
- Give warm sweet drinks – but no alcohol.

If the survivor's condition deteriorates, refer to the treatment procedure for the unconscious patient, above.

## **8 Treatment of people recovered from survival craft**

Occupants who were exposed and dry for short durations (2 to 3 days), and are fully alert, may require treatment for mild hypothermia as described above for conscious immersion survivors.

Occupants who are wet and cold and less alert will require to be recovered in a semi-horizontal position and should be treated in the same way as immersion casualties at the same level of alertness.

Warm sweet drinks should be provided.

Obtain medical advice. Free advice may be obtained from a Telemedical Assistance Service (TMAS), which can be contacted via a Rescue Coordination Centre.

## **9 The apparently dead**

What to do with people recovered apparently dead, showing no signs of life and extremely cold to the touch, is a very difficult question.

In all probability they will indeed be dead, especially if there are witness reports from other survivors that they have been in that state for many hours.

If, however, there are no such witness reports, the assumption must be that they may be alive but suffering from extreme hypothermia; that is, the heart may still be working but at a very reduced level of activity such that the pulse cannot be felt and the eye pupils are widely dilated.

*Always* obtain medical advice as soon as possible. Free advice may be obtained from a Telemedical Assistance Service (TMAS), which can be contacted via a Rescue Coordination Centre.

The apparently dead should be:

- Recovered horizontally if possible and handled as if seriously ill.
- The body should be gently placed in the recovery position in a warm sheltered compartment, and well insulated.
- If still alive, the body can rewarm very slowly at an optimal rate to allow it to compensate, by itself, for the major internal fluid changes that occurred during the slow protracted cooling it endured.

- Monitor and record pupil size and rectal temperature at hourly intervals for 12 hours. If there is no change and there are still no other signs of life, then it can be assumed that the casualty is dead.
- If, however, pupil size decreases then, possibly, the casualty is alive: commence monitoring and recording at 15-minute intervals, including checking for pulse and breathing.
- If any sign of life is detected treat as for the unconscious immersion casualty. See section 7 above.

## 10 Summing up

This guide has briefly explained how your body responds to cold, what you can do to help ward off its harmful effects and, finally, how to aid people recovered from the water or from survival craft.

Let's sum up with some important reminders about survival. Follow them, for your life may one day depend on them.

- **Plan your emergency moves in advance.** Ask yourself what you would do if an emergency arose. Where is your nearest exit to the deck for escape? Where is the nearest available immersion suit, lifejacket, SART, emergency location beacon and survival craft? How would you quickly get to your foul weather gear, insulated clothing, gloves, etc.?
- **Know how your survival equipment works.** The time of the emergency is not the time to learn.
- Even in the tropics, before abandoning ship **put on many layers of clothing** to offset the effects of cold. **Wear an immersion suit** if available.
- **Put on a lifejacket** as soon as possible in an emergency situation – and adjust it correctly.
- When abandoning ship, **try to board the survival craft dry** without entering the water.
- **Take anti-seasickness medicine** as soon as possible.
- If immersion in water is necessary, **try to enter the water gradually.**
- The **initial response** to immersion in cold water **will only last a few minutes:** rest until you regain control of your breathing. (This initial response will not always occur, but is more likely with lower water temperatures/less protection.)
- **Try to get as much of your body as you can out of the water.**
- Swimming increases body heat loss. **Only swim to a safe refuge nearby** if the likelihood of early rescue is low and you are confident that you can reach it. **Swim on your back, using only your legs** if you can.

- **If trying to reach a floating object swim downwind of it**, letting the wind bring the object to you.
- If not swimming to a refuge, try to reduce your body heat loss: **float in the water with your legs together, elbows to your side, and arms across your chest.**
- **If you are not wearing a lifejacket, do not wave to attract attention.** You will lose buoyancy if you have no lifejacket.
- **Force yourself to have the will to survive.** This can make the difference between life and death. Keep your mind occupied and focus on short-term objectives.
- **Do not over-exert yourself during the rescue process:** let the rescuers do the work – they are in a better condition than you.
- Even while being rescued, **do not relax too soon.**

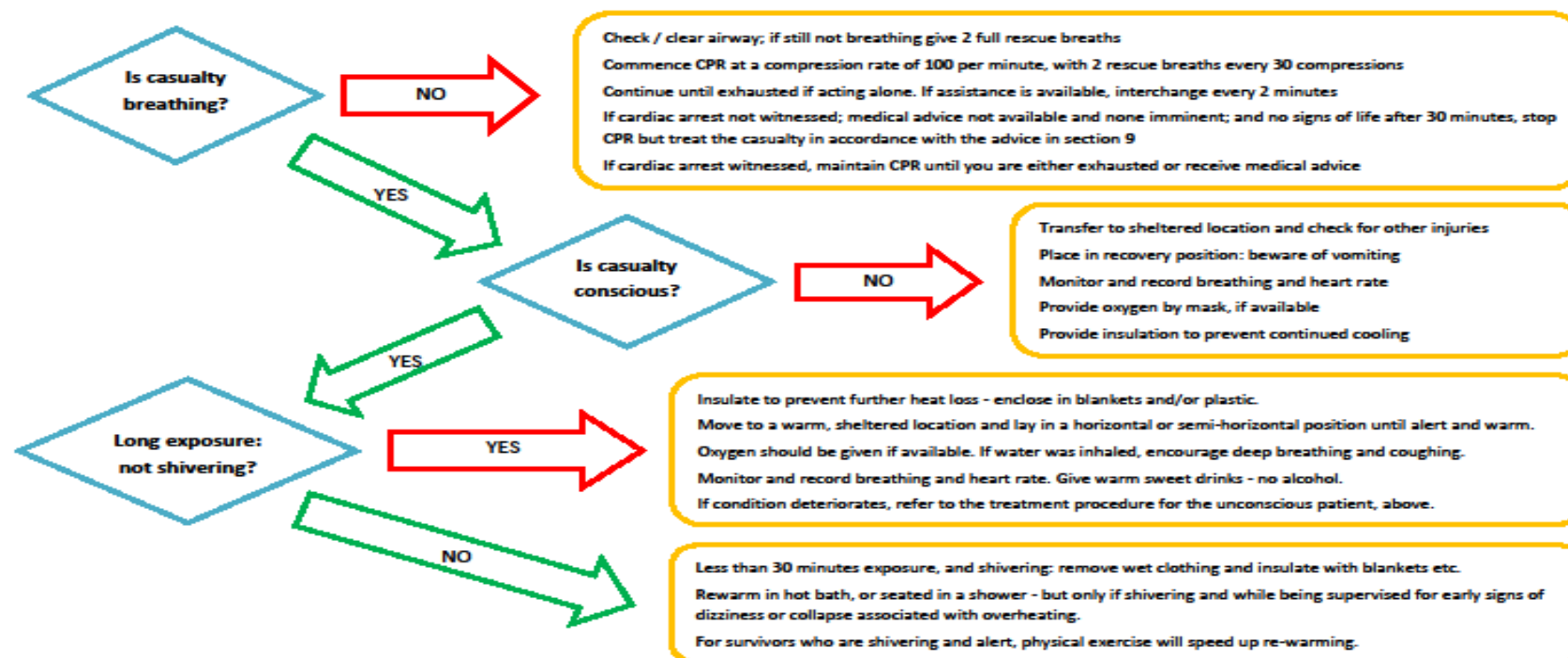
Advance knowledge, planning, preparation and thought on your part can be the most significant factors in your survival – or in treating others who have been exposed to the cold.

Familiarize yourself with the contents of this guide.

## APPENDIX

### Treatment of people recovered from cold water

Always obtain medical advice as soon as possible. Free advice may be obtained from a Telemedical Maritime Assistance Service (TMAS), which can be contacted via a Rescue Coordination Centre.



MARITIME SAFETY COMMITTEE  
92nd session  
Agenda item 13

MSC 92/INF.7  
5 April 2013  
ENGLISH ONLY

## **SHIP DESIGN AND EQUIPMENT**

### **Sample form for ship-specific plans and procedures for recovery of persons from the water required by SOLAS regulation III/17-1**

**Submitted by Japan**

#### **SUMMARY**

<i>Executive summary:</i>	This document provides sample form for ship-specific plans and procedures for recovery of persons from the water required by SOLAS regulation III/17-1 for reference
<i>Strategic direction:</i>	5.1
<i>High-level action:</i>	5.1.1
<i>Planned output:</i>	5.1.1.1
<i>Action to be taken:</i>	Paragraph 5
<i>Related documents:</i>	Resolution MSC.338(91); MSC.1/Circ.1447; MSC.1/Circ.1182; MSC.1/Circ.1185/Rev.1 and MSC/Circ.810

#### **Background**

1 The Committee, at the last session, adopted amendments to SOLAS regulation III/17-1, i.e. the requirement for recovery of persons from the water, which will enter into force on 1 July 2014. This new regulation requires ship-specific plans and procedures for the recovery of persons from the water.

2 For the preparation of these plans and procedures, Guidelines for the development of plans and procedures for recovery of persons from the water (MSC.1/Circ.1447) were developed, which refer to MSC.1/Circ.1182 and MSC.1/Circ.1185/Rev.1.

#### **Sample form for ship-specific recovery plans and procedures**

3 To facilitate the preparation of these plans and procedures, Japan provides information on a sample form for ship-specific plans and procedures for recovery of persons from the water required by SOLAS regulation III/17-1, which was prepared by ClassNK, as set out in the annex to this document.



4 This sample will be available on the ClassNK website (URL: <http://www.classnk.or.jp/>) from June 2013.

**Action requested of the Committee**

5 The Committee is invited to note the sample form set out in the annex to this document.

\*\*\*

**ANNEX**

**SAMPLE FORM FOR SHIP-SPECIFIC PLANS AND PROCEDURES FOR RECOVERY OF  
PERSONS FROM THE WATER REQUIRED BY SOLAS REGULATION III/17-1**

**PLANS AND PROCEDURES FOR RECOVERY OF  
PERSONS FROM THE WATER**

**Ship's Name :**

**IMO Number :**

**Note:** This document was developed based on “*GUIDELINES FOR THE DEVELOPMENT  
OF PLANS AND PROCEDURES FOR RECOVERY OF PERSONS FROM THE  
WATER (MSC.1/Circ.1447)*”.

Prepared by **ClassNK**

**Record of changes**

No	Date	Revised Part	Revision detail / description	Signature

## **Table of Contents**

### **Record of changes**

#### **Section 1 Introduction**

- 1.1 General
- 1.2 Purpose
- 1.3 Objective
- 1.4 Applicability and Scope
- 1.5 Requirements Regulations and Guidelines
- 1.6 Relation to the International Safety Management (ISM) Code

#### **Section 2 Principles of operation**

- 2.1 General
- 2.2 Necessity of Planning
- 2.3 Recovery operation from water
- 2.4 Safety precautions

#### **Section 3 Roles and Responsibilities**

- 3.1 Responsibility of Master
- 3.2 Duties of the crew

#### **Section 4 Competence and Familiarization**

- 4.1 General
- 4.2 Record of drills

### **Main Particulars**

**Annex 1:** Risk assessment with Anticipated conditions and Ship Characteristics.

**Annex 2:** Description of the Procedures and recovery plan used onboard

- A2.1 Main Particulars
- A2.2 Plans and Documents
- A2.3 Ship Specific Arrangements
- A2.4 Duties of the crew
- A2.5 Operational Methods employed

### **Appendixes**

- Appendix 1: MSC.1/Circ.1447 “GUIDELINES FOR THE DEVELOPMENT FOR PLANS AND PROCEDURES FOR RECOVERY OF PERSONS FROM THE WATER”
- Appendix 2: MSC.1/Circ.1182 “GUIDE TO RECOVERY TECHNIQUES”
- Appendix 3: MSC.1/Circ.1185/Rev.1 “GUIDE FOR COLD WATER SURVIVAL”
- Appendix 4: MSC/Circ.810 “RECOMMENDATION ON MEANS OF RESCUE ON RO-RO PASSENGER SHIPS”

## **Section 1 Introduction**

### **1.1 General**

This document is developed based on “***GUIDELINES FOR THE DEVELOPMENT FOR PLANS AND PROCEDURES FOR RECOVERY OF PERSONS FROM THE WATER (MSC.1/Circ.1447)***”, as set out in Appendix 1 to this document.

Risk assessment with equipment intended to be used onboard, taking into account the anticipated conditions and ship-specific characteristics, were carried out as per Annex 1 to this document.

The Guide to recovery techniques (MSC.1/Circ.1182: attached as appendix 2) provides a number of examples of how certain types of equipment can be used to recover persons from the water, to be referred for facilitating the procedures.

In addition, following related documents were also considered when developing this document:

- .1 MSC.1/Circ.1182 “GUIDE TO RECOVERY TECHNIQUES” (Appendix 2 of this document);
- .2 MSC.1/Circ.1185/Rev.1 “GUIDE FOR COLD WATER SURVIVAL” (Appendix 3 of this document); and
- .3 MSC/Circ.810 “RECOMMENDATION ON MEANS OF RESCUE ON RO-RO PASSENGER SHIPS” (Appendix 4 of this document).

### **1.2 Purpose**

The purpose of this document is to provide guidance for the master and other crew members on board the ship regarding procedures for recovering persons from water.

This document is to be kept onboard and maintained in accordance with SOLAS regulation III/17-1 and in order to achieve its purpose, crews on board should be familiar with this document.

### **1.3 Objective**

This document aims for the effective recovery and rescue of persons from water with reducing the risk to shipboard personnel involved in recovery operation.

The recovery plans and procedures should facilitate the transfer of persons from the water to the ship while minimizing the risk of injury from impact with the ships side or other structures, including the recovery appliances itself.

## **1.4 Applicability and Scope**

This can be used as a guidance in case of responding to any distress signal where recovery operations are required and also when preparing for the rescue operations for recovering persons from the sea.

## **1.5 Requirements Regulations and Guidelines**

### **1.5.1 SOLAS III “Regulation 17-1 Recovery of persons from the water”**

*All ships shall have ship-specific plans and procedures for recovery of persons from the water, taking into account the guidelines developed by the Organization. The plans and procedures shall identify the equipment intended to be used for recovery purposes and measures to be taken to minimize the risk to shipboard personnel involved in recovery operations. Ships constructed before 1 July 2014 shall comply with this requirement by the first periodical or renewal safety equipment survey of the ship to be carried out after 1 July 2014 whichever comes first.*

### **1.5.2 “GUIDELINES FOR THE DEVELOPMENT OF PLANS AND PROCEDURES FOR RECOVERY OF PERSONS FROM THE WATER (MSC.1/Circ.1447)”**

MSC.1/Circ.1447 insists to refer the following documents for reference:

- .1 MSC.1/Circ.1182 “GUIDE TO RECOVERY TECHNIQUES” (Appendix 2 of this document); and
- .2 MSC.1/Circ.1185/Rev.1 “GUIDE FOR COLD WATER SURVIVAL” (Appendix 3 of this document)

## **1.6 Relation to the International Safety Management (ISM) Code**

This document should be considered as a part of the emergency preparedness plan required by paragraph 8 of Part A of the International Safety Management (ISM) Code.

## **Section 2 Principles of Operation**

### **2.1 General**

The initiation or continuation of recovery operations should be at the discretion of the master of the recovering ships, in accordance with the provisions of SOLAS regulation III/17-1.

**Life-saving and other equipment carried on board may be used to recover persons from the water, even though this may require using such equipment in unconventional ways.**

**Annex 1/Annex 2** to this document to be referred for the information and procedures specifically used onboard this vessel.

## **2.2      Necessity of Planning**

During voyages, there can be situations when the crew suddenly engages to recover people in distress at sea. This might be a person overboard from the same ship, a fellow crew member, or a passenger or the ship might be responding to someone else's emergency; for example a ship abandoned because of flooding, fire or a ditched aircraft.

In such cases, crew may have to prepare, with little or no notice, to recover people - maybe so many people. Whoever they are, their lives may be in your hands.

In many areas of the world, especially when out of range of shore-based search and rescue (SAR) facilities, your ship may be the first, or the only, rescue unit to reach them. Even if you are joined by specialized units, you will still have a vital role to play, especially in a major incident. If you are required to recover people in distress, it is your capability and your ship that matters. You may have to find a unique solution to a unique lifesaving problem. To ensure that you can respond safely and effectively, you need to think about the general issues beforehand.

## **2.3      Recovery operation from water**

While undergoing the recovery operations, ship's crew have to refer the procedures stipulated in Annex 2 to this document.

**Annex 2** to this document specify the anticipated conditions under which a recovery operation may be conducted without causing undue hazard to the ship and the ship's crew, taking into account, but not limited to:

- .1      Maneuverability of the ship;
- .2      Freeboard of the ship;
- .3      Points on the ship to which casualties may be recovered;
- .4      Characteristics and limitations of equipment intended to be used for recovery operations;
- .5      Available crew and personal protective equipment (PPE);
- .6      Wind force, direction and spray;
- .7      Significant wave height ( $H_s$ );
- .8      Period of waves;
- .9      Swell; and
- .10     Safety of navigation.

To the extent practicable, recovery procedures should provide for recovery of persons in a horizontal or near-horizontal ("deck-chair") position. Recovery in a vertical position should be avoided whenever possible as it risks cardiac arrest in hypothermic casualties (refer to the Guide for cold water survival (MSC.1/Circ.1185/Rev.1)).

Illumination is necessary for the recovery operation from water. Source of illumination and power (where required) should be available for the area where the recovery operation is conducted.

## **2.4     Safety precautions**

Recovery operations should be conducted at a position clear of the ship's propellers and, as far as practicable, within the ship's parallel mid-body section.

If carried, dedicated recovery equipment should be clearly marked with the maximum number of persons it can accommodate, based on a weight of 82.5 kg per person.

Master should take necessary precautions as described in **Annex 2** to this document.

## **Section 3 Roles and Responsibilities**

### **3.1     Responsibility of Master**

**The initiation or continuation of recovery operations should be at the discretion of the master of the recovering ships, in accordance with the provisions of SOLAS regulation III/17-1.**

The use of ship's rescue craft must be for the master to decide, depending on the particular circumstances of the incident. Allowable circumstances are referred to Annex 1/Annex 2 to this document.

There will be times when recovery cannot be attempted or completed without unduly endangering the ship, her crew or those needing recovery. Only the assisting ship's master can decide when this is the case.

Master has to establish programs and should carryout drills for emergency actions of recovery.

### **3.2     Duties of the crew**

The various tasks involved are defined and assigned to particular personnel onboard, like who will be required for the recovery process; who will manage the ship in the meantime etc.

Please refer **Annex 2** for details.

## **Section 4 Competence and Familiarization**

### **4.1     General**

Drills should ensure that crew's competence and familiarization with the plans, procedures and equipment for recovery of persons from the water. Such exercise may be conducted in conjunction with routine man-overboard drills, and in this case records to be maintained in relevant documents



**4.2     Exercise record for recovering operation**

<b>Date</b>	<b>Name</b>	<b>Rank</b>	<b>Signature</b>	<b>Remarks</b>	<b>Verified by</b>

## **Annex 1**

### **Risk assessment with Anticipated conditions and Ship Characteristics**

When developing the plans and procedures for recovery of persons from the water for this particular ship, following Risk assessment was conducted, including equipment intended to be used, taking into account the anticipated conditions and ship-specific characteristics.

***Detailed risks connected to the ship-specific characteristics should be considered and ship specific criteria are to be developed and included in the plan.***

***(Example is shown below)***

#### **Recovery from water-Risk Assessment**

<b>RECOVERY METHODS</b>	<b>POSSIBLE HAZARDS</b>	<b>CONSEQUENCES</b>	<b>CONTROL MEASURES</b>
-----------------------------	-----------------------------	---------------------	-----------------------------

Using rescue boat			
-------------------	--	--	--

## **Annex 2**

### **Description of the Procedures and recovery plan used onboard**

#### **A2.1 Main Particulars**

- |     |  |  |
|-----|--|--|
| (1) | Ship's name  |  |
| (2) | Navigational Area                                    |  |
| (3) | Call sign  |  |
| (4) | IMO number   |  |
| (5) | Type of ship   |  |
| (6) | Principal dimensions                                 | Loa=        m<br>Lpp×B×D=    m×    m×    m |
| (7) | Draft and displacement<br>at full load condition     | Draft :        m<br>Displacement :    MT   |
| (8) | Draft and displacement<br>at light ballast condition | Draft :        m<br>Displacement :    MT   |

#### **A2.2 Plans and Documents**

These plans are to be used along with this manual

General Arrangement
Lifesaving appliances Plan
SOLAS Training Manual

#### **A2.3 Ship-specific Arrangements**

Please refer to the LSA plan and SOLAS training manual for the details of Life saving appliances and equipment carried onboard.

For recovery of person from water, in addition to the lifesaving appliances and procedures described, any other equipment/ procedures may also be used using ladders, cranes, gantries , davits, windlass etc. under the discretion of Master

#### **Ship's specifications of equipments**

Capacity of Rescue Boat

Minimum speed to be maintained for rescue boat  
lowering

Maximum speed at which rescue boat is tested for

launching  
Freeboard at which accommodation ladder to be used  
in conjunction with other ladder:  
Maximum freeboard corresponding to which the net  
can be lowered solely.  
Any Pilot access or hull openings;  
Range for Line throwing appliances  
Capacity of Rescue boats/survival crafts  
SWL of accommodation ladder  
Location of Medical Chest  
Dedicated Recovery Equipment  
Maximum number of person it can accommodate  
Maximum angle at which accommodation ladder can  
be lowered  
Location of lowest freeboard:  
Location of parallel middle body:  
Illumination Source

#### **Available crew and personal protective equipment (PPE)**

#### **Dynamic Parameters**

Wind force and direction	Refer to the anemometer
Wave height ( $H_s$ )	Refer to the measurement
Period of waves and swell	Refer to the measurement

#### **Other Equipment Particulars**

Accommodation Ladder  
Cranes  
Windlass  
Davits  
Pilot Ladder

#### **List of other recovery Tools (Apart from LSA Plan)**

Rescue Bucket  
Ropes

### **Manoeuvrability Parameters**

Manoeuvrability of the ship (Ex. Turning circle)	Refer to - - -
Manoeuvrability of the ship (Ex. Crush stop astern)	Refer to - - -
Manoeuvrability of the ship (Others)	Refer to - - -

### **A2.4 Recovering operation-Duties of the crew**

<b>Position</b>	<b>Duties</b>	<b>Duties and Responsibilities</b>
-----------------	---------------	------------------------------------

As mentioned in above table each crew has to perform their responsibilities. Beforehand starting a rescue procedure, the ship should be ready with equipment's like heaving line, ladders, lifebuoys etc.

### **A2.5 Operational Methods employed**

Life-saving and other equipment carried on board may be used to recover persons from the water, even though this may require using such equipment in unconventional ways.

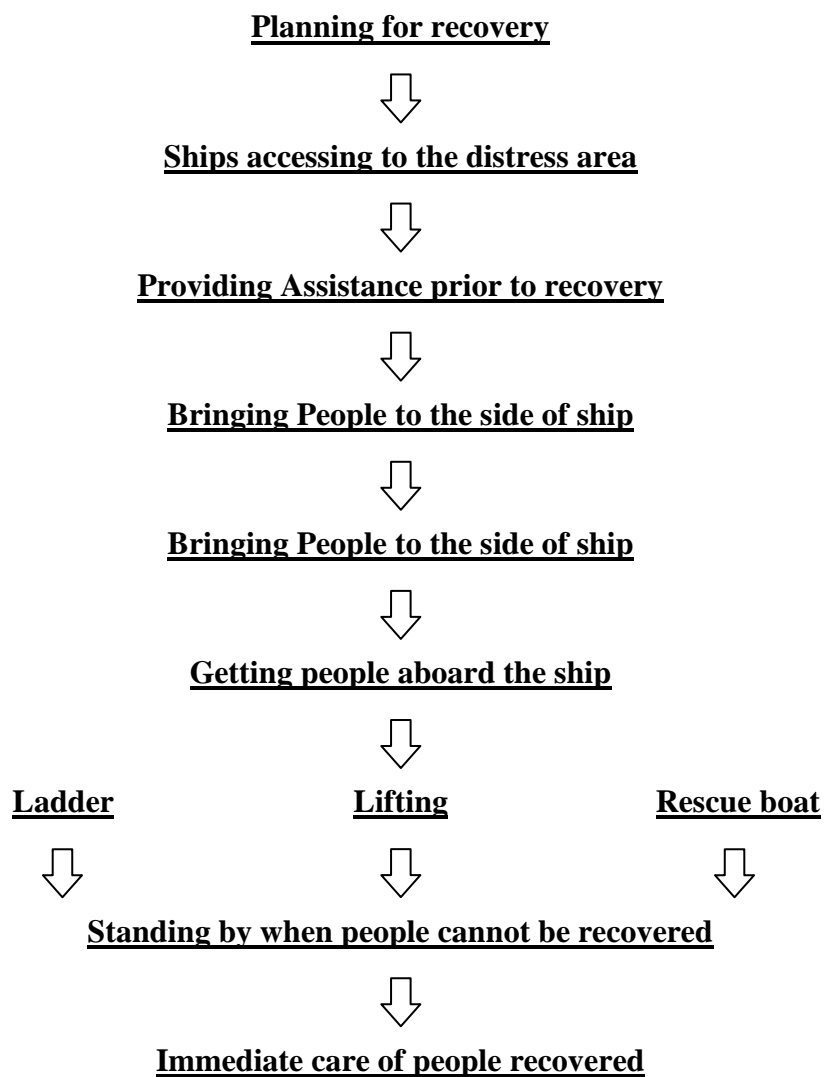
In principle, the ways of recovering mentioned in **SOLAS Training Manual** should be referred to the recovery of person from water. Before starting rescuing operation itself, crew should be ready with all equipment and arrangements.

To the extent practicable, recovery procedures should provide for recovery of persons in a horizontal or near-horizontal ("deck-chair") position. Recovery in a vertical position should be avoided whenever possible as it risks cardiac arrest in hypothermic casualties (refer to the *Guide for cold water survival* (MSC.1/Circ.1185/Rev.1))

Immediately after figuring a person at water Master is advised to slow down the vessel, and approach to the survivor in accordance with ship specific procedures.

**Ship specific procedures (1/2)**

**(Example)**



### **Details of ship specific procedures (1/2)**

#### **Planning for recovery**

Practice

Compatibility

Notes

#### **Ships accessing to the distress area**

Practice

Compatibility

Notes

#### **Providing Assistance prior to recovery**

Practice

Compatibility

Notes

#### **Bringing People to the side of ship**

Practice

Compatibility

Notes

### Getting people aboard the ship (By means of rescue boat)

Practice
<i>Recovery can be done using rescue boat in case of the person stayed with long distance. Normal practice for rescue boat davit written on the manual and poster to be referred to in case of the practice.....(example)</i>
Compatibility
<i>Use of rescue boat should be carried out in accordance with instruction of experienced person with taking into consideration of the total capacity, weight etc.....(example)</i>
Notes
<i>Operations for recovery of a rescue boat from the sea surface may be taken care of the risks from circumstances involving swinging of the ship or the influence of wind therefore it is required to act surely in accordance with the master's instructions.....(example)</i>

### Ladder / Lifting / rescue boat

Practice
Compatibility
Notes

### Standing by when people cannot be recovered

Practice
Compatibility
Notes

### Immediate care of people recovered

Practice
Compatibility
Notes



**Ship specific procedures (2/2)**

**AAA**



**BBB**



**CCC**



**DDD**



**[ EEE ]**



**[ FFF ]**



**[ GGG ]**



**[ HHH ]**

**Details of ship specific procedures (2/2)**

**AAA**

Practice

Compatibility

Notes

**BBB**

Practice

Compatibility

Notes

**CCC**

Practice

Compatibility

Notes

**DDD**

Practice

Compatibility

Notes

**[ EEE ]**

Practice

Compatibility

Notes

**[ FFF ]**

Practice

Compatibility

Notes

**[ GGG ]**

Practice

Compatibility

Notes

**[ HHH ]**

Practice

Compatibility

Notes

---