PART 4 CHAPTER 11

SAFETY OF NAVIGATION

JANUARY 2001

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CHANGES IN THE RULES

General

The present edition of the rules includes additions and amendments decided by the Board as of December 2000, and supersedes the January 1998 edition of the same chapter, including later amendments. The rule changes come into force as of 1 July 2001.

This chapter is valid until superseded by a revised chapter. Supplements will not be issued except for an updated list of corrections presented in Pt.0 Ch.1 Sec.3. Pt.0 Ch.1 is normally revised in January and July each year.

Revised chapters will be forwarded to all subscribers to the rules. Buyers of reprints are advised to check the updated list of rule chapters printed in Pt.0 Ch.1 Sec.1 to ensure that the chapter is current.

Main changes

This chapter has been renumbered from Ch.8.

Corrections and Clarifications

In addition to the rule amendments described above, some detected errors have been corrected, and some clarifications have been made in the existing rule wording.

Comments to the rules may be sent by e-mail to rules@dnv.com
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SECTION 1
GENERAL REQUIREMENTS

A. Classification

A 100 General

101 The requirements in this chapter are in compliance with the International Convention for the Safety of Life at Sea (SOLAS), Chapter V (Safety of Navigation) with the latest amendments as per 1 July 1998.

102 SOLAS Chapter V amendments of a later date than 1 July 1997 will be applicable if entered into force before the date of the ship’s written request for classification.

103 SOLAS text is printed in italics. References to SOLAS regulations are given.

104 For the application of these rules, wherever the term Administration is quoted, this is to be read as the Society.

105 The environmental conditions specified in IEC publication 60945 apply.

106 If any part of the rules are subject to discussion or misunderstanding, the SOLAS text shall prevail.

107 Navigational equipment installed, not necessarily required by the rules, that may have an impact on safety of main functions as listed in Pt.1 Ch.1 Sec.2 is to be certified in accordance with the requirements of Ch.9.

A 200 Application (Regulation 1)

This chapter, unless otherwise expressly provided in this chapter, applies to all ships on all voyages, except ships of war and ships solely navigating the Great Lakes of North America and their connecting and tributary waters as far east as the lower exit of the St. Lambert Lock at Montreal in the Province of Quebec, Canada. (SOLAS reg. V/1)

B. Documentation to be Submitted for Approval

B 100 Bridge design

101 Drawings of the bridge design are to be submitted for approval. Such drawings shall show position of equipment required to be installed by Sec.3, horizontal and vertical fields of vision from the conning position, blind sectors caused by obstructions outside the wheelhouse within the required field of vision, and details such as configuration of bridge wings and height of front bulwark with windscreens.

B 200 Navigational equipment

201 A list of navigational equipment to be installed is to be submitted for approval. Such information shall include identification of manufacturer, type and model of the equipment as well as type approval references or copies of type approval certificates.

202 Where control systems capable of automatically acting on the rudder and or propulsion are installed, documentation is to be submitted as specified in Table A1.

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T Required also for type approved systems

* One copy is to be submitted for information only
SECTION 2
BRIDGE DESIGN

A. Navigation Bridge Visibility

A 100 Navigation bridge visibility (Regulation 22)

b) Ships of not less than 45 m in length as defined in regulation III/3.12 constructed on or after 1 July 1998, shall meet the following requirements:

i) The view of the sea surface from the conning position shall not be obscured by more than two ship lengths, or 500 m, whichever is the less, forward of the bow to 10° on either side under all conditions of draught, trim and deck cargo.

Guidance note:

1) For calculation purposes the applied loading condition of the ship should be, a "worst case condition" (with respect to view of the sea surface forward of the bow) recommended for ocean passages. For example for VLCC's the "worst case" condition will be a stern trim ballast condition, while for container carriers a "worst case" condition will occur with a full load of empty containers and trim by the stern.

2) For ships where the rule requirements are exceeded, e.g. for ships loading containers on deck or VLCC's in ballast, the bridge deck height is to be increased.

---end---of---Guidance---note---

ii) No blind sector caused by cargo, cargo gear or other obstructions outside of the wheelhouse forward of the beam which obstructs the view of the sea surface as seen from the conning position, shall exceed 10°. The total arc of blind sectors shall not exceed 20°. The clear sectors between blind sectors shall be at least 5°. However, in the view described in paragraph (a)(i), each individual blind sector shall not exceed 5°.

iii) The horizontal field of vision from the conning position shall extend over an arc of not less than 225°, that is from right ahead to not less than 22.5° abaft the beam on either side of the ship.

Guidance note:

Conning position is defined to be in a position with a commanding view fulfilling the requirements as described in i), ii), iii) and vii). The conning position shall provide the conning officer (pilot) with information as required by Sec.3 A200 m).

---end---of---Guidance---note---

iv) From each bridge wing the horizontal field of vision shall extend over an arc of at least 225°, that is from at least 45° on the opposite bow through right ahead and then from right ahead to right astern through 180° on the same side of the ship.

v) From the main steering position the horizontal field of vision shall extend over an arc from right ahead to at least 60° on each side of the ship.

Guidance note:

The main steering position is defined to be in a position with a view as required by v), and equipped as required by Sec.3 A200 b) i) 2) and d) i).

---end---of---Guidance---note---

vi) The ship's side shall be visible from the bridge wing.

Guidance note:

To monitor pilot boats and tugs coming alongside, pilots embarking and the ship's side as it touches the jetty, the bridge wing should extend to the maximum beam of the ship.

For low freeboard ships (e.g. supply ships), the ship's side may be visible from the bridge wing even if the bridge wing does not extend to the maximum beam of the ship.

For other types of ships where the bridge wing does not fully extend to the maximum beam of the ship, alternative solutions making the ships side visible from the bridge wing may be accepted.

---end---of---Guidance---note---

vii) The height of the lower edge of the navigation bridge front windows above the bridge deck shall be kept as low as possible. In no case shall the lower edge present an obstruction to the forward view as described in this regulation.

viii) The upper edge of the navigation bridge front windows shall allow a forward view of the horizon, for a person with a height of eye of 1,800 mm above the bridge deck at the conning position, when the ship is pitching in heavy seas. The Administration, if satisfied that a 1,800 mm height of eye is unreasonable and impractical, may allow reduction of the height of eye but not to less than 1,600 mm.

Guidance note:

The minimum height of the upper edge of bridge windows should provide a view as required when the ship is pitching 10°. A minimum height of the upper edge of bridge windows of at least 2000 mm above the bridge deck surface will be acceptable unless any special conditions prevail.

---end---of---Guidance---note---

ix) Windows shall meet the following requirements:

1) Framing between navigation bridge windows shall be kept to a minimum and not be installed immediately forward of any workstation;

2) To help avoid reflections, the bridge front windows shall be inclined from the vertical plane top out, at an angle of not less than 10° and not more than 25°;

3) Polaized and tinted windows shall not be fitted; and

4) At all times regardless of weather conditions, at least two of the navigation bridge front windows shall provide a clear view, and in addition depending on the bridge configuration, an additional number of windows shall provide a clear view.

---end---of---Guidance---note---

b) (Regulation V/22 b) of SOLAS concerns retroactive requirements for bridge design and is given in Pt.7 Ch.1 Sec.3 1)

c) With ships of unconventional design which, in the opinion of the Administration cannot comply with this regulation, arrangements shall be provided to achieve a level of visibility that is as near as practical to those prescribed in this regulation.

Guidance note:

A ship of a special design, dictated by the special purpose and function of the ship, may be regarded as a "ship of unconventional design". The Society will take into consideration the special nature of the ship, its service and trade when evaluating the effects any exemption may have upon the safe navigation of the ship, the safety of all other ships and the environment.

---end---of---Guidance---note---

(SOLAS reg. V/22)
SECTION 3
NAVIGATIONAL AIDS

A. Technical Requirements

A 100 Signalling lamps * (Regulation 11)
All ships of over 150 gross tonnage, when engaged on international voyages, shall have on board an efficient daylight signalling lamp which shall not be solely dependent upon the ship’s main source of electrical power.
(SOLAS reg. V/11)
* Refer to resolution MSC.95(72), Performance standards for daylight signalling lamps.

A 200 Shipborne navigational equipment * (Regulation 12)
* See resolution A.156(ES.IV), Recommendation on the carriage of electronic position-fixing equipment, and resolution A.815(19), World-wide radionavigation system.

a) For the purpose of this regulation “constructed” in respect of a ship means a stage of construction where:
   i) the keel is laid; or
   ii) construction identifiable with a specific ship begins; or
   iii) assembly of that ship has commenced comprising at least 50 tonnes or 1% of the estimated mass of all structural material, whichever is less.

b) i) Ships of 150 gross tonnage and upwards shall be fitted with:
   1) a standard magnetic compass, except as provided in subparagraph (iv):
   2) a steering magnetic compass, unless heading information provided by the standard compass required under (1) is made available and is clearly readable by the helmsman at the main steering position:
   3) adequate means of communication between the standard compass position and the normal navigation control position;
   4) means for taking bearings as nearly as practicable over an arc of the horizon of 360°.

   ii) Each magnetic compass referred to in subparagraph (i) shall be properly adjusted and its table or curve of residual deviations shall be available at all times.

   iii) A spare magnetic compass, interchangeable with the standard compass, shall be carried, unless the steering compass mentioned in subparagraph (i)(2) or a gyro-compass is fitted.

   iv) The Administration, if it considers unreasonable or unnecessary to require a standard magnetic compass, may exempt individual ships or classes of ships from these requirements if the nature of the voyage, the ship’s proximity to land or the type of ship does not warrant a standard compass, provided that a suitable steering compass is in all cases carried.

c) Ships of less than 150 gross tonnage shall, as far as the Administration considers it reasonable and practicable, be fitted with a steering compass and have means for taking bearings.

d) Ships of 500 gross tonnage and upwards constructed on or after 1 September 1984 shall be fitted with a gyro-compass complying with the following requirements:
   i) the master gyro-compass or a gyro repeater shall be clearly readable by the helmsman at the main steering position;
   ii) on ships of 1,600 gross tonnage and upwards a gyro repeater or gyro repeaters shall be provided and shall be suitably placed for taking bearings as nearly as practicable over an arc of the horizon of 360°.

e) Ships of 1,600 gross tonnage and upwards, constructed before 1 September 1984, when engaged on international voyages, shall be fitted with a gyro-compass complying with the requirements of paragraph (d).

f) Ships with emergency steering positions, shall at least be provided with a telephone or other means of communication for relaying heading information to such positions, see Pt.4 Ch.12 Sec.2 B106. In addition, ships of 500 gross tonnage and upwards constructed on or after 1 February 1992, shall be provided with arrangements for supplying visual compass readings to the emergency steering position.

g) Ships of 500 gross tonnage and upwards constructed on or after 1 September 1984 and ships of 1,600 gross tonnage and upwards constructed before 1 September 1984 shall be fitted with a radar installation. From February 1 1995, the radar installation shall be capable of operating in the 9 GHz frequency band. In addition, after 1 February 1995, passenger ships irrespective of size and cargo ships of 300 gross tonnage and upwards when engaged on international voyages shall be fitted with a radar installation capable of operating in the 9 GHz frequency band. Passenger ships of less than 500 gross tonnage and cargo ships of 300 gross tonnage and upwards but less than 500 gross tonnage may be exempted from compliance with the requirements of paragraph (r), at the discretion of the Administration, provided that the equipment is fully compatible with the radar transponder for search and rescue.

h) Ships of 10,000 gross tonnage and upwards shall be fitted with two radar installations, each capable of being operated independently of the other. From 1 February 1995, at least one of the radar installations shall be capable of operating in the 9 GHz frequency band.

i) Facilities for plotting radar readings shall be provided on the navigating bridge of ships required by paragraph (g) or (h) to be fitted with a radar installation. In ships of 1,600 gross tonnage and upwards the plotting facilities shall be at least as effective as a reflection plotter.

j) i) An automatic radar plotting aid shall be fitted on:
   1) all ships of 10,000 gross tonnage and upwards constructed on or after 1 September 1984;
   2) tankers constructed before 1 September 1984 as follows;
      aa) if of 40,000 gross tonnage and upwards by 1 January 1985;
      bb) if of 10,000 gross tonnage and upwards but less than 40,000 gross tonnage, by 1 January 1986;
   3) ships constructed before 1 September 1984 as follows;
      aa) if of 40,000 gross tonnage and upwards by 1 September 1986;
      bb) if of 20,000 gross tonnage and upwards but less than 40,000 gross tonnage, by 1 September 1987;
      cc) if of 15,000 gross tonnage and upwards but less than 20,000 gross tonnage, by 1 September 1988;
ii) Automatic radar plotting aids fitted prior to 1 September 1984 which do not fully conform to the performance standards adopted by the Organization * may, at the discretion of the Administration, be retained until 1 January 1991.

* Refer to the Performance standards for automatic radar plotting aids (ARPA) adopted by the Organization by resolution A.823(19).

iii) The Administration may exempt ships from the requirements of this paragraph, in cases where it is considered unreasonable or unnecessary for such equipment to be carried, or when the ships will be taken permanently out of service within two years of the appropriate implementation date.

k) When engaged on international voyages ships of 1,600 gross tonnage and upwards constructed before 25 May 1980 and ships of 500 gross tonnage and upwards constructed on or after 25 May 1980 shall be fitted with an echo-sounding device.

l) When engaged on international voyages ships of 500 gross tonnage and upwards constructed on or after 1 September 1984 shall be fitted with a device to indicate speed and distance. Ships required by paragraph (j) to be fitted with radio equipment for homing on the radiotelephone distress frequency.

m) Ships of 1,600 gross tonnage and upwards constructed before 1 September 1984 and all ships of 500 gross tonnage and upwards constructed on or after 1 September 1984 shall be fitted with indicators showing the rudder angle, the rate of revolution of each propeller and in addition, if fitted with variable pitch propellers or lateral thrust propellers, the pitch and operational mode of such propellers. All these indicators shall be readable from the conning position.

n) Ships of 100,000 gross tonnage and upwards constructed on or after 1 September 1984 shall be fitted with a rate-of-turn indicator.

o) Except as provided in regulations I/7(b)(ii), I/8 and I/9, while all reasonable steps shall be taken to maintain the apparatus referred to in paragraphs (d) to (n) in efficient working order, malfunctions of the equipment shall not be considered as making a ship unserviceable or as a reason for delaying the ship in ports where repair facilities are not readily available.*

* Refer to the Recommendation on the use and testing of shipborne navigational equipment adopted by the Organization by resolution A.157(E5.IV).

p) When engaged on international voyages, ships of 1,600 gross tonnage and upwards shall be fitted with a radio-direction finding apparatus. The Administration may exempt a ship from this requirement if it considers unreasonable or unnecessary for such apparatus to be carried or if the ship is provided with other radio navigation equipment suitable for use throughout its intended voyages.

Ships equipped with a position fixing equipment with world wide coverage conforming to appropriate performance standards not inferior to those adopted by the Organization (IMO) will be considered to comply with this paragraph.

q) Until February 1999, ships of 1,600 gross tonnage and upwards constructed on or after 25 May 1980 and before 1 February 1995, when engaged on international voyages, shall be fitted with radio equipment for homing on the radiotelephone distress frequency.

r) All equipment fitted in compliance with this regulation shall be of a type approved by the Administration. Equipment installed on board ships on or after 1 September 1984 shall conform to appropriate performance standards not inferior to those adopted by the Organization.* Equipment fitted prior to the adoption of related performance standards may be exempted from full compliance with those standards at the discretion of the Administration, having due regard to the recommended criteria which the Organization might adopt in connection with the standards concerned.

Guidance note:

* Reference is made to the following recommendations adopted by the Organization by the resolutions indicated:

- Recommendation on general requirements for shipborne radionavigation aids forming part of the GMDSS and for electronic navigational aids (resolution A.694(17))
- Recommendation on performance standards for Magnetic Compasses (resolution A.382(X))
- Recommendation on performance standards for Gyro-Compasses (resolution A.424(XI))
- Recommendation on performance standards for Radar Equipment (resolutions A.477(XII) as amended by res. MSC.64(67) Annex 4, A.222(VII) and A.278(VIII))
- Performance standards for Automatic Radar Plotting Aids (ARPA) (resolution A.823(19))
- Recommendation on performance standards for Echo-Sounding Equipment (resolution A.224(VII) as amended by resolution MSC.74(69), Annex 2)
- Recommendation on performance standards for Devices to Indicate Speed and Distance (resolution A.824(19) as amended by res. MSC.96(72))
- Performance standards for Rate-of-Turn Indicators (resolution A.526(13))
- Recommendation on unification of performance standards for navigational equipment A.575(14))
- Performance standards for radio direction-finding systems (resolution A.665(16))
- Recommendation on methods of measuring noise levels at listening posts A.343(IX))
- Recommendation on performance standards for shipborne receivers for use with differential OMEGA (resolution A.479(XII)).

- General requirements for electromagnetic compatibility (EMC) for all electrical and electronic ship’s equipment (resolution A.813(19))
- Recommendation on performance standards for shipborne GLONASS receiver equipment (resolution MSC 53(66))
- Recommendation on performance standards for combined GPS/GLONASS receiver equipment (resolution MSC.74(69), Annex 1)
- Recommendation on performance standards for daylight signalling lamps (resolution MSC.95(72))
- Performance standards for automatic pilots (resolution A.342(IX) as amended by resolution MSC.64(67) Annex 3)
- Performance standards for shipborne Loranc-C and Chayka receivers (resolution A.818(19))
- Performance standards for shipborne Global Position System (GPS) receiver equipment (resolution A.819(19))
- Recommendation on performance standards for Shipborne DGPS and GLONASS Maritime Radio Beacon Receiver Equipment (resolution MSC.64(67) Annex 2)
- Recommendation on performance standards for Integrated Bridge Systems (IBS) (resolution MSC.64(67) Annex 1)
- Performance standards for Electronic Chart Display and Information Systems (ECDIS) (resolution A.817(19) as amended by resolution MSC.64(67) Annex 5 and res. MSC. 86(70)).

Regarding unification of ARPA signals, see MSC/Circ.563 and IEC publication 60872.

---end of Guidance note---

All navigational equipment installed on board shall be of a type conforming to the appropriate performance standards.

For the application of this paragraph, the term Administration is to be read as any recognised classification society or Administration.

s) A rigidly connected composite unit of a pushing vessel and associated pushed vessel, when designed as a dedicated and integrated tug and barge combination, shall be regarded as a single ship for the purpose of this regulation.

t) If application of the requirements of this regulation necessitates structural alterations to a ship constructed before 1 September 1984, the Administration may allow extension
of the time limit for fitting the required equipment not later than 1 September 1989, taking into account the first dry-docking of such a ship required by the present regulations.

u) Except as provided elsewhere in this regulation, the Administration may grant individual ships exemptions of a partial or conditional nature, when any such ship is engaged on a voyage where the maximum distance of the ship from the shore, the length and nature of the voyage, the absence of general navigation hazards, and other conditions affecting safety are such as to render the full application of this regulation unreasonable or unnecessary. When deciding whether or not to grant exemptions to an individual ship, the administration shall have regard to the effect that an exemption may have upon the safety of all other ships.

(SOLAS reg. V/12)

A 300 Life-saving signals

An illustrated table describing the signals to be used by life-saving stations and maritime rescue units when communicating with ships or persons in distress and vice-versa is to be readily available to the officer of watch.

For details of signals, see Pt 7 Ch.3 Appendix A.

A 400 Pilot ladders and mechanical pilot hoists

The requirements given in 402 cover the 1991 amendments of SOLAS regulation V/17. Equipment and arrangement for pilot transfer installed on ships before 1 January 1994 may, alternatively, comply with the requirements of regulation 17 in force prior to that date, observing the provisions of item (a) (iii) in 402.

402 Pilot transfer arrangements (regulation 17).

a) Application

i) Ships engaged on voyages in the course of which pilots are likely to be employed shall be provided with pilot transfer arrangements.

ii) Equipment and arrangements for pilot transfer which are installed on or after 1 January 1994 shall comply with the requirements of this regulation and due regard shall be paid to the standards adopted by the Organization.

iii) Equipment and arrangements for pilot transfer which are provided on ships before 1 January 1994 shall at least comply with the requirements of regulation 17 in force prior to that date and due regard shall be paid to the standards adopted by the Organization prior to that date.

b) General

i) All arrangements used for pilot transfer shall efficiently fulfill their purpose of enabling pilots to embark and disembark safely. The arrangements shall be kept clean, properly maintained and stowed and shall be regularly inspected to ensure that they are safe to use. They shall be used solely for the embarkation and disembarkation of personnel.

ii) The rigging of the pilot transfer arrangements and the embarkation and disembarkation of a pilot shall be supervised by a responsible officer having means of communication with the navigating bridge who shall also arrange for the escort of the pilot by a safe route to and from the navigating bridge. Personnel engaged in rigging and operating any mechanical equipment shall be instructed in the safe procedures to be adopted and the equipment shall be tested prior to use.

c) Transfer arrangements

i) Arrangements shall be provided to enable the pilot to embark and disembark safely on either side of the ship.

ii) In all ships where the distance from sea level to the point of access to, or egress from, the ship exceeds 9 m, and when it is intended to embark and disembark pilots by means of the accommodation ladder, or by means of mechanical pilot hoists or other equally safe and convenient means in conjunction with a pilot ladder, the ship shall carry such equipment on each side, unless the equipment is capable of being transferred for use on either side.

iii) Safe and convenient access to, and egress from, the ship shall be provided by either:

1) a pilot ladder requiring a climb of not less than 1.5 m and not more than 9 m above the surface of the water so positioned and secured that:

(aa) it is clear of any possible discharges from the ship;

(bb) it is within the parallel body length of the ship and, as far as is practicable, within the mid-ship half length of the ship;

(cc) each step rests firmly against the ship's side; where constructional features, such as rubbing bands, would prevent the implementation of this provision, special arrangements shall, to the satisfaction of the Administration, be made to ensure that persons are able to embark and disembark safely;

(dd) the single length of pilot ladder is capable of reaching the water from the point of access to, or egress from, the ship and due allowance is made for all conditions of loading and trim of the ship, and for an adverse list of 15°: the securing strong-points, shackles and securing ropes shall be at least as strong as the side ropes;

2) an accommodation ladder in conjunction with the pilot ladder, or other equally safe and convenient means, wherever the distance from the surface of the water to the point of access to, or egress from, the ship is more than 9 m. The accommodation ladder shall be situated leading aft. When in use, the lower end of the accommodation ladder shall rest firmly against the ship's side within the parallel body length of the ship and, as far as is practicable, within the mid-ship half length and clear of all discharges; or

3) a mechanical pilot hoist so located that it is within the parallel body length of the ship and, as far as is practicable, within the mid-ship half length of the ship and clear of all discharges.

d) Access to the ship's deck

Means shall be provided to ensure safe, convenient and unobstructed passage for any person embarking on, or disembarking from, the ship between the head of the pilot ladder, or of any accommodation ladder or other appliance, and the ship's deck. Where such passage is by means of:

i) a gateway in the rails or bulwark, adequate handholds shall be provided;

ii) a bulwark ladder, two handhold stanchions rigidly secured to the ship's structure at or near the base and at higher points shall be fitted. The bulwark ladder shall be securely attached to the ship to prevent overturning.
e) Shipside doors

Shipside doors used for pilot transfer shall not open outwards.

f) Mechanical pilot hoists

i) The mechanical pilot hoist and its ancillary equipment shall be of a type approved by the Administration. The pilot hoist shall be designed to operate as a moving ladder to lift and lower one person on the side of the ship, or as a platform to lift and lower one or more persons on the side of the ship. It shall be of such design and construction as to ensure that the pilot can be embarked and disembarked in a safe manner, including a safe access from the hoist to the deck and vice versa. Such access shall be gained directly by a platform securely guarded by handrails.

ii) Efficient hand gear shall be provided to lower or recover the person or persons carried, and kept ready for use in the event of power failure.

iii) The hoist shall be securely attached to the structure of the ship. Attachment shall not be solely by means of the ship’s side rails. Proper and strong attachment points shall be provided for hoists of the portable type on each side of the ship.

iv) If belting is fitted in the way of the hoist position, such belting shall be cut back sufficiently to allow the hoist to operate against the ship's side.

v) A pilot ladder shall be rigged adjacent to the hoist and available for immediate use so that access to it is available from the hoist at any point of its travel. The pilot ladder shall be capable of reaching the sea level from its own point of access to the ship.

vi) The position on the ship’s side where the hoist will be lowered shall be indicated.

vii) An adequate protected stowage position shall be provided for the portable hoist. If very cold weather, to avoid the danger of ice formation, the portable hoist shall not be rigged until its use is imminent.

g) Associated equipment

i) The following associated equipment shall be kept at hand ready for immediate use when persons are being transferred:

1) two man-ropes of not less than 28 mm in diameter properly secured to the ship if required by the pilot;
2) a lifebuoy equipped with a self-igniting light;
3) a heaving line.

ii) When required by paragraph (d), stanchions and bulwark ladders shall be provided.

h) Lighting

Adequate lighting shall be provided to illuminate the transfer arrangements overside, the position on deck where a person embarks or disembarks and the controls of the mechanical pilot hoist.

(SOLAS reg. V/17)

A 500 Other navigational aids

501 All ships are to be equipped with navigation lights, shapes and means of making sound signals complying with the International Regulations for Preventing Collisions at Sea 1972, with later amendments (COLREG).

B. Publications and Records

B 100 Nautical publications (Regulation 20)

All ships shall carry adequate and up-to-date charts,* sailing directions, lists of lights, notices to mariners, tide tables and all other nautical publications necessary for the intended voyage.

(SOLAS reg. V/20)

* Refer to the Recommendation on performance standards for electronic chart display and information systems (ECDIS) (resolution A.817(19), as amended) and resolution MSC.86(70).

B 200 International Code of Signals (Regulation 21)

All ships which, in accordance with the present Convention, are required to carry radio installations shall carry the International Code of Signals. This publication shall also be carried by any other ship which, in the opinion of the Administration has a need to use it.

(SOLAS reg. V/21)

Ships less than 300 gross tonnage not engaged in international voyages may, if the Society finds the requirement of this paragraph unreasonable or unnecessary, be exempted from this paragraph.

B 300 Records logbook

301 A logbook is to be kept by the master to record:

— Reasons for failing to assist persons in distress (see Pt.7 Ch.3 Sec.3 B200).
— Data for checks, tests and drills of steering gears (see Pt.7 Ch.3 Sec.3 B400).