INTERNATIONAL STANDARD

ISO 16548

First edition
2012-10-15

Ships and marine technology — Ship design — General guidance on emergency towing procedures

Navires et technologie maritime — Conception du navire — Directives générales sur les procédures de remorquage d'urgence

Reference number
ISO 16548:2012(E)

COPYRIGHT PROTECTED DOCUMENT

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16548 was prepared by Technical Committee ISO/TC8, *Ships and marine technology*, Subcommittee SC8, *Ship design*.

Ships and marine technology — Ship design — General guidance on emergency towing procedures

1 Scope

This International Standard gives guidance on towing procedures for cargo ships and passenger ships in emergency situations subject to SOLAS Regulation II-1/3-4.

Cargo ships which are constructed on or after 1 January 2010 shall be provided with a ship-specific emergency towing procedure and all passenger ships shall be provided with a ship-specific emergency towing procedure by 1 January 2010. For cargo ships constructed before 1 January 2010, they shall be provided with ship-specific emergency towing procedure by 1 January 2012 in accordance with SOLAS (Chapter II-1 Reg. 3-4).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

SOLAS Regulation II-1/3-4, *Emergency towing arrangements and procedures*

IMO MSC.1/Circ.1255:2008, *Guidelines for Owners/Operators on Preparing Emergency Towing Procedures*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
towing ship
vessel or boat that manoeuvres vessels by pushing or towing them

3.2
towed ship
vessel that is towed or pushed by a towing ship

3.3
emergency towing system
ETS
system (equipment and fittings) for emergency towing for liquid cargo vessels based on SOLAS Regulation II-1/3-4

EXAMPLE Chafing chain, towing wire, chain stopper, strong fairlead and pick-up gear etc.

3.4
towing line
strong rope that is used by a towing ship for pulling a vessel

3.5
messenger rope
rope that is located between the heaving rope and the towing line

3.6
heaving rope
rope connected to a messenger rope that is thrown to another vessel in order to prepare for towing

3.7
chafing chain
chafing gear
stud link chain that is long enough to ensure that the towing line remains outside the fairlead during the towing operation

4 General description

4.1 General

This International Standard is prepared for use in emergency towing situations in accordance with SOLAS Regulation II-1/3-4 and related IMO MSC.1/Circ.1255.

4.1.1 The following information is included in this International Standard:

a) Drawings of fore and aft deck showing emergency towing arrangements;

b) Inventory of equipment on board that can be used for emergency towing;

c) Means and methods of communication;

d) Sample procedures to facilitate the preparation for and the conducting of emergency towing;

e) Organization of tasks; and

f) Communication plan listing all information that is required to be communicated to the towing ship.

4.1.2 A minimum of three copies should be kept on board and located in the following locations:

a) The bridge;

b) A forecastle space; and

c) The ship's office or cargo control room.

4.1.3 Owners, operators and crew should take into consideration that the nature of an emergency does not allow time for deliberation. Accordingly, the procedures should be practiced beforehand.

4.2 Limitation during towing operation

4.2.1 Not all ships have the same degree of shipboard equipment, so there may be limits to possible towing procedures. Nevertheless, the intention of this International Standard is to predetermine what can be accomplished.

4.2.2 The towing load should not exceed the safe working loads of deck fittings and the allowable working load of that deck structure as shown in Figures C.1 and C.2. When heavy weather which will significantly increase the towing load is forecasted, special considerations are to be paid to the towing speed, towing line arrangement, and the ship's stability.

4.2.3 The loading points on stand-rollers are so high that great bending moments are generally transferred to the supporting structures. Consequently, stand-rollers are not to be used in towing line arrangement as far as practicable.

4.3 Master's response

4.3.1 The master of a ship or ship owner's representative, when recognizing that the ship is in distress and may need towing assistance, should make the initial notification of the incident to the following parties:

a) Flag states;

b) Nearest Coastal state; and

c) Other relevant parties (shipper, insurer, company, authorities, etc.).

4.3.2 The master should complete Tables E.1 through E.4 and prepare to communicate with the towing ship.

4.3.3 All information in Annexes C and D should be delivered to the towing ship.

4.3.4 The master should ensure that towing lines do not become taut until towing lines are tied to the connection system of the towing ship and that everyone on deck has been notified.

4.3.5 When the power system on board is not available or alternative connection procedures are introduced by the towing ship, the master should try to make the best decision possible considering the ship's current status in consultation with the towing ship.

4.3.6 When an alternative procedure is adopted, it should be clearly communicated to all crew.

4.3.7 The master should ensure that survival craft are made ready for use.

4.4 Safety considerations

4.4.1 The Chief Officer on the mooring deck should be in contact with the Bridge at all times.

4.4.2 Everyone on deck should be equipped with personnel life saving appliances and be alert to avoid hazardous situations such as slips, trips, falls, etc.

4.4.3 All crew should be well informed of the work procedures and tasks.

4.4.4 When the towing line becomes strained in tension, all on-deck staff should be evacuated to a safe location.

4.4.5 The crew should have a good knowledge of equipment stowage locations and their accessibility. Any identified improvements to stowage arrangements should be implemented.

4.4.6 While engaged in towing operations, the minimum number of crew essential to carry out duties are to be on deck, and they should never be exposed to a rope or wire under tension or load. Wherever possible, the deck should be cleared of crew while towing.

4.4.7 Regular maintenance of emergency towing equipment is of utmost importance for emergency readiness.

4.5 Towing preparations

4.5.1 The towed ship is to display the navigation lights, shapes and, if manned, make sound signals required by the International Regulations for Preventing Collisions at Sea, 1972, as amended. Due

consideration should be given to the reliability of the lights and sound signals and their ability to function for the duration of the voyage.

4.5.2 Prior to sailing, the watertight integrity of the towed ship should be confirmed by an inspection of the closing arrangement for all hatches, valves, air pipes, and other openings through which water might enter. It should also be confirmed that any watertight doors or other closing arrangements within the hull are securely closed and that any portable closing plates are in place.

4.5.3 The securing arrangements and weather protection for the cargo, equipment and store carried on the towed ship should be carefully examined to ensure that they are adequate for the voyage.

4.5.4 When appropriate, the rudder should be secured in the amidships position and measures should be taken to prevent the propeller shaft from turning.

4.5.5 The towed ship should be at a suitable draught for the intended voyage.

4.5.6 The towed ship should have adequate intact stability in all the loading and ballast conditions to be used during the voyage.

4.5.7 Life saving appliances in the form of lifejackets and lifebuoys should be provided whenever personnel are likely to be on board the towed ship even if only for short periods of time. When personnel are expected to remain on board for longer periods of time, life rafts should be provided. Other life saving appliances, including distress signals, fire appliances and radio equipment, including means of communication with the towing ship, should be provided whenever the towed ship is continually manned.

5 Decision matrix for determining towing pattern

The towing pattern should be decided by the ship's master, in consultation with the master of towing ship, by using the following decision matrix (see Annexes A and B).

The ship should be towed from the bow as far as possible. If it is not possible to tow from the bow because of grounding, collision, etc., towing from the stern may be selected as an alternative.

For determining the towing pattern, the following status and surrounding conditions should be taken into account:

a) Ship's position;

b) Weather and sea conditions;

c) Short-term marine forecast for the area of the incident;

d) Direction and rate of drift;

e) Weather forecast for the area of emergency towing operation;

f) Distance and estimated time to any possible towing position;

g) Availability of propulsion system; and

h) Availability of power supply for deck machinery.

Annex A
(informative)

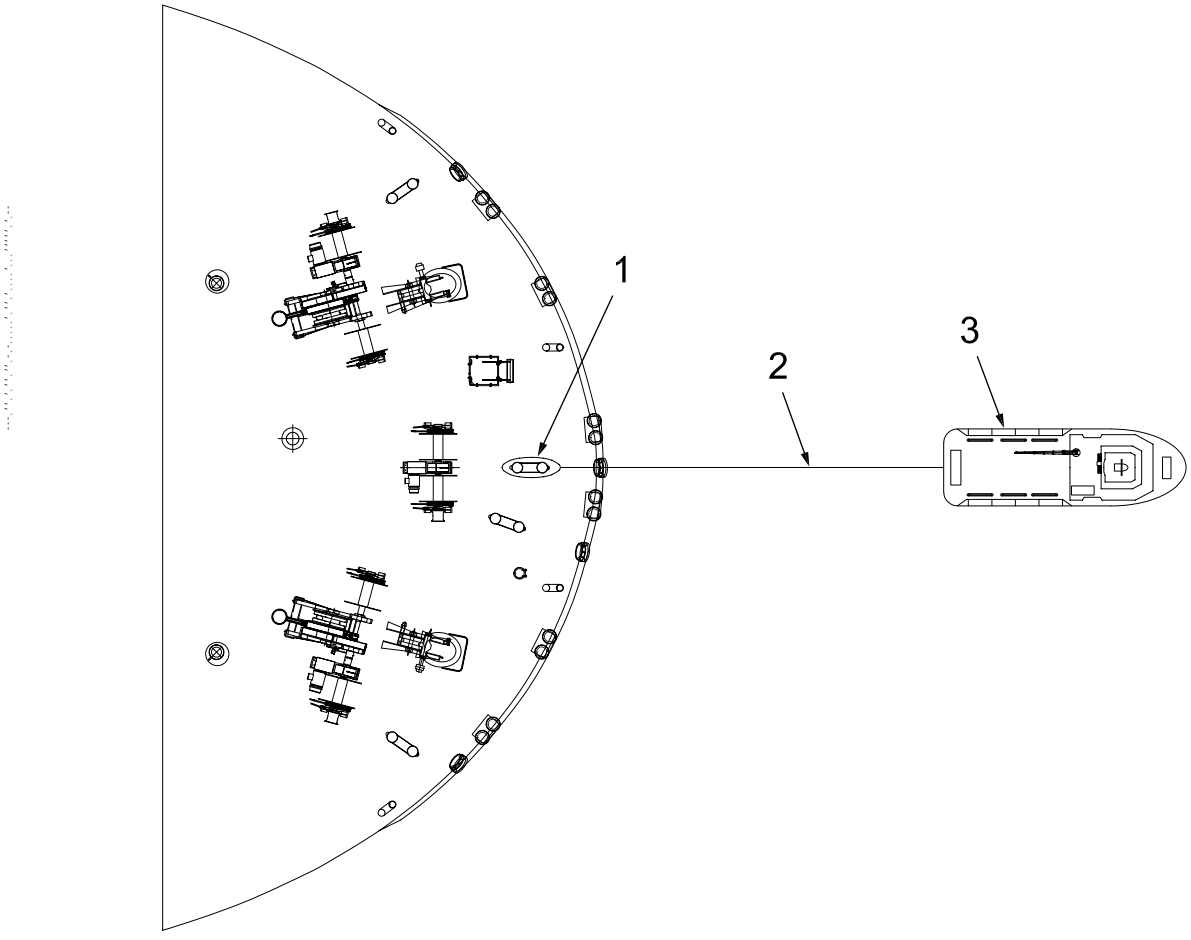
Towing patterns and decision matrix

A.1 General

Typical towing patterns stated either in this Annex or in IMO DE52/INF.2 are applicable.

A.2 Towing from bow

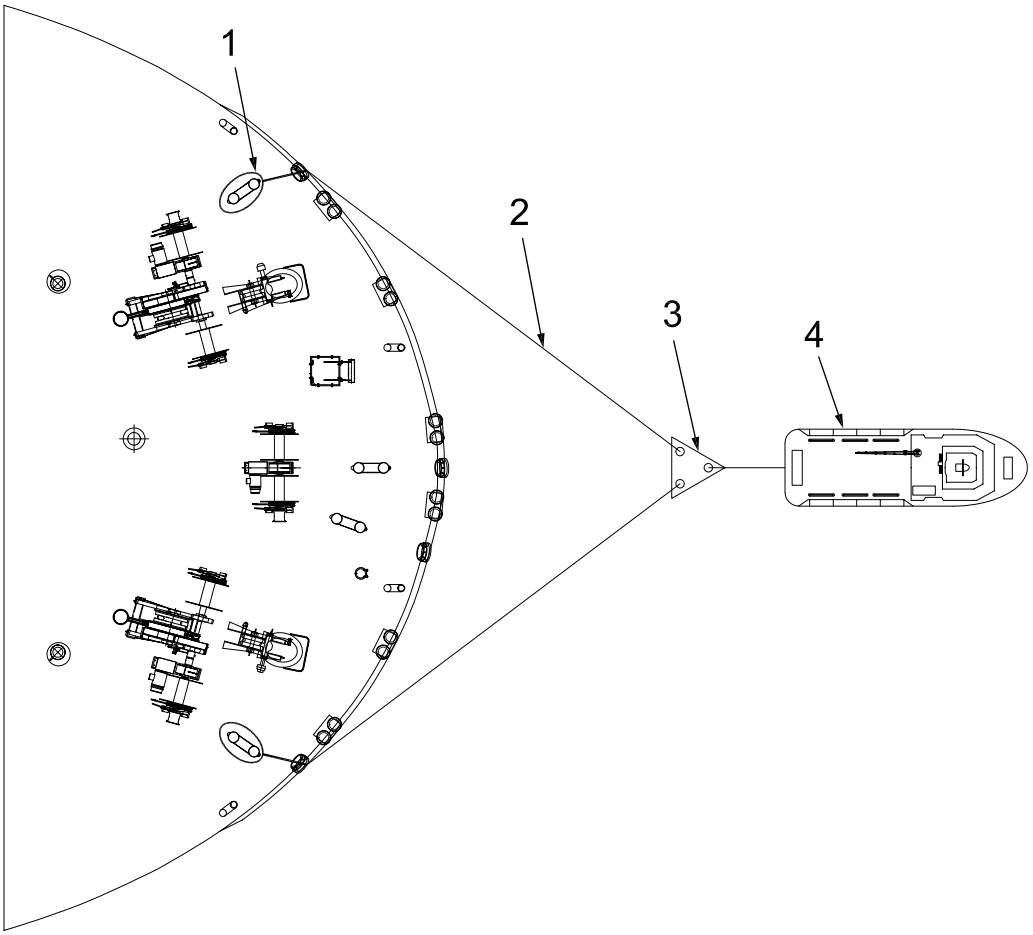
Figures A.1, A.2 and A.3 show the typical arrangements of a towing line connection for towing from bow.



Key

1 bollard
2 towing line
3 towing ship

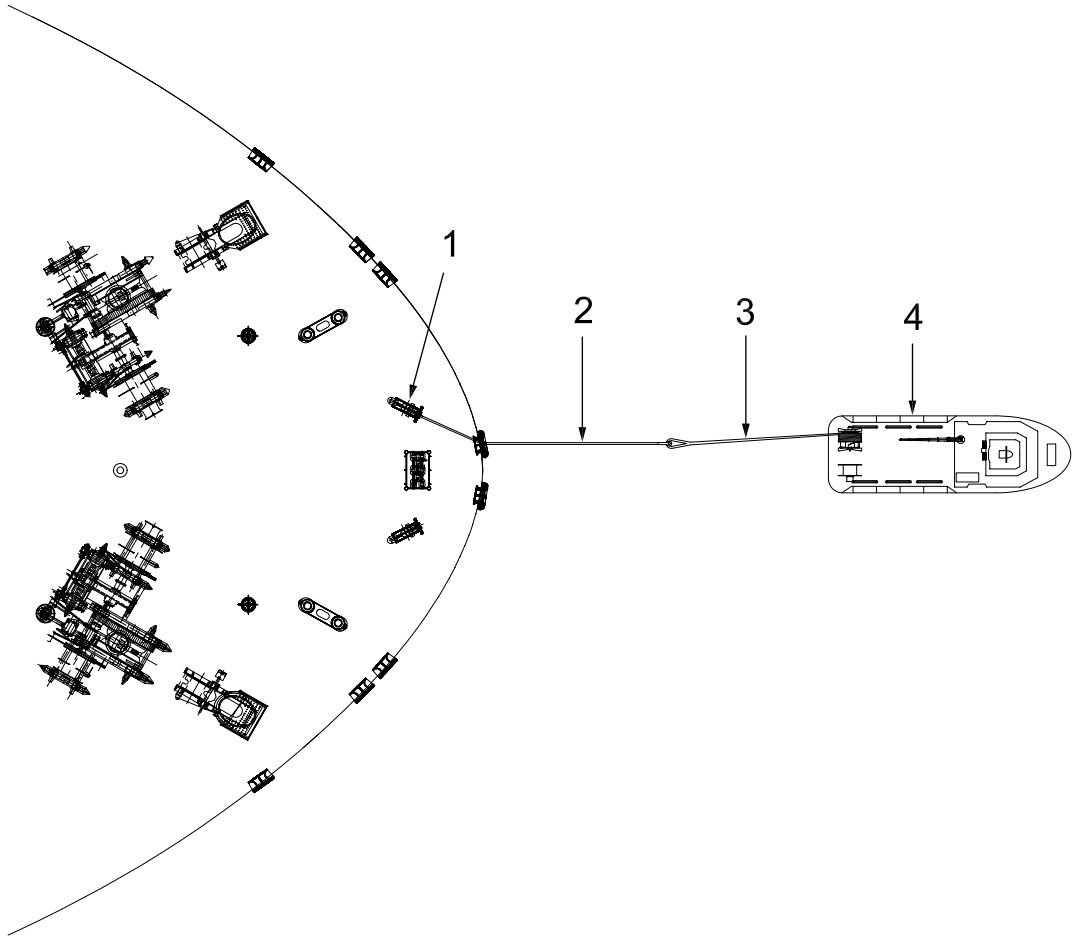
Figure A.1 — Pattern F1



Key

1 bollard
2 towing line
3 delta plate
4 towing ship

Figure A.2 — Pattern F2



Key

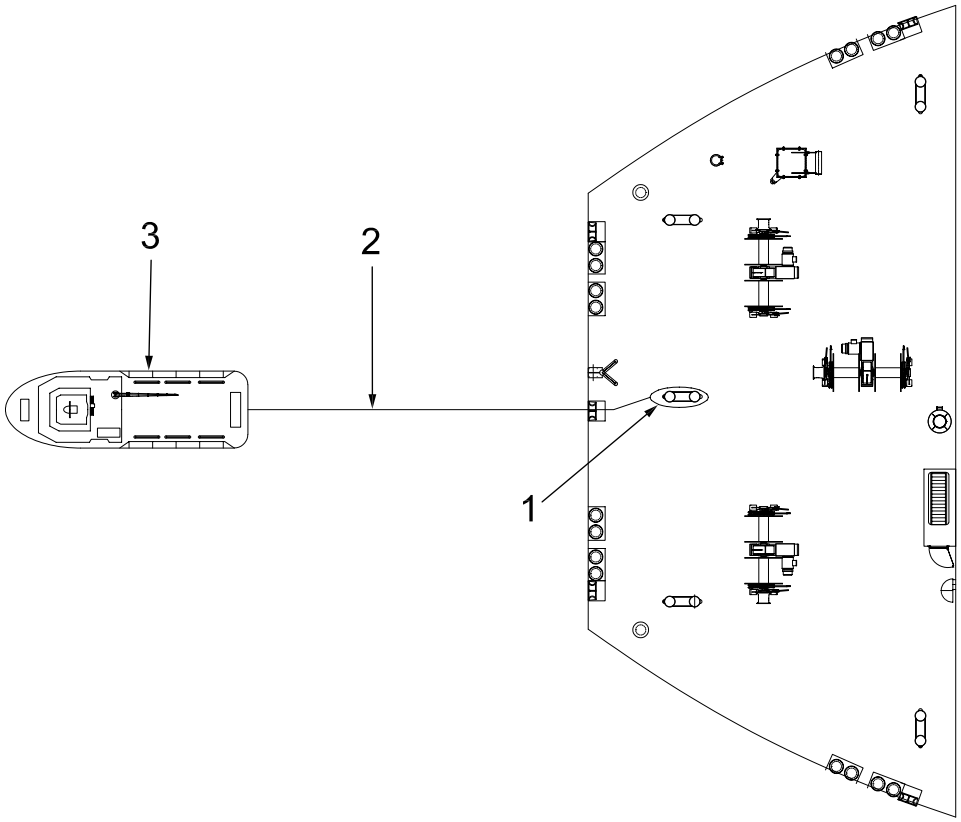
1 chain stopper
2 chafing chain
3 towing line
4 towing ship

Note Use a chafing chain from a chain stopper or Smit bracket (if ETS is fitted).

Figure A.3 — Pattern F3

A.3 Towing from stern

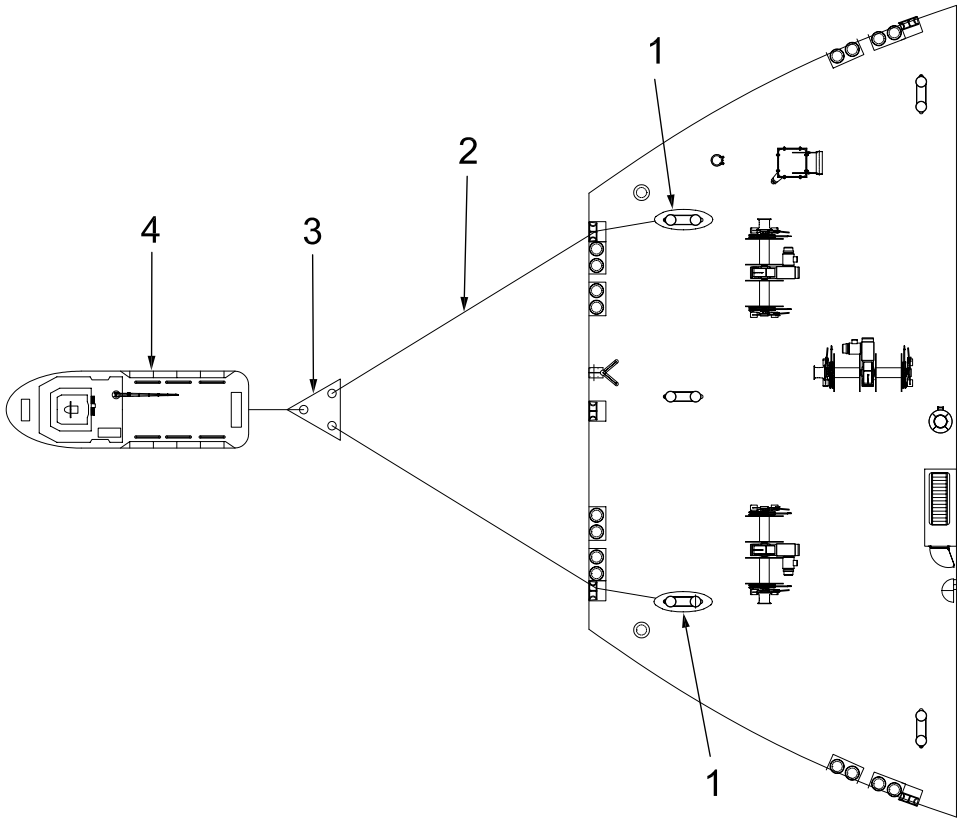
Figures A.4, A.5 and A.6 show the typical arrangements of a towing line connection for towing from stern.



Key

1 bollard
2 towing line
3 towing ship

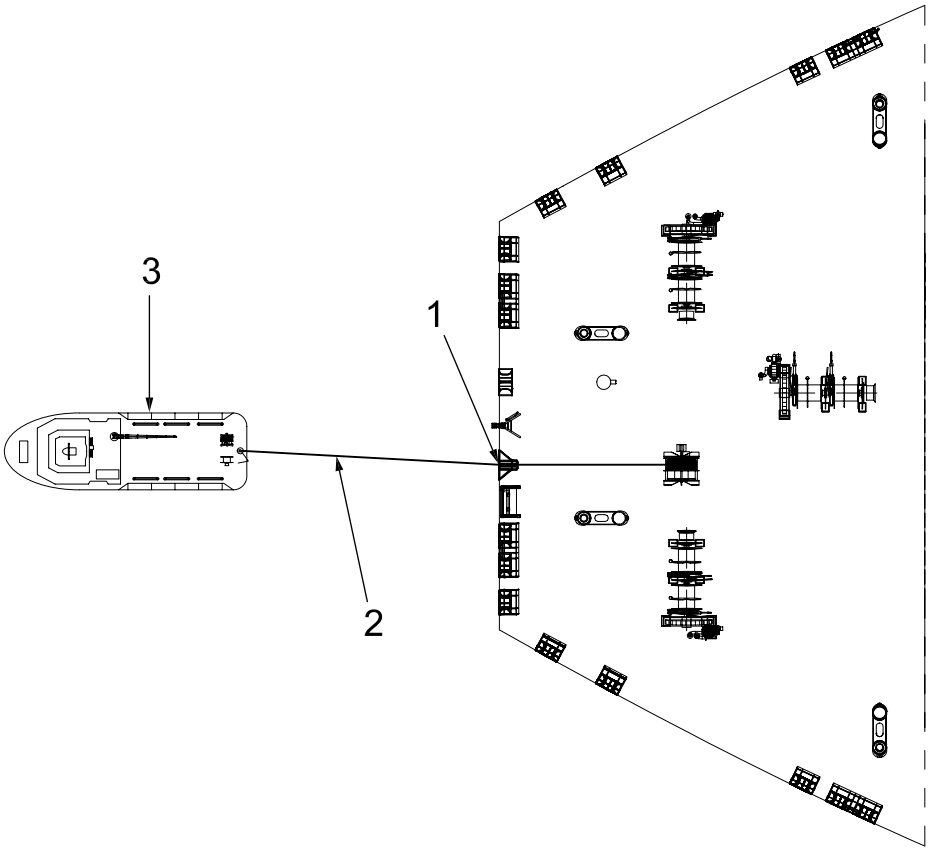
Figure A.4 — Pattern A1



Key

1 bollard
2 towing line
3 delta plate
4 towing ship

Figure A.5 — Pattern A2



Key

1 strong point
2 towing line
3 towing ship

Note Use a storage drum and strong point (if ETS is fitted).

Figure A.6 — Pattern A3

A.4 Decision matrix

Tables A.1 and A.2 show the typical decision matrix for towing patterns.

Table A.1 — Decision matrix (if ETS is not fitted)

Condition	Towing pattern		Status
	Bow	Stern	
Imminent and immediate danger, e.g. risk of grounding in less than 1 h	F1	A1	1. Pattern F1 or A1 is to be used provided that the towing force is controlled so as not to exceed the Safe Working Load (SWL) of the deck fittings. 2. If the weather is severely bad, the additional towing lines are to be connected between the towed ship and the towing ship.
The duration of being towed is long	F2	A2	1. If possible, the two (2) sets of towing lines are to be used. 2. If possible, a chain is to be used so that the towing force can be controlled so as not to exceed the Safe Working Load (SWL) of deck fittings.

Table A.2 — Decision matrix (if ETS is fitted)

Condition	Towing pattern		Status
	Bow	Stern	
Imminent and immediate danger, e.g. risk of grounding in less than 1 h	F3	A3	1. Pattern A3 is the preferred method in this condition, time of deployment is less than 15 min. 2. Pattern F3 is the alternative if the time allowed is 1 h.

Annex B
(informative)

Procedures for connecting towing lines

B.1 General

Typical towing procedures stated either in this Annex or in IMO DE52/INF.2 are applicable.

This clause describes the towing patterns of F1, F3, A1, and A3. Similar procedures should be adopted for the other patterns.

The typical procedures are introduced for connecting towing lines in either the 'on-deck power available case' or not.

Any identified improvement recognized through mariners' experience should be implemented.

In case power is not available on the towed ship to take the towline with mooring winches etc., the towing ship shall prepare light towing gears which can be taken up on the towed ship and connected manually after discussion with the towed ship.

In this case, the towed ship shall make good use of tackles and chain blocks available aboard the towed ship for manually hauling in towlines.

Necessary gear, if sufficiently light, will be brought to the towed ship to take in the towing line.

In bad weather/seas, the towing ship shall wait for improvement in heavy seas and carry out the towing line connection within safe capacity as long as there is no imminent danger, e.g. grounding.

Should the towing ship be unable to prepare such light towing gears that can be taken up manually, the towed ship shall provide a towing bridle, e.g. consisting of a bundle of mooring hawsers, and let it drift on the sea to be picked up by the towing ship for subsequent connection.

The towed ship shall discuss the pulling power capability with the towing ship so that it can be verified that the towing line and all in line tackle have sufficient strength to withstand the expected towing loads.

The method of taking the towing line in on the towed ship using the towing ship's power shall only be done when safety is ensured after thorough discussions between the towing ship and the towed ship. In that case, the towing ship and the towed ship shall pay due attention to the load that may break the messenger rope, most likely, or other riggings which consist of the entire towing line, if the towing ship and towed ship face rolling and pitching motion by waves or the towing line is caught somewhere in passing through fairlead and the chain stoppers.

B.2 Towing from bow (Pattern F1a – if on-deck power is available)

a) Tie the end of the heaving rope with the bollard or cleat on deck of the towed ship.

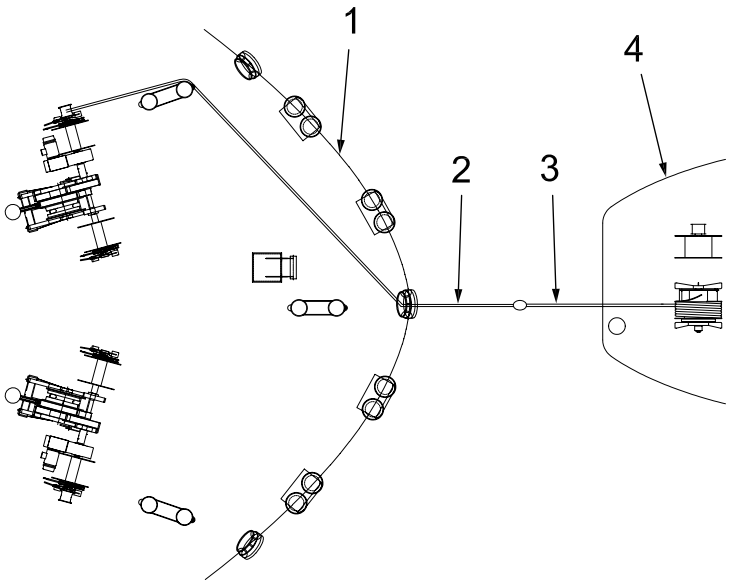
b) Throw the other end of heaving rope to the towing ship.

c) Connect the heaving rope with the messenger rope and the connected messenger rope with the towing line on towing ship.

d) Wind the heaving rope by using warping head of deck machinery on the towed ship.

e) Receive the messenger rope from the towing ship.

f) Pass the messenger rope through the shipside fairlead on the towed ship.

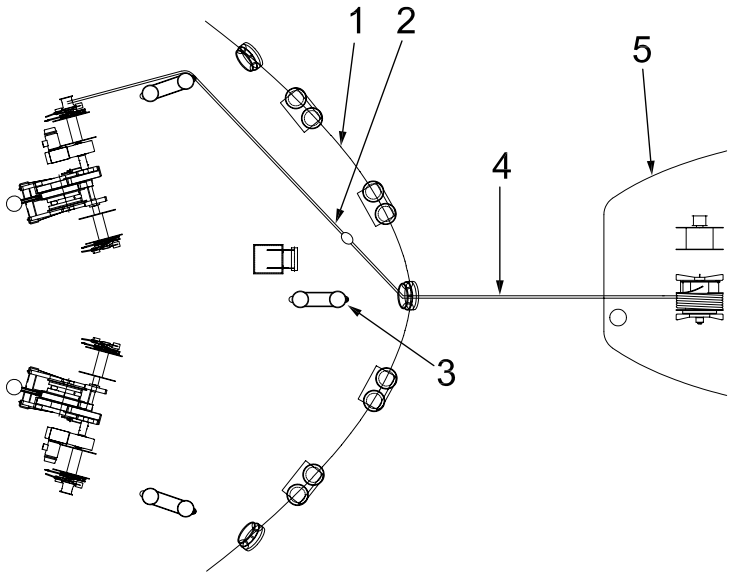


Key

1 towed ship
2 messenger rope
3 towing line
4 towing ship

Figure B.1 — Procedures for connecting towing lines of the Pattern F1a (1)

g) Wind the messenger rope by using warping head of deck machinery until the eye splice of the towing line reaches the bollard on towed ship.

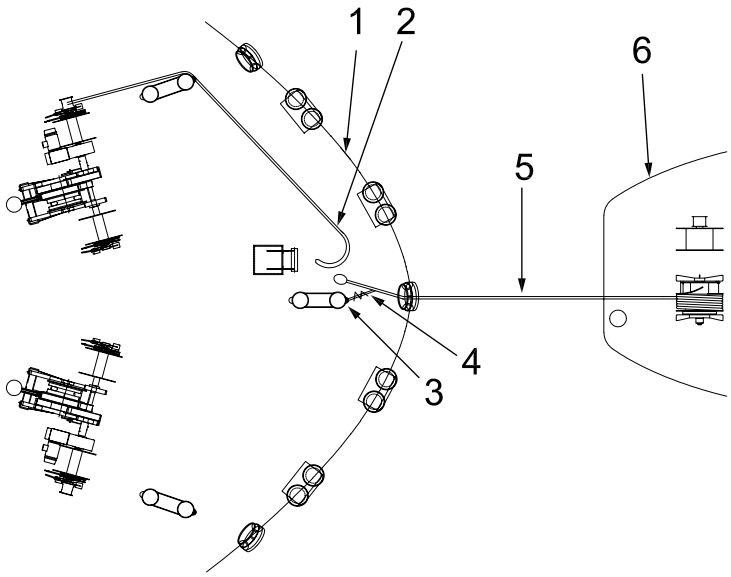


Key

1 towed ship
2 messenger rope
3 bollard
4 towing line
5 towing ship

Figure B.2 — Procedures for connecting towing lines of the Pattern F1a (2)

h) Connect the rope stopper between the towing line and the bollard on the towed ship



Key

1 towed ship
2 messenger rope
3 bollard
4 rope stopper
5 towing line
6 towing ship

Figure B.3 — Procedures for connecting towing lines of the Pattern F1a (3)

i) Hook the eye splice of the towing line to the bollard on the towed ship.

j) Detach the rope stopper and the messenger rope from the towing line on the towed ship.

k) Drive the towing ship forward to start towing.

B.3 Towing from bow (Pattern F1b – if on-deck power is NOT available)

a) Tie the end of the heaving rope with the bollard or cleat on deck of the towed ship.

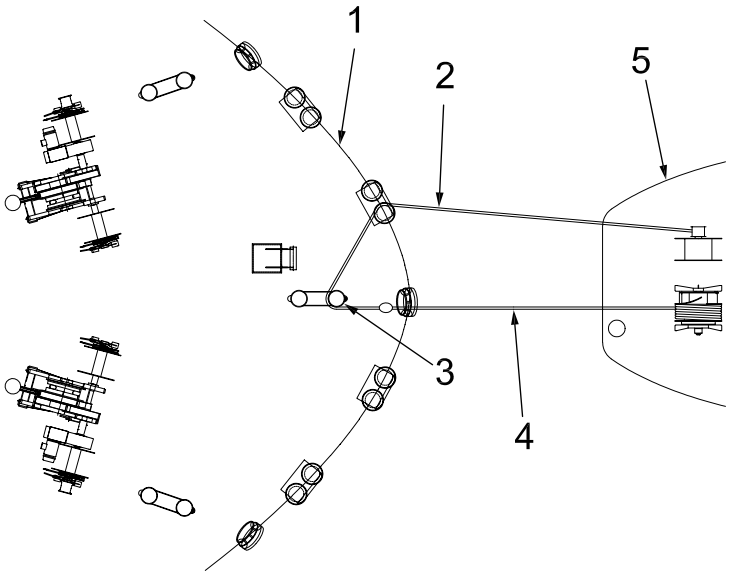
b) Throw the other end of the heaving rope to the towing ship.

c) Connect the heaving rope with the messenger rope and the connected messenger rope with the towing line at the towing ship.

d) Pull up the heaving rope to the towed ship up to the messenger rope and pass it through the opening shipside fairlead.

e) Return the messenger rope to the towing ship by using bollard and/or stand roller and shipside fairlead on the towed ship.

f) Wind up the messenger rope by using the winch on the towing ship until the eye splice of the towing line reaches the bollard of the towed ship.



Key

1 towed ship
2 messenger rope
3 bollard
4 towing line
5 towing ship

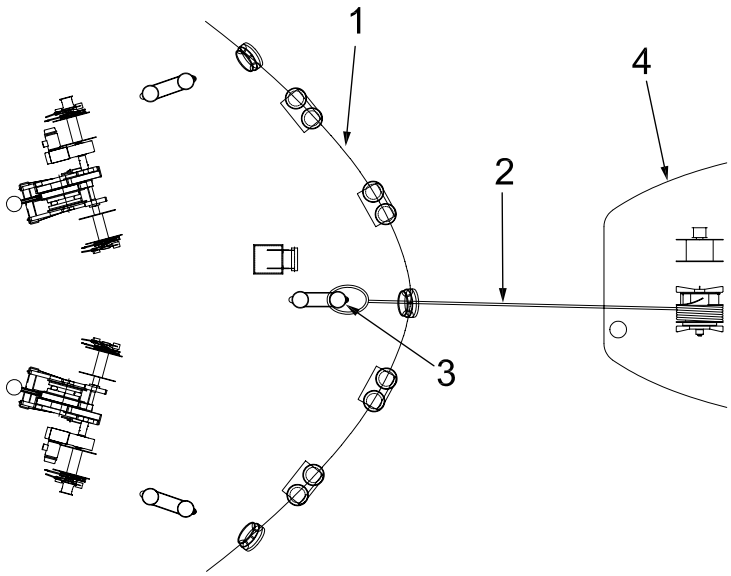
Figure B.4 — Procedures for connecting towing lines of the Pattern F1b (1)

g) Connect the rope stopper between the towing line and the bollard on the towed ship.

h) Hook the eye splice of the towing line to the bollard on the towed ship.

i) Detach the rope stopper and the messenger rope from the towing line on the towed ship.

j) Drive the towing ship forward to start towing.



Key

1 towed ship
2 towing line
3 bollard
4 towing ship

Figure B.5 — Procedures for connecting towing lines of the Pattern F1b (2)

B.4 Towing from stern (Pattern A1- if on-deck power is available)

The procedures introduced in B.2 are applicable for the towing from stern as well.

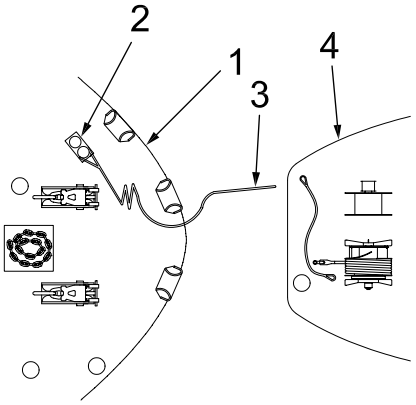
B.5 Towing from stern (Pattern A1- if on-deck power is NOT available)

The procedure introduced in B.3 is applicable for the towing from stern as well.

B.6 Towing from bow (Pattern F3)

a) Tie the end of the heaving rope to the bollard or cleat of towed ship.

b) Throw the other end of the heaving rope to the towing ship.

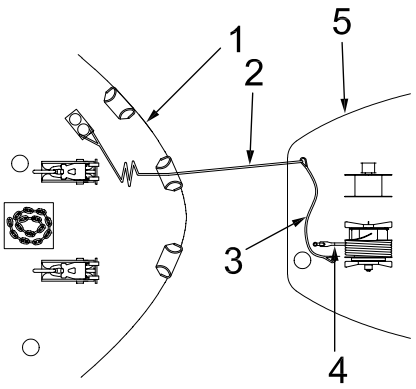


Key

1 towed ship
2 bollard
3 heaving rope
4 towing ship

Figure B.6 — Procedures for connecting towing lines of the Pattern F3 (1)

c) Connect the heaving rope with the messenger rope, and connect the messenger rope with the towing line at the towing ship.



Key

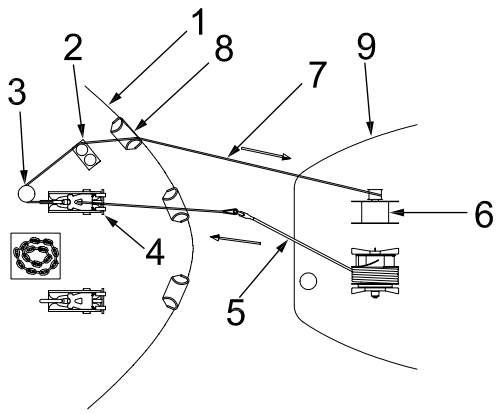
1 towed ship
2 heaving rope
3 messenger rope
4 towing line
5 towing ship

Figure B.7 — Procedures for connecting towing lines of the Pattern F3 (2)

d) Pull up the heaving rope to the towed ship up to the messenger rope and pass it through the opening of the dog of the chain stopper.

e) Return the messenger rope to the towing ship by using bollard and/or stand roller and shipside fairlead.

f) Wind up the messenger rope by using the winch on the towing ship until the end of the towing line reaches to the chain stopper on the towed ship.



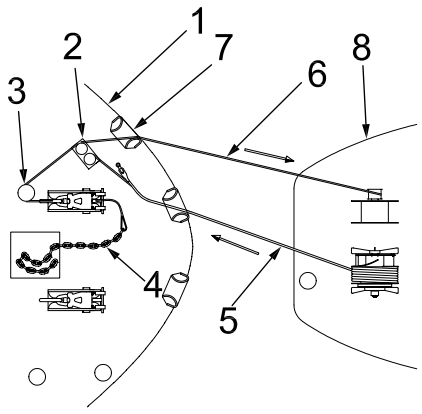
Key

1	towed ship	6	winch
2	bollard	7	messenger rope
3	stand roller	8	shipside fairlead
4	chain stopper	9	towing ship
5	towing line		

Figure B.8 — Procedures for connecting towing lines of the Pattern F3 (3)

g) Tie up the towing line to the bollard on the towed ship by using the rope stopper.

h) Connect the messenger rope to the end of chafing chain on the towed ship.



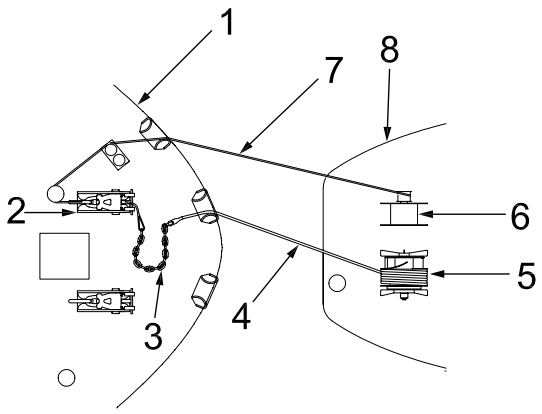
Key

1	towed ship	5	towing line
2	bollard	6	messenger rope
3	stand roller	7	shipside fairlead
4	chafing chain	8	towing ship

Figure B.9 — Procedures for connecting towing lines of the Pattern F3 (4)

i) Detach the rope stopper from the towing line and connect the towing line to the end of chafing chain.

j) Wind up the messenger rope by using the winch on the towing ship in order to engage the chafing chain to the chain stopper.



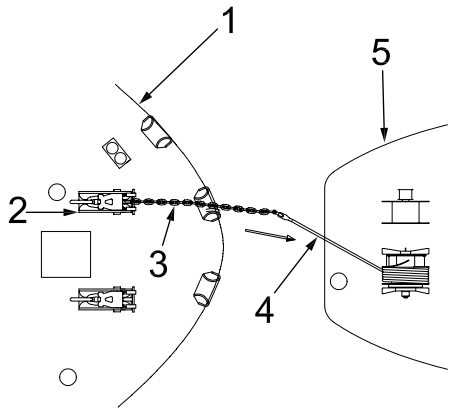
Key

1 towed ship
2 chain stopper
3 chafing chain
4 towing line
5 storage drum for towing line
6 winch
7 messenger rope
8 towing ship

Figure B.10 — Procedures for connecting towing lines of the Pattern F3 (5)

k) Connect the end of the chafing chain to the chain stopper and engage the dog of the chain stopper.

l) Drive the towing ship forward to start towing.



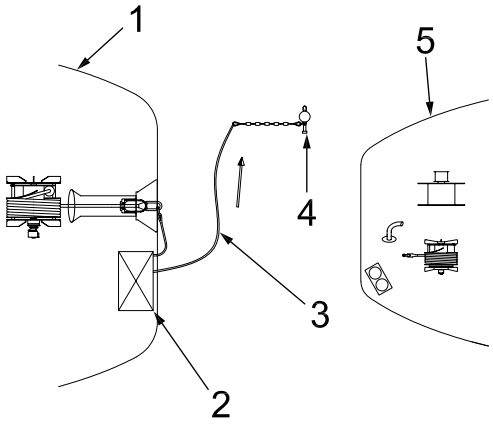
Key

1 towed ship
2 chain stopper
3 chafing chain
4 towing line
5 towing ship

Figure B.11 — Procedures for connecting towing lines of the Pattern F3 (6)

B.7 Towing from stern (Pattern A3)

a) Open the pick-up rope box on the towed ship so as to drop the messenger rope and self-igniting buoy into the sea.

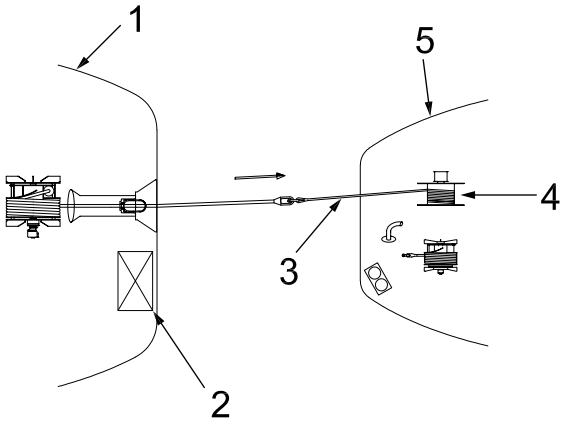


Key

1 towed ship
2 pick-up rope box
3 messenger rope
4 self-igniting buoy
5 towing ship

Figure B.12 — Procedures for connecting towing lines of the Pattern A3 (1)

b) Pick up the messenger rope and wind up the messenger rope by using the winch on the towing ship.



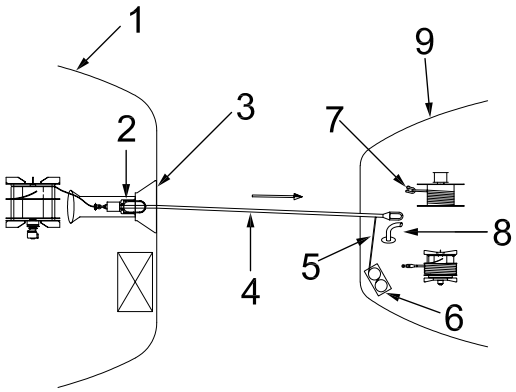
Key

1 towed ship
2 pick-up rope box
3 messenger rope
4 winch
5 towing ship

Figure B.13 — Procedures for connecting towing lines of the Pattern A3 (2)

c) Wind the messenger rope and the towing line until the stopper of the towed ship touches the strong point.

d) Tie up the towing line to the bollard on the towing ship by using the seizing rope.



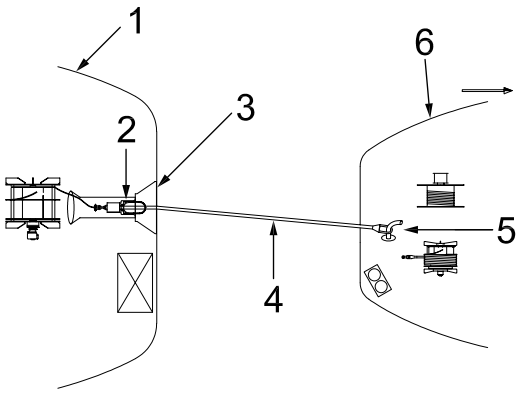
Key

1 towed ship
2 stopper
3 strong point
4 towing line
5 seizing rope
6 bollard
7 messenger rope
8 strong point
9 towing ship

Figure B.14 — Procedures for connecting towing lines of the Pattern A3 (3)

e) Connect the end of the towing line to the strong point on the towing ship.

f) Drive the towing ship forward to start towing.



Key

1 towed ship
2 stopper
3 strong point
4 towing line
5 strong point
6 towing ship

Figure B.15 — Procedures for connecting towing lines of the Pattern A3 (4)

Annex C
(informative)

Ship specific data

Table C.1 — General Information

1	Name of ship		
2	Call sign		
3	Type of ship		
4	IMO number		
5	Flag		
6	Port of registry		
7	Classification		
8	Classification ID No.		
9	Year of construction		
10	Shipyard		
11	Yard hull No.		
12	Gross tonnage		
13	Principal dimensions	LOA	
		LBP	
		Breadth	
		Depth	
14	Height of mooring deck at centre-line above base line	Fore deck	
		Aft deck	
15	Is emergency towing system(ETS) fitted?	Fore deck	**Particulars**
		☐ Yes	
		☐ No	
		Aft deck	**Particulars**
		☐ Yes	
		☐ No	

Table C.2 — Draft and displacement range

	Draft [meters]	**Displacement [tons]**
Full load condition		
Lightest sea going condition		

Table C.3 — Anchor, anchor chain and mooring lines

Equipment Number		**Anchor**	
		Type	
Mooring lines		Weight	
Type		Number	
Diameter		**Anchor chain**	
Length		Grade	
Number		Length	
Min. breaking load		Diameter	

Table C.4 — Radio equipment

No.	Equipment	Fitted or not	Phone No. etc.
1	VHF radio installation	☐ Yes ☐ No	
2	MF radio installation	☐ Yes ☐ No	
3	MF/HF radio installation	☐ Yes ☐ No	
4	Inmarsat – B	☐ Yes ☐ No	
5	Inmarsat – C	☐ Yes ☐ No	
6	Inmarsat – F	☐ Yes ☐ No	
7	Navtex receiver	☐ Yes ☐ No	
8	2-way VHF radio telephone (3EA)	☐ Yes ☐ No	
9	Weather facsimile	☐ Yes ☐ No	
10	Maritime telephone	☐ Yes ☐ No	
11	Portable Wireless Radio	☐ Yes ☐ No	

Table C.5 — Power supply and steering equipment

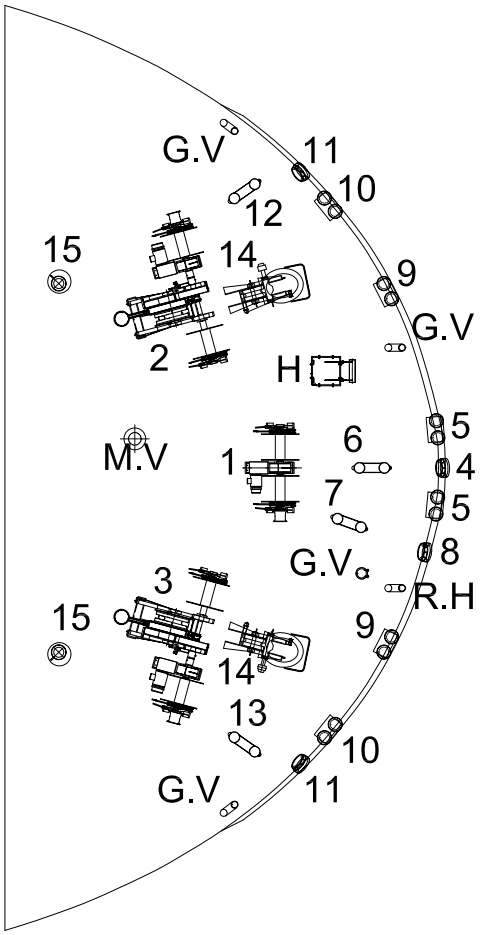
No.	Equipment	Location	Particulars
1	Main generator		
2	Emergency generator		
3	Main steering gear pump		
4	Emergency steering gear pump		
5	When all power supplies are halted, is manual steering possible?		☐ Yes ☐ No

Table C.6 — Lifting devices

	Device	SWL [tons]	Location
Fore mooring deck	Rope handing davit		
	Portable davit		
Aft mooring deck	Provision crane		
	Fuel oil hose handling davit		
	S/G room davit		

Table C.7 — Deck tools and other equipment

No.	Equipment	Location	Particulars
1	Stopper chain or strop chain		
2	Shackle for the above and sling wire for connecting hawser		
3	Sledgehammer, bar, hand hammer and knife		
4	Stopper rope		
5	Pin punch for joining shackle		
6	Seizing wire or split pin		
7	Life line throwing apparatus		
8	Emergency rapid disconnection system gear		

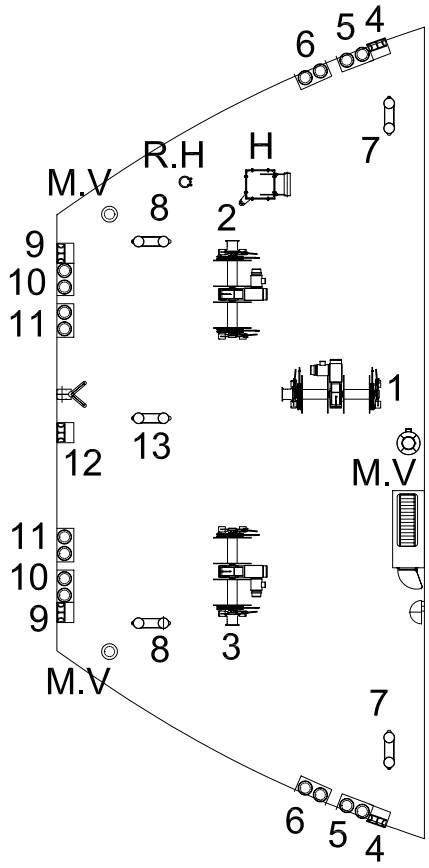


Key

No.	Deck fittings	Particulars	SWL [tons]
1	Mooring winch(C)	25 ton x 15m/min	-
2	Windlass(P)	40 ton x 9m/min	-
3	Windlass(S)	40 ton x 9m/min	-
4	Panama chock	A-type 360x260	64
5	2-Roller fairlead	A- type, Ø350	64
6	Bollard	A- type, Ø400	64
7	Bollard	A- type, Ø400	64

8	Bollard	A- type, Ø400	64
9	2-Roller fairlead	A- type, Ø350	64
10	2-Roller fairlead	A- type, Ø350	64
11	Panama chock	A-type 360x260	64
12	Bollard	A- type, Ø400	64
13	Bollard	A- type, Ø400	64
14	Chain compressor	Roller-type	64
15	Stand roller	A- type, Ø400	64
*The SWL of bollard is based on towing eye splice use.			

Figure C.1 — Mooring and towing fittings on fore mooring deck



Key

No.	Deck fittings	Particulars	SWL [tons]
1	Mooring winch(C)	25 ton x 15m/min	-
2	Mooring winch(P)	25 ton x 15m/min	-
3	Mooring winch(S)	25 ton x 15m/min	-
4	Panama chock	A-type 360x260	64
5	2-Roller fairlead	A- type, Ø350	64
6	2-Roller fairlead	A- type, Ø350	64
7	Bollard	A- type, Ø400	64
8	Bollard	A- type, Ø400	64

9	Panama chock	A-type 360x260	64
10	2-Roller fairlead	A- type, Ø350	64
11	2-Roller fairlead	A- type, Ø350	64
12	Panama chock	A-type 360x260	64
13	Bollard	A- type, Ø400	64
*The SWL of bollard is based on towing eye splice use.			

Figure C.2 — Mooring and towing fittings on aft mooring deck

Annex D
(informative)

Organization of tasks

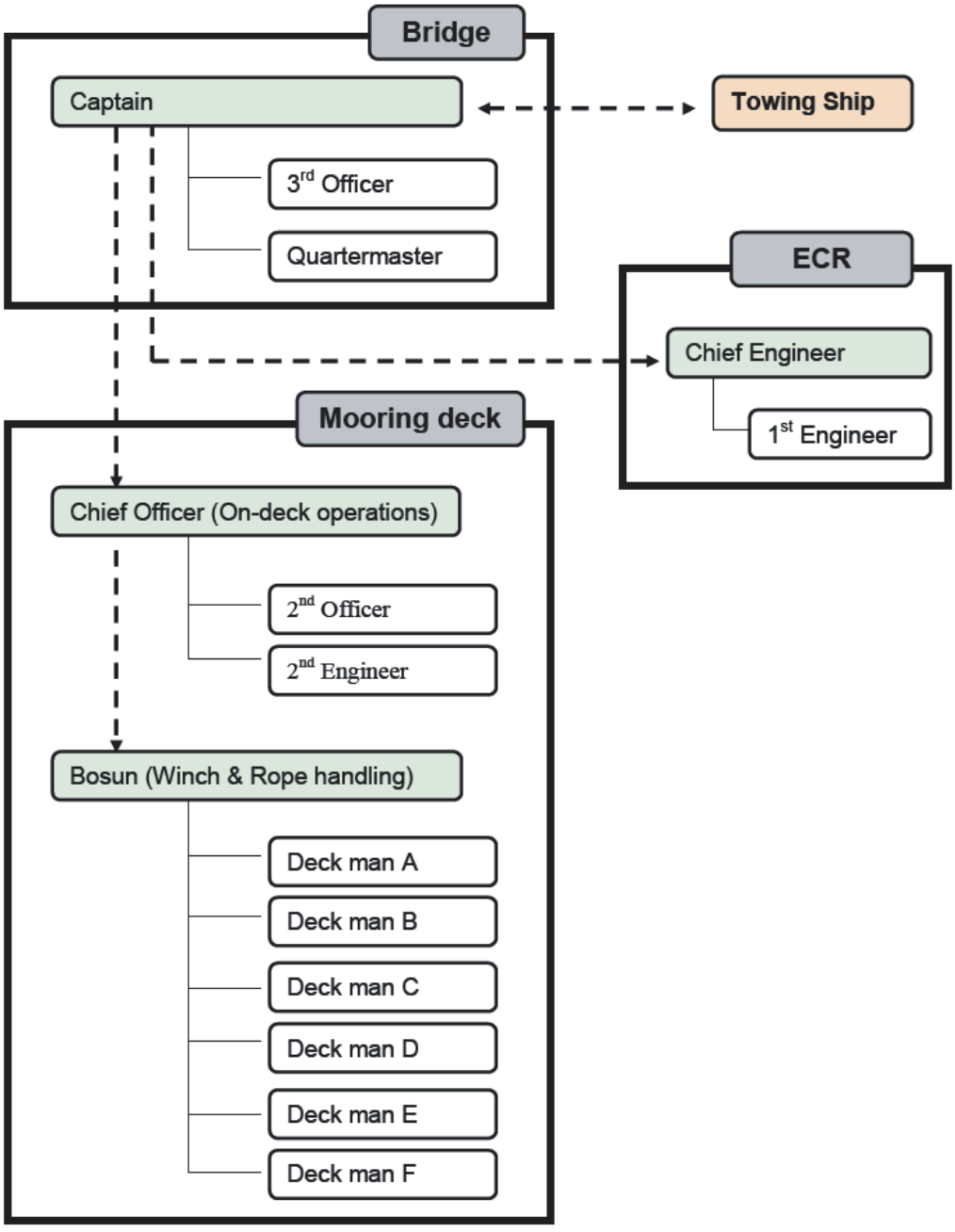


Figure D.1 — Staff arrangement and communication

Table D.1 — Tasks and equipment

No.	Person	Equipment			Task	Position
		Personnel life saving appliance	Portable wireless radio	On-deck tools		
1	**Master**		O		Communication with towing ship Person with overall responsibility	Bridge
2	3rd Officer				Assistant to Captain	
3	Quartermaster				Steering	
4	**Chief Officer**	O	O		Communication with Bridge Responsible person on deck	Mooring Deck
5	2nd Officer	O	O		Assistant to Chief Officer	
6	2nd Engineer	O	O			
7	**Bosun**	O	O		Winch & rope operations	
8	Deck man A	O		O	Winch & rope handling	
9	Deck man B	O		O		
10	Deck man C	O		O		
11	Deck man D	O		O		
12	Deck man E	O		O		
13	Deck man F	O		O		
14	**Chief Engineer**				Responsible person in engine room	ECR
15	1st Engineer				Assistant to Chief Engineer	

Annex E
(informative)

Current status

Table E.1 — General information

No.	Item	Status		
1	Current time	Date/Month/Year	Time	Time in GMT
2	Current position			
3	Cause of towing	Describe the cause:		
4	Weather condition			
5	Weather forecast			
6	Wave height			
7	Ship's draft	Fore:	Aft:	
8	Displacement			
9	Wind velocity and direction	Velocity [knots]	Direction	
10	Drifting speed and direction	Speed [knots]	Direction	

Table E.2 — Damage and seaworthiness

No.	Item	Status	
1	Flooding or outflow?	☐ Yes ☐ No	Describe the status:
2	Imminent danger? (e.g. grounding)	☐ Yes ☐ No	Describe the danger:

Table E.2 *(continued)*

No.	Item	Status	
3	Cargo loaded?	☐ Yes ☐ No	Describe the type of cargo:
4	Is the main engine available?	☐ Yes ☐ No	Describe the status of M/E:
5	Is the trim controllable?	☐ Yes ☐ No	
6	Can the ship be towed from the bow?	☐ Yes ☐ No	Describe the status:
7	Can the ship be towed from the stern?	☐ Yes ☐ No	Describe the status:
8	Is there heeling?	☐ Yes ☐ No	
9	Oil leakage? If any, give status	☐ Yes ☐ No	Describe the status:

Table E.3 — Steering and propulsion

No.	Item	Status	
1	Is the rudder operable?	☐ Yes ☐ No	Describe the status:

Table E.3 *(continued)*

No.	Item	Status	
2	If the rudder is damaged, what is the current rudder angle and is it possible to return to amidships?	☐ Yes ☐ No	Describe the status:
3	Can the propeller shaft be prevented from turning?	☐ Yes ☐ No	Describe the status:
4	Can the mooring equipment on deck be used for tow line connection?	☐ Yes ☐ No	Describe the status:

Table E.4 — Power system

No.	Item	Status	
1	Is the power on board available?	☐ Yes ☐ No	Describe the status:
2	Can the deck lighting be used for the towing line connection?	☐ Yes ☐ No	Describe the status:
3	Can the mooring winch be used for winding the towing line?	☐ Yes ☐ No	Describe the status:
4	Can the towing side/stern lights be used?	☐ Yes ☐ No	

Bibliography

[1] IMO MSC/Circ. 494: *Safety of Towed Ships and Other Floating Objects*, 1988

[2] IMO MSC/Circ. 884: *Guidelines for Safe Ocean Towing*, 1998

[3] IMO MSC/Circ. 1175: 2005 *Guidance on Shipboard Towing and Mooring Equipment*

[4] An example of "Emergency Towing Procedures" submitted by Japan, IMO DE 52/INF.2, 2008

[5] IMO COLREGs 1972, *Convention on the International Regulations for Preventing Collisions at Sea,* 2007

[6] IMO DE 52/INF.2, 2008, *An Example of "Emergency Towing Procedures"*

ICS 47.020.01

Price based on 32 pages