

Circular 16 / 2010

To: All Shipowners and/or Operators, Deputy Registrars, Surveyors and Other Interested Parties

Subject: Emergency Towing Arrangements and Procedures SOLAS Ch II-1, Reg 3-4

Date: 22 January 2010

Application

This circular applies to:

1. all passenger ships, not later than 1 January 2010;
2. cargo ships constructed on or after 1 January 2010; and
3. cargo ships constructed before 1 January 2010, not later than 1 January 2012.

In accordance with Regulation 3-4 Emergency towing arrangements and procedures

2 Emergency towing procedures on ships

- 2.1 Ships shall be provided with a ship-specific emergency towing procedure. Such a procedure shall be carried aboard the ship for use in emergency situations and shall be based on existing arrangements and equipment available on board the ship.
- 2.2 The procedure** shall include:
 - .1 drawings of fore and aft deck showing possible emergency towing arrangements;
 - .2 inventory of equipment on board that can be used for emergency towing;
 - .3 means and methods of communication; and
 - .4 sample procedures to facilitate the preparation for and conducting of emergency towing operations."

* Refer to the Guidelines on emergency towing arrangements for tankers, adopted by the Maritime Safety Committee by resolution MSC.35(63), as amended. (below)

For further enquiries please contact the Registrar of Ships at fleet@maritimecookislands.com

REQUIREMENTS FOR THE ARRANGEMENTS AND COMPONENTS

2.1 General

The emergency towing arrangements should be so designed as to facilitate salvage and emergency towing operations on tankers primarily to reduce the risk of pollution. The arrangements should at all times be capable of rapid deployment in the absence of main power on the ship to be towed and easy connection to the towing vessel. Figure 1 shows arrangements which may be used as reference.

2.2 Towing components

The major components of the towing arrangements should consist of the following:

	<i>Non pre-rigged</i> *	<i>Pre-rigged</i>	<i>Strength requirements</i>
<i>Pick-up gear</i>	optional	Yes	---
<i>Towing pennant</i>	optional	Yes	Yes
<i>Fairlead</i>	Yes	Yes	Yes
<i>Strongpoint</i>	Yes	Yes	Yes
<i>Roller pedestal</i>	Yes	Depending on design	---
<i>Chafing gear</i>	Yes	Depending on design	Yes

* See paragraph 3.1.4.

2.3 Strength of the towing components

2.3.1 Towing components as specified in 2.2 for strength should have a working strength of at least 1,000 kN for tankers of 20,000 tonnes deadweight and over but less than 50,000 tonnes deadweight, and at least 2,000 Kn for tankers of 50,000 tonnes deadweight and over (working strength is defined as one half ultimate strength). The strength should be sufficient for all relevant angles of towline, i.e. up to 90 degrees from the ship' s centreline to port and starboard and 30 degrees vertical downwards.

2.3.2 Other components should have a working strength sufficient to withstand the load to which such components may be subjected during the towing operation.

2.4 Length of towing pennant

The towing pennant should have a length of at least twice the lightest seagoing ballast freeboard at the fairlead plus 50 m.

2.5 Location of strongpoint and fairlead

The bow and stern strongpoint and fairleads should be located so as to facilitate towing from either side of the bow or stern and minimize the stress on the towing system.

2.6 Strongpoint

The inboard end fastening should be a stopper or bracket or other fitting of equivalent strength. The strongpoint can be designed integral with the fairlead.

2.7 Fairleads

2.7.1 Size

Fairleads should have an opening large enough to pass the largest portion of the chafing gear, towing pennant or towing line.

2.7.2 Geometry

The fairlead should give adequate support for the towing pennant during towing operation which means bending 90 degrees to port and to starboard side and 30 degrees vertical downwards. The bending ratio (towing pennant bearing surface diameter to towing pennant diameter) should be not less than 7 to 1.

2.7.3 Vertical location

The fairlead should be located as close as possible to the deck and, in any case, in such a position that the chafing chain is approximately parallel to the deck when it is under strain between the strongpoint and the fairlead.

2.8 Chafing chain

Different solutions on design of chafing gear can be used. If a chafing chain is to be used, it should have the following characteristics:

2.8.1 Type

The chafing chain should be stud link chain.

2.8.2 Length

The chafing chain should be long enough to ensure that the towing pennant remains outside the fairlead during the towing operation. A chain extending from the strongpoint to a point at least 3 m beyond the fairlead should meet this criterion.

2.8.3 Connecting limits

One end of the chafing chain should be suitable for connection to the strongpoint. The other end should be fitted with a standard pear-shaped open link allowing connection to a standard bow shackle.

2.8.4 Stowage

The chafing chain should be stowed in such a way that it can be rapidly connected to the strongpoint.

2.9 Towing connection

The towing pennant should have a hard eye-formed termination allowing connection to a standard bow shackle.

2.10 Prototype test

Designs of emergency towing arrangements in accordance with these Guidelines should be prototype tested to the satisfaction of the Administration.

3 READY AVAILABILITY OF TOWING ARRANGEMENTS

3.1 To facilitate approval of such equipment and to ensure rapid deployment, emergency towing arrangements should comply with the following criteria:

- .1 The pre-rigged emergency towing arrangement should be capable of being deployed in a controlled manner in harbour conditions in not more than 15 min.
 - .2 The pick-up gear for the pre-rigged towing pennant should be designed at least for manual operation by one person taking into account the absence of power and the potential for adverse environmental conditions that may prevail during such emergency towing operations. The pick-up gear should be protected against the weather and other adverse conditions that may prevail.
 - .3 The non pre-rigged emergency towing arrangement should be capable of being deployed in harbour conditions in not more than 1 h.
 - .4 The forward emergency towing arrangement should be designed at least with a means of securing a towline to the chafing gear using a suitably positioned pedestal roller to facilitate connection of the towing pennant.
 - .5 Pre-rigged emergency towing arrangements at both ends of the ship may be accepted.
 - .6 All emergency towing arrangements should be clearly marked to facilitate safe and effective use even in darkness and poor visibility.
- 3.2 All emergency towing components should be inspected by ship personnel at regular intervals and maintained in good working order.

FIGURE 1 - TYPICAL EMERGENCY TOWING ARRANGEMENTS

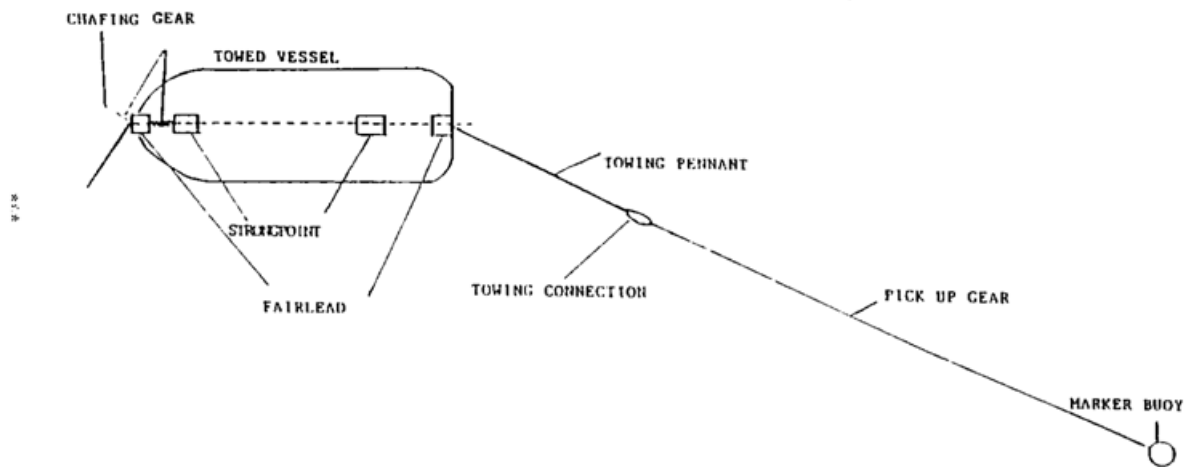


FIGURE 1 TYPICAL EMERGENCY TOWING ARRANGEMENTS

GUIDELINES FOR OWNERS/OPERATORS ON PREPARING EMERGENCY TOWING PROCEDURES

1 PURPOSE

The purpose of these Guidelines is to assist owners/operators in preparing ship-specific emergency towing procedures for ships subject to SOLAS regulation II-1/3-4. The procedures should be considered as part of the emergency preparedness required by paragraph 8 of part A of the International Safety Management (ISM) Code.

2 OBSERVATIONS

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

2.2 The towing procedures should be maintained on board the ship for ready use by the ship's crew in preparing their ship for towage in an emergency.

2.3 The crew should have good knowledge of equipment stowage location and accessibility . Any identified improvements to stowage arrangements should be implemented.

2.4 Crew dealing with an emergency situation should be aware of power availability required for winches and tools, as well as for deck lighting (for bad/low visibility and night time situations).

2.5 It is recognized that not all ships will have the same degree of shipboard equipment, so that there may be limits to possible towing procedures. Nevertheless, the intention is to predetermine what can be accomplished, and provide this information to the ship's crew in a ready-to-use format (booklet, plans, poster, etc.).

3 SHIP EVALUATION

3.1 The owner/operator should ensure that the ship is inspected and its capability to be towed under emergency situations is evaluated. Both equipment on board and available procedures should be reviewed. Items that need to be inspected are described in the following paragraphs.

3.2 The ability of the ship to be towed from bow and stern should be evaluated, and the following items should be reviewed:

- .1 line handling procedures (passing and receiving messenger lines, toelines, bridles); and
- .2 layout, structural adequacy and safe working loads of connection points (fairleads chocks, winches, bitts, bollards), etc.

3.3 The on-board tools and equipment available for assembling the towing gear and their locations should be identified. These should include but not be limited to:

- .1 chains;
- .2 cables;
- .3 shackles;
- .4 stoppers;
- .5 tools; and
- .6 line throwing apparatus.

3.4 The availability and characteristics of radio equipment on board should be identified, in order to enable communication between deck crew, bridge and the towing/salvage ship.

3.5 Unless the safe working loads of connection points are known, these loads should be determined by an engineering analysis reflecting the on-board conditions of the ship. The Guidance on shipboard towing and mooring equipment (MSC/Circ.1175) may be used for guidance.

3.6 The evaluation should be performed by persons knowledgeable in towing equipment and operations.

4 EMERGENCY TOWING BOOKLET

4.1 The Emergency Towing Booklet (ETB) should be ship specific and be presented in a clear, concise and ready-to-use format (booklet, plan, poster, etc.).

4.2 Ship-specific data should include but not be limited to:

- .1 ship's name;
- .2 call sign;
- .3 IMO number;
- .4 anchor details (shackle, connection details, weight, type, etc.);
- .5 cable and chain details (lengths, connection details, proof load, etc.);
- .6 height of mooring deck(s) above base;
- .7 draft range; and
- .8 displacement range.

4.3 All procedures developed in accordance with section 5 should be presented in a clear and easy to understand format, which will aid their smooth and swift application in an emergency situation.

4.4 Comprehensive diagrams and sketches should be available and include the following:

- .1 assembly and rigging diagrams;
- .2 towing equipment and strong point locations; and
- .3 equipment and strong point capacities and safe working loads (SWLs).

4.5 A copy should be kept at hand by the owners/operators in order to facilitate the passing on of information to the towage company as early as possible in the emergency. A copy should also be kept in a common electronic file format, which will allow faster distribution to the concerned parties.

4.6 A minimum of three copies should be kept on board and located in:

- .1 the bridge;
- .2 a forecastle space; and
- .3 the ship's office or cargo control room.

5 DEVELOPING PROCEDURES

5.1 Ship-specific procedures should be identified during the ship's evaluation and entered accordingly in the ETB. The procedures should include, as a minimum, the following:

- .1 a quick-reference decision matrix that summarizes options under various emergency scenarios, such as weather conditions (mild, severe), availability of shipboard power (propulsion, on-deck power), imminent danger of grounding, etc.;
- .2 organization of deck crew (personnel distribution, equipment distribution, including radios, safety equipment, etc.);
- .3 organization of tasks (what needs to be done, how it should be done, what is needed for each task, etc.);
- .4 diagrams for assembling and rigging bridles, tow lines, etc., showing possible emergency towing arrangements for both fore and aft. Rigged lines should be lead such that they avoid sharp corners, edges and other points of stress concentration;
- .5 power shortages and dead ship situations, which must be taken into account, especially for the heaving across of heavy towing lines;
- .6 a communications plan for contacting the salvage/towing ship. This plan should list all information that the ship's master needs to communicate to the salvage/towing ship. This list should include but not be limited to:
 - .1 damage or seaworthiness;
 - .2 status of ship steering;

- .3 propulsion;
 - .4 on deck power systems;
 - .5 on-board towing equipment;
 - .6 existing emergency rapid disconnection system;
 - .7 forward and aft towing point locations;
 - .8 equipment, connection points, strong points and safe working loads (SWL);
 - .9 towing equipment dimensions and capacities; and
 - .10 ship particulars;
- .7 evaluation of existing equipment, tools and arrangements on board the ship for possible use in rigging a towing bridle and securing a towline;
- .8 identification of any minor tools or equipment providing significant improvements to the “towability” of the ship;
- .9 inventory and location of equipment on board that can be used during an emergency towing situation;
- .10 other preparations (locking rudder and propeller shaft, ballast and trim, etc.); and
- .11 other relevant information (limiting sea states, towing speeds, etc.).