

# Regulations of 5 September 2014 No. 1157 on navigation and navigational aids for ships and mobile offshore units

**Legal basis:** Laid down by the Norwegian Maritime Authority on 28 June 2022 under the Act of 16 February 2007 No. 9 relating to ship safety and security (Ship Safety and Security Act) section 2 first and second paragraphs, section 9, section 11 and section 14, cf. Formal Delegation of 16 February 2007 No. 171 and Formal Delegation of 31 May 2007 No. 590.

**EEA references:** EEA Agreement Annex XIII point 55a (Directive 2002/59/EC as amended by Directive 2009/17/EC, Directive 2009/18/EC and Directive 2011/15/EU) and Annex II chapter XXXII point 1 (Directive 96/98/EC).

**Amendments:** Amended by Regulations of 20 December 2017 No. 2379, 28 June 2022 No. 1234 (in force on 1 July 2022, the Regulations are amended in their entirety).

## Chapter 1 General provisions

### Section 1 *Scope of application*

(1) These Regulations apply to Norwegian:

- a. cargo ships, including recreational craft of 24 metres in overall length and upwards. Cargo ships of less than 24 metres in length (L) and of less than 500 gross tonnage shall comply with section 2 chapters 5 and 6 and Appendix II;
- b. passenger ships;
- c. mobile offshore units. Non-self-propelled mobile offshore units shall comply with chapters 5 and 6 sections 2, 5, 6, 9 and 10;
- d. barges.

(2) Ships with a High-Speed Craft Safety Certificate shall comply with chapters 2, 3, 5 and 6 and sections 2 and 22.

### Section 2 *Documentation*

It shall be documented by way of drawings that the requirements of the Regulations related to systems, equipment, units, etc. are met. The drawings shall be so detailed and clear that it is possible based on the drawings to determine whether the requirements are met.

## Chapter 2 Technical requirements

### Section 3 *Maintenance and repair*

(1) All reasonable measures shall be taken to keep the navigational aids in good working order.

(2) Malfunction of navigational aids that occurs while underway or in a port where repairs cannot take place is not considered to make the ship or the mobile offshore unit unseaworthy if the master assesses the risk and implements measures necessary to maintain safe navigation to a port where repairs can be carried out. The risk assessment and the ordering of repairs or parts shall be documented.

### Section 4 *Plan for cooperation on search and rescue*

Passenger ships engaged on international voyages shall have a plan for cooperation with search and rescue services. The plan shall be prepared in accordance with MSC.1/Circ.1079/Rev.1 on preparing plans for cooperation between

search and rescue services and passenger ships and include provisions for periodic exercises to be undertaken to test the plan's effectiveness.

## Section 5

### *International Code of Signals and IAMSAR Manual*

(1) An up-to-date paper copy of Volume III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual shall be available on board.

(2) Ships fitted with a radio installation shall carry on board an up-to-date paper copy of the International Code of Signals.

## Section 6

### *Signals to be used in distress situations*

(1) Ships operating in trade area Small coasting or greater trade area and mobile offshore units shall have an up-to-date table of signals as illustrated in the International Code of Signals readily available on board. The signals shall be used for distress communication with life-saving stations, maritime rescue units and aircraft engaged in search and rescue operations.

(2) International distress signals shall only be used for the purpose of indicating that a person or persons are in distress.

(3) The use of signals which may be confused with an international distress signal in situations other than distress situations is prohibited.

## Section 7

### *Daily reporting to the company*

Ships of 500 gross tonnage and upwards and mobile offshore units engaged on international voyages exceeding 48 hours shall submit daily reports to the company, containing positions, course, speed and conditions that could affect the voyage or are of significance to the safe operation of the ship or mobile offshore unit.

## Section 8

### *Operational limitations for passenger ships engaged on foreign voyages*

Passenger ships engaged on foreign voyages shall keep an up-to-date list of all limitations applicable to the ship readily available on board, including:

- a. exemptions
- b. restrictions in operating areas
- c. weather restrictions
- d. sea state restrictions
- e. restrictions in permissible loads
- f. trim
- g. speed.

## Section 9

### *Ice Patrol Service*

Ships and mobile offshore units which pass through waters guarded by the Ice Patrol during the ice season are required to make use of the services provided by the Ice Patrol.

## Section 10

### *Danger messages*

(1) The master shall warn vessels nearby and relevant authorities of:

- a. areas with dangerous ice, a dangerous derelict, or any other direct danger to navigation;
- b. a tropical storm;
- c. sub-freezing air temperatures associated with gale force winds causing ice accretion;

- d. winds of force 10 or above on the Beaufort scale for which no storm warning has been issued;
- (2) Messages pursuant to the first paragraph shall be transmitted in English or in accordance with the International Code of Signals. The information in the danger message shall comply with the International Convention for the Safety of Life at Sea, 1974 (SOLAS) Chapter V regulation 32 as adopted by Res. MSC.99(73).

## Section 11

### *Operation of steering gear*

When the steering gear has more than one power unit capable of simultaneous operation, at least two of the power units shall be in operation in waters where navigation demands special caution.

## Section 12

### *Steering gear – testing and drills*

- (1) The steering gear shall be checked and tested by the crew within 12 hours of departure. For ships which regularly engage on voyages not exceeding 1,000 nautical miles between the port of departure and the final port of destination, it is sufficient to inspect and test the steering gear at least once every week.
- (2) The operation of the steering gear shall be tested in accordance with the ship's procedure, and the procedure shall include:
- a. the main steering gear;
  - b. the auxiliary steering gear;
  - c. steering positions not located on the navigation bridge;
  - d. the steering positions located on the navigation bridge;
  - e. the emergency power supply;
  - f. the rudder angle indicators in relation to the actual position of the rudder;
  - g. the remote steering gear control system power failure alarms;
  - h. the steering gear power unit failure alarms;
  - i. automatic isolating arrangements and other automatic equipment.
- (3) The testing pursuant to the second paragraph shall demonstrate that the rudder has full movement according to the required capabilities of the steering gear and that the means of communication between the navigation bridge and steering gear compartment is working. In addition, a visual inspection of the steering gear's connecting linkage shall be carried out.
- (4) Emergency steering drills shall take place at least every three months. The drills shall include direct control of the rudder from within the steering gear compartment and the communications procedure with the navigation bridge. The emergency steering drill shall include operation of alternative power supplies, where applicable.
- (5) Simple operating instructions showing the change-over procedures for the remote control systems shall be posted on the navigation bridge and in the steering gear compartment. Crew concerned with the operation and maintenance of steering gear shall be familiar with the operation of and the procedures for changing from one system to another.

## Chapter 3

### Navigation bridge design and visibility

## Section 13

### *Navigation bridge design*

- (1) All decisions which affect bridge design and arrangement of navigational systems and equipment on the navigation bridge shall be taken in accordance with SOLAS Chapter V regulation 15 as adopted by Resolutions MSC.99(73), MSC/Circ.982 and SN.1/Circ.288.
- (2) The location and operation of the workstation for monitoring propulsion machinery shall not interfere with the primary functions related to the navigational watch.

## Section 14

### *Navigation bridge visibility*

(1) Ships and mobile offshore units constructed on or after 1 July 1998 shall:

- a. from the conning position have a view of the sea surface which is not obscured by more than two ship lengths or 500 metres forward of the bow to 10° on either side under all conditions of draught, trim and deck cargo;
- b. not have blind sectors exceeding 10° that are caused by cargo, cargo gear or other objects outside of the wheelhouse forward of the beam that obstruct the view of the sea surface as seen from the conning position. The total arc of blind sectors shall not exceed 20°, and the clear sector between two blind sectors shall be at least 5°;
- c. have a horizontal field of vision from the conning position that extends 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;
- d. have a horizontal field of vision from each bridge wing that extends 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;
- e. have a horizontal field of vision from the main steering position that extends over an arc from right ahead to at least 60° on each side of the ship;
- f. have a view of the ship's side from the bridge wing;
- g. have the height of the lower edge of the navigation bridge front windows above the bridge deck kept as low as possible, and in no case so that the forward view is obstructed;
- h. have the upper edge of the navigation bridge front windows so as to 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, or 1,600 mm where a 1,800 mm height of eye is structurally impractical;
- i. have the bridge front windows inclined from the vertical plane top out, at an angle of not less than 10° and not more than 25°;
- j. have framing between the navigation bridge windows kept to a minimum. The framing cannot be installed immediately forward of any workstation;
- k. not have polarised or tinted windows;
- l. have a clear view through at least two of the navigation bridge front windows and, depending on the bridge configuration, have a sufficient number of windows to provide a clear view to the sides.

(2) Ships constructed before 1 July 1998 shall meet the requirements of the first paragraph subparagraphs a and b, unless this requires structural alterations or additional equipment.

(3) The following ships and mobile offshore units that in the opinion of the Norwegian Maritime Authority cannot comply with the requirements of the first paragraph, shall have arrangements ensuring a level of visibility from the bridge that is as near as practicable to the requirements:

- a. ships and mobile offshore units of unconventional design;
- b. ships solely operating in trade area 2 or lesser trade area;
- c. ships of less than 500 gross tonnage engaged on domestic voyages;
- d. ships of less than 150 gross tonnage.

(4) Notwithstanding the requirements of the first paragraph subparagraphs a, c, d and e, ballast water operations may be undertaken provided that the master has determined that it is safe and takes into consideration any increased blind sectors or reduced horizontal fields of vision to ensure that a proper lookout is maintained at all times. The operation is conducted in accordance with the ballast water management plan of the ship or the mobile offshore unit.

## Chapter 4

### Navigational aids

## Section 15

### *Navigational aids*

(1) Ships, the keel of which was laid or which were at a similar stage of construction on or after 1 July 2002, and mobile offshore units shall carry the following navigational aids on board:

	Gross tonnage	
	Passenger ships	Cargo ships and mobile offshore units
Global Navigation Satellite System (GNSS)	All	All
Automatic Identification System (AIS)	All	All
Bridge navigational watch alarm system	All	All
Transmitting heading device (THD) for ships and mobile offshore units that do not carry a gyro compass	All	All
Radar reflector	< 150	< 150
Magnetic compass class B	< 150	< 150
Standard magnetic compass class A which can display the reading at the main steering position	≥ 150	≥ 150
Direction-finding device for magnetic compass	≥ 150	≥ 150
Spare magnetic compass class A or gyro compass	≥ 150	≥ 150
Daylight signalling lamp in trade area 3 and greater trade	≥ 150	≥ 150
Echo-sounding equipment	All	≥ 300
9 GHz (3 cm) radar	All	≥ 300
Electronic Plotting Aid (EPA), Automatic Plotting Aid (ATA) or Automatic Radar Plotting Aid (ARPA)	< 500	≥ 300, < 500
Speed and distance measuring equipment indicating the speed and distance through the water	All	≥ 300
Gyro compass	≥ 500	≥ 500
Direction-finding device for gyro compass	≥ 500	≥ 500
Indicators readable from the conning position, displaying: <ul style="list-style-type: none"> <li>• rudder angle</li> <li>• propeller revolutions</li> <li>• force and direction of thrust</li> <li>• force and direction of lateral thrust</li> <li>• pitch</li> <li>• operational mode</li> </ul>	≥ 500	≥ 500
ATA or ARPA	≥ 500, < 3,000	≥ 500, < 3,000
3 GHz (10 cm) radar	≥ 3,000	≥ 3,000
Two independent aids with ATA or ARPA on ships of 10,000 gross tonnage and upwards and mobile offshore units, one of these shall be ARPA	≥ 3,000	≥ 3,000
heading or track control system (automatic pilot system)	≥ 10,000	≥ 10,000
Rate of turn indicator readable from the conning position	≥ 50,000	≥ 50,000
Speed and distance measuring device to indicate speed and distance over the ground in the forward and athwartships direction	≥ 50,000	≥ 50,000

(2) Ships with an emergency steering position be provided with equipment for communicating heading information to the emergency steering position.

(3) Ships of 500 gross tonnage and upwards and mobile offshore units shall be so equipped that a failure of one of the navigational aids in section 15 or section 16 will not impair the ability of the ship or mobile offshore unit to meet the requirements of having magnetic compasses, direction-finding devices, up-to-date official nautical charts and nautical publications.

(4) Navigational equipment and systems offering alternative modes of operation shall indicate the actual mode of use.

(5) Ships constructed before 1 July 2002 which do not fully comply with the first paragraph, shall comply with the requirements of Appendix I instead of the first paragraph.

(6) The requirement for BNWAS does not apply to the following ships operating in trade area 4 or lesser trade area or ships of less than 500 gross tonnage in trade area Small Coasting:

- a. passenger ships engaged on a regular service where the crossing time does not exceed 12 minutes;
- b. passenger ships with a continuous navigational watch consisting of at least two persons;
- c. ships with passenger certificate carrying 12 passengers or less, which are not high-speed craft.

(7) The requirement to have a direction-finding device for gyro compasses does not apply to ships in trade area 4 or lesser trade area. For ships of less than 1,600 gross tonnage, the requirement applies only as far as practicable.

(8) Barges of less than 150 gross tonnage shall have a radar reflector or radar reflectivity enabling detection by ships navigating by radar at both 9 and 3 GHz.

(9) Passenger ships of 500 gross tonnage and upwards operating in trade area Small Coasting for which the exemption of section 18 fifth paragraph, as it was stated until 1 July 2022, has been applied and cargo ships of less than 150 gross tonnage shall comply with the requirement for a BNWAS not later than 1 July 2023.

(10) Passenger ships of less than 300 gross tonnage engaged on domestic voyages, high-speed passenger craft of less than 150 gross tonnage and cargo ships of less than 300 gross tonnage shall comply with the requirement for AIS no later than 1 July 2023.

## Section 16

### *Nautical charts, nautical publications and ECDIS*

(1) All ships and mobile offshore units shall have up-to-date official nautical charts and nautical publications for the planned voyage available on board, so that the positions can be plotted and monitored throughout the voyage. Electronic chart display and information system (ECDIS) with backup may be used in order to meet the requirement of having up-to-date official nautical charts. The nautical publications referred to in the first sentence can be digital, cf. SLS.14/Circ.213.

- (2) ECDIS with backup shall be fitted on the following ships and mobile offshore units engaged on foreign voyages:
- a. passenger ships of 500 gross tonnage and upwards;
  - b. tankers of 3,000 gross tonnage and upwards;
  - c. cargo ships other than tankers of 10,000 gross tonnage and upwards;
  - d. cargo ships, other than tankers, and mobile offshore units of 3,000 to 10,000 gross tonnage constructed on or after 1 July 2014;
  - e. mobile offshore units of 10,000 gross tonnage and upwards.

## Section 17

### *Magnetic compass*

(1) The magnetic compass and direction-finding device shall be independent of any power supply.

(2) Class A magnetic compass shall be properly adjusted. A deviation table or curves shall be prepared for correcting heading and bearings to true.

(3) It shall be possible to take bearings over an arc of the horizon of 360°. For ships constructed before 1 July 2002, the requirement applies only as far as practicable.

(4) In lieu of meeting the requirements for standard magnetic compass and spare compass, the ship and the mobile offshore unit may be fitted with two gyro compasses. Both gyro compasses shall be capable of supplying heading information to the main steering position. Each gyro compass shall be individually connected to the main and emergency power supply and have an independent uninterruptible power supply (UPS) with a capacity of at least 30 minutes. Ships satisfying this provision comply with the requirement of section 15 to have a gyro compass.

## Section 18

### *Gyro compass*

(1) The gyro compass shall be clearly readable from the main steering position.

(2) The gyro compass on ships constructed on or after 1 February 1992 and mobile offshore units shall be clearly readable from the emergency steering position.

(3) The gyro compass on ships and mobile offshore units constructed on or after 1 July 2002 shall be capable of supplying heading information to radar, AIS and ATA.

(4) It shall be possible use a direction-finding device to take bearings over an arc of the horizon of 360°, by using the gyro compass. For ships constructed before 1 July 2002, the requirement applies only as far as practicable.

## Section 19

### *Bridge navigational watch alarm system*

The bridge navigational watch alarm system shall be in operation whenever the ship and the mobile offshore unit are underway.

## Section 20

### *Automatic Identification System (AIS)*

(1) AIS shall be in operation at all times, except where international agreements, rules or standards provide for the protection of navigational information.

(2) AIS shall be tested in connection with the annual radio survey. The test shall verify the programming of the ship's static information, correct data exchange with connected sensors and the radio performance by radio frequency measurement and on-air test (for instance using a Vessel Traffic Service (VTS)). One copy of the test report shall be kept on board.

## Section 21

### *Voyage data recorder (VDR)*

(1) The following ships and mobile offshore units shall have a voyage data recorder (VDR):

- a. passenger ships engaged on foreign voyages;
- b. class A passenger ships engaged on domestic voyages;
- c. high-speed passenger craft of 150 gross tonnage and upwards;
- d. cargo ships of 3,000 gross tonnage and upwards and mobile offshore units.

(2) Cargo ships of 3,000 gross tonnage and upwards constructed before 1 July 2002 may instead have a simplified voyage data recorder (S-VDR).

(3) The voyage data recorder shall undergo an annual function test conducted by a testing or servicing facility authorised by the manufacturer or supplier to verify the accuracy, duration and recoverability of the recorded data.

(4) The testing or servicing facility shall conduct annual tests to determine the serviceability of protective enclosures and all devices fitted to aid location.

(5) The certificate of compliance issued by the testing or servicing facility shall state the date of the function test referred to in the third paragraph, and the applicable performance standards. A copy of the certificate shall be retained on board.

(6) The Norwegian Maritime Authority may upon written application from the company grant exemption from the first paragraph to ships other than ro-ro passenger ships that are constructed before 1 July 2002, if existing equipment makes it unreasonable or impractical to fit a VDR.

## Section 22

### *Global satellite-based system for identifying and tracking ships (LRIT)*

(1) Information about the ship's identity and position (latitude and longitude), as well as the date and time of the position provided shall be transmitted automatically in the LRIT system for:

- a. passenger ships engaged on foreign voyages;
- b. cargo ships of 300 gross tonnage and upwards engaged on foreign voyages;
- c. mobile offshore units.

(2) The requirement of the first paragraph does not apply to ships and mobile offshore units fitted with AIS that are engaged exclusively on voyages within sea area A1.

(3) Systems and equipment used to meet the LRIT requirements shall be capable of being switched off on board or be capable of ceasing the distribution of LRIT information where:

- a. international agreements provide for the protection of navigational information; or
- b. the master considers it necessary for the safety or security of the vessel.

(4) If the transmission of LRIT information is stopped pursuant to the third paragraph subparagraph b, the master shall inform the Norwegian Maritime Authority.

## Section 23

### *Integrated navigation and bridge systems*

(1) Integrated bridge systems on ships and mobile offshore units shall be so arranged that failure of one sub-system is brought to the immediate attention of the navigator in charge of the watch by audible and visual alarms and does not cause failure to any other sub-system.

(2) In case of failure in one part of an integrated navigational system, it shall be possible to operate every other individual item of equipment or part of the system separately.

## Chapter 5

### Pilot transfer arrangements

#### Section 24

##### *Pilot transfer arrangements*

- (1) Ships likely to use pilots shall be provided with equipment and arrangements enabling the pilot to embark and disembark the ship safely on both sides. The content of Resolution A.1045(27) shall be taken into account when implementing sections 24 to 27.
- (2) Shipside doors used for pilot transfer shall not open outwards.
- (3) Pilot hoists shall not be used.

#### Section 25

##### *Access requirements*

- (1) When the ship is boarded from a position which is 1.5 to 9 metres above the waterline, there shall be safe access to a pilot ladder so positioned and secured that:
  - a. the pilot ladder is clear of any possible discharges from the ship;
  - b. the pilot ladder is within the parallel body length of the ship and as far as practicable within the mid-ship half length of the ship;
  - c. each step of the pilot ladder rests firmly against the ship's side. Where constructional features prevent the steps from resting firmly against the ship's side, other arrangements shall ensure that pilots are able to embark and disembark safely;
  - d. a single length of the pilot ladder reaches the water from the point of access to, or egress from, the ship, even at an adverse list of 15°, and regardless of the conditions of the loading and trim of the ship;
  - e. the fastening points, shackles and securing ropes are at least as strong as the side ropes.
- (2) When the ship is boarded from a position which is more than 9 metres above the waterline, the access shall be ensured with a pilot ladder in conjunction with an accommodation ladder, which shall:
  - a. be sited so that it is leading aft and is clear of any possible discharges;
  - b. be used so that the lower end of the accommodation ladder is held firmly against the ship's side within the parallel body length of the ship and, as far as practicable, within the mid-ship half length;
  - c. be used so that the pilot ladder and manropes are secured to the ship's side at a point 1.5 metres above the bottom platform of the accommodation ladder.
- (3) When a combination arrangement is used, with a trapdoor in the bottom platform of the accommodation ladder, the pilot ladder and manropes shall be rigged through the trapdoor extending above the platform to above the height of the handrail.
- (4) When it is intended to embark and disembark pilots by means of an accommodation ladder in conjunction with a pilot ladder, the ship shall carry such equipment on each side of the ship, unless the equipment is capable of being transferred for use on either side.

#### Section 26

##### *Precautions for access to the ship's deck*

- (1) The rigging of the pilot transfer arrangements shall be supervised by a responsible officer having means of communication with the navigation bridge.
- (2) The officer shall arrange for the escort of the pilot by a safe route to and from the navigation bridge.
- (3) Personnel engaged in rigging and operating the transfer arrangements shall be instructed in the safe procedures to be adopted.
- (4) The equipment shall be tested prior to use.
- (5) 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:
  - a. a gateway in the rails or bulwark, adequate handholds shall be provided on both sides of the opening;
  - b. a bulwark ladder, two handhold stanchions rigidly secured to the ship's structure at or near their bases and at higher points shall be fitted. The bulwark ladder shall be securely attached to the ship to prevent overturning.



## Section 27

### *Equipment and lighting*

- (1) The following equipment shall be kept at hand for immediate use:
  - a. two man ropes of between 28 and 32 mm in diameter, secured to the ship;
  - b. an accommodation ladder fixed to the ring plate on deck when the pilot embarks and disembarks, or upon request from a pilot approaching to board;
  - c. a lifebuoy equipped with a self-igniting light;
  - d. a heaving line.
- (2) Adequate lighting shall be provided to illuminate the transfer arrangements and the position on deck where a person embarks or disembarks.
- (3) The pilot transfer arrangements shall be:
  - a. maintained and kept clean;
  - b. properly stowed;
  - c. regularly inspected;
  - d. used solely for the embarkation and disembarkation of the ship.
- (4) The date of the first use of the pilot ladder and the dates of any repairs shall be recorded in the maintenance system.

## Chapter 6

### Concluding provisions

## Section 28

### *Exemptions*

- (1) The Norwegian Maritime Authority may upon written application permit other solutions than those required by these Regulations when it is documented that such solutions are equivalent to the requirements of the Regulations.
- (2) The Norwegian Maritime Authority may upon written application from the company grant exemptions from requirements of the Regulations when this does not contravene the requirements of Directive 2002/59/EC Annex II; and
  - a. it is established that the requirement is not essential and that it is justifiable in terms of safety; or
  - b. it is established that compensating measures will maintain the same level of safety as the requirement of these Regulations.
- (3) The Norwegian Maritime Authority may exempt ships propelled by sails, even if fitted with mechanical propulsion for auxiliary and emergency purposes (sailing ship) and barges from the requirements of sections 7, 11, 12, 13, 14, 15 (except the requirement for radar reflector), 16, 17, 18, 19, 20, 21 and 23.

## Section 29

### *Entry into force*

These Regulations enter into force on 15 September 2014. As from the same date, the Regulations of 15 September 1992 No. 701 on navigational aids and arrangements on the bridge and in the wheelhouse, and communication equipment in the wheelhouse of ships are repealed.

## Appendix I

1. Ships, the keel of which was laid or which were at a similar stage of construction on or after 1 July 2002, and which do not fully comply with section 15 first paragraph of the Regulations, shall have the following navigational aids on board:

	Gross tonnage
Global Navigation Satellite System (GNSS)	All
Automatic Identification System (AIS)	All
Bridge navigational watch alarm system	All
Transmitting heading device (TDH), unless the ship carries a gyro compass which can transmit heading information to AIS	All
Magnetic compass class B	< 150
Standard magnetic compass class A	≥ 150
Steering magnetic compass class A which can display the reading at the main steering position, unless this requirement is met by the standard magnetic compass.	≥ 150
Direction-finding device for magnetic compass	≥ 150
Spare steering magnetic compass class A, unless the ship is fitted with steering magnetic compass or gyro compass	≥ 150
Daylight signalling lamp except in trade area 2 or lesser trade area	≥ 150
Echo-sounding equipment	
- ships construction on or after 25 May 1980 engaged on foreign voyages	≥ 500
- ships constructed before 25 May 1980 engaged on foreign voyages	≥ 1,600
9 GHz (3 cm) radar	
- passenger ships on international voyages	All
- ships other than passenger ships engaged on international voyages	≥ 300
- ships constructed on or after 1 September 1984 not engaged on international voyages	≥ 500
- ships constructed before 1 September 1984 not engaged on international voyages	≥ 1,600
Speed and distance measuring equipment indicating the speed and distance through the water	
- ships construction on or after 1 September 1984 engaged on foreign voyages	≥ 500
- ships equipped with ARPA	All
Gyro compass.	
- ships constructed on or after 1 September 1984	≥ 500
- ships constructed before 1 September 1984 engaged on international voyages	≥ 1,600
Direction-finding device for gyro compass	≥ 1,600
Indicators readable from the conning position, displaying rudder angle, propeller revolutions, the force and direction of thrust, the force and direction of lateral thrust, and the pitch and operational mode	
- ships constructed on or after 1 September 1984	≥ 500
- ships constructed before 1 September 1984	≥ 1,600
Second radar in addition to 9 GHz (3 cm) radar	≥ 10,000
Automatic radar plotting aid (ARPA)	
- ships constructed on or after 1 September 1984	≥ 10,000
- tankers constructed before 1 September 1984	≥ 10,000
- ships other than tankers constructed before 1 September 1984	≥ 15,000
Rate of turn indicator readable from the conning position	
- ships constructed on or after 1 September 1984	≥ 100,000

2. The navigational aids of item 1 shall comply with the performance requirements applicable at the time of installation on board. When navigational aids are replaced, the Regulations of 30 August 2016 No. 1042 on marine equipment shall apply.

## Appendix II

### Navigation and navigational aids

#### 1. *Maintenance and repair*

1. All reasonable measures shall be taken to keep the navigational aids in good working order.
2. Malfunction of navigational aids that occurs while underway or in a port where repairs cannot take place is not considered to make the ship unseaworthy if the master assesses the risk and implements measures necessary to maintain safe navigation to a port where repairs can be carried out. The risk assessment and the ordering of repairs or parts shall be documented.

#### 2. *International Code of Signals and IAMSAR Manual*

1. Ships of 8 metres in overall length and upwards shall have on board an up-to-date paper copy of the IAMSAR Manual (International Aeronautical and Maritime Search and Rescue) Volume III.
2. Ships of 300 gross tonnage and upwards that are engaged on foreign voyages and fitted with a radio installation shall carry on board an up-to-date paper copy of the International Code of Signals.

#### 3. *Signals to be used in distress situations*

1. Ships operating in trade area Small coasting or greater trade area shall have a table of signals as illustrated in the International Code of Signals readily available on board. The signals shall be used for distress communication with life-saving stations, maritime rescue units and aircraft engaged in search and rescue operations.
2. International distress signals shall only be used for the purpose of indicating that a person or persons are in distress.
3. The use of signals which may be confused with an international distress signal in situations other than distress situations is prohibited.

#### 4. *Ice Patrol Service*

Ships which pass through waters guarded by the Ice Patrol during the ice season are required to make use of the services provided by the Ice Patrol.

#### 5. *Danger messages*

1. The master shall warn vessels in the vicinity and relevant authorities of:
  - a. areas with dangerous ice, a dangerous derelict, or any other direct danger to navigation;
  - b. a tropical storm;
  - c. sub-freezing air temperatures associated with gale force winds causing ice accretion;
  - d. winds of force 10 or above on the Beaufort scale for which no storm warning has been issued.
2. Messages pursuant to item 1 shall be transmitted in English or in accordance with the International Code of Signals. The information in the danger message shall comply with the International Convention for the Safety of Life at Sea, 1974 (SOLAS) Chapter V regulation 32 as adopted by Resolution MSC.99(73).

#### 6. *Operation of steering gear*

When the steering gear has more than one power unit capable of simultaneous operation, at least two of the power units shall be in operation in waters where navigation demands special caution.

#### 7. *Steering gear – testing and drills*

1. On ships which regularly engage on voyages not exceeding 1,000 nautical miles between the port of departure and the final port of destination, the crew the steering gear shall be checked and tested by the crew at least once every week.
2. The operation of the steering gear shall be tested in accordance with the ship's procedure, and the procedure shall include:
  - a. the main steering gear;
  - b. the auxiliary steering gear;
  - c. steering positions not located on the navigation bridge;

- d. the steering positions located on the navigation bridge;
- e. the emergency power supply;
- f. the rudder angle indicators in relation to the actual position of the rudder;
- g. the remote steering gear control system power failure alarms;
- h. the steering gear power unit failure alarms;
- i. automatic isolating arrangements and other automatic equipment.

3. The testing pursuant to the second paragraph shall demonstrate that the rudder has full movement according to the required capabilities of the steering gear and that the means of communication between the navigation bridge and steering gear compartment is working. In addition, a visual inspection of the steering gear's connecting linkage shall be carried out.

4. Emergency steering drills shall take place at least every three months. The drills shall include direct control of the rudder from within the steering gear compartment and the communications procedure with the navigation bridge. The emergency steering drill shall include operation of alternative power supplies, where applicable.

5. Simple operating instructions showing the change-over procedures for the remote control systems shall be posted on the navigation bridge and in the steering gear compartment. Crew concerned with the operation and maintenance of steering gear shall be familiar with the operation of and the procedures for changing from one system to another.

6. On ships which regularly engage on voyages exceeding 1,000 nautical miles between the port of departure and the final port of destination, the steering gear shall be checked and tested by the crew within 12 hours of departure.

## 8. *Wheelhouse design*

A ship's wheelhouse must be designed and constructed in compliance with SOLAS Chapter V regulation 15 as adopted by Res. MSC.99(73). For ships of 12 metres in overall length and upwards, the following shall also apply:

- a. The size and layout of the wheelhouse shall be such that navigational aids and equipment may be installed and operated in a proper manner.
- b. The headroom in wheelhouses shall be at least 2250 mm measured from the top of the floor to the underside of the deckhead beams. The headroom requirement does not apply where the reflector device of the magnetic compass is installed. Where instruments are located beneath the wheelhouse ceiling, there shall be a headroom of no less than 2,100 mm so that there is unobstructed visibility and free passage underneath the instruments.

## 9. *Visibility from wheelhouse*

1. Ships of 12 metres in overall length and upwards with a wheelhouse constructed on or after 1 July 1998, shall:

- a. from the conning position have a view of the sea surface which is not obscured by more than two ship lengths forward of the bow to 10° on either side, and shall not have individual blind sectors exceeding 5° under all conditions of draught, trim and deck cargo;
- b. from the conning position not have blind sectors exceeding 10° that are caused by cargo, cargo gear or other objects outside of the wheelhouse forward of the beam which obstructs the view of the sea surface. The total arc of blind sectors shall not exceed 20° and the clear sector between two blind sectors shall be at least 5°;
- c. 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;
- d. have a clear view forward from the wheelhouse;
- e. not have polarised or tinted windows;
- f. maintain a view of the ship's side while manoeuvring; This requirement may be satisfied by a camera solution;
- g. have the height of the lower edge of the wheelhouse front windows above the bridge deck kept as low as possible, and in no case so that the forward view is obstructed;
- h. from the upper edge of the wheelhouse front windows have a forward view of the horizon for a person with a height of eye of 1,800 mm above the deck in the wheelhouse at the conning position when the ship is pitching in heavy seas, or 1,600 mm where a 1,800 mm height of eye is structurally impractical;
- i. in at least one of the front windows have installed a clear vision screen or a window heater with freshwater rinsing and window wiper. Depending on the wheelhouse construction, more such windows shall be installed if necessary, so that the view forward and to the sides is clear at all times and in all weather conditions;
- j. have framing of a minimum width between the navigation bridge windows. The framing cannot be installed immediately forward of any workstation.

2. Ships of 12 metres in overall length and upwards with wheelhouse constructed before 1 July 1998 shall meet the requirements of item 1 subparagraphs a and b, unless this requires structural alterations or additional equipment.

3. Ships that in the opinion of the Norwegian Maritime Authority cannot comply with the requirements of item 1, shall have arrangements ensuring a level of visibility from the bridge that is as near as practicable to the requirements.

## 10. *Navigational aids*

1. Ships shall have the following navigational aids on board:

Navigational aids	Domestic voyages		Foreign voyages	
	Overall length (LOA)	Gross tonnage	Overall length (LOA)	Gross tonnage
Magnetic compass class B		< 150		< 150
Global Navigation Satellite System (GNSS)	> 8 m		All	All
Radar reflector, refer to item 10.4	< 12 m		< 12 m	
Standard magnetic compass class A, refer to item 12.1		≥ 150		≥ 150
Direction-finding device				≥ 150
Spare magnetic compass, refer to item 16		≥ 150		≥ 150
BNWAS, refer to item 13	≥ 12 m		> 12 m	≥ 150
AIS class A, refer to item 14	≥ 12 m		> 12 m	≥ 300
Daylight signalling lamp				≥ 150
Radar 9 GHz (3 cm) with an Electronic Plotting Aid (EPA)		≥ 300		≥ 300
Transmitting heading device (TDH)		≥ 300		≥ 300
Echo-sounding equipment		≥ 300		≥ 300
Log indicating the speed through the water				≥ 300

2. Ships with an emergency steering position shall be provided with equipment for communicating heading information to the emergency steering position.

3. Navigational equipment and systems offering alternative modes of operation shall indicate the actual mode of use.

4. Ships of less than 12 metres in overall length shall have a radar reflector or a radar reflectivity enabling detection by ships navigating by radar at both 9 and 3 GHz.

5. In lieu of a class A standard magnetic compass, ships of less than 300 gross tonnage engaged on domestic voyages may have a class B magnetic compass in combination with THD connected to emergency power.

6. Ships of less than 15 metres in overall length may keep a magnetic compass of the standard applicable at the time when the compass was brought on board, until it is replaced.

7. GNSS-THD or gyro compass may be used as an alternative to the spare magnetic compass.

8. Ships of less than 300 gross tonnage and of 12 metres in overall length and upwards shall comply with the requirement for AIS class A not later than 1 July 2023. Ships of less than 300 gross tonnage and of 12 metres in overall length and upwards having AIS class B which is brought on board prior to the entry into force of these Regulations, shall comply with the requirement for AIS class A not later than 1 January 2027.

9. Ships of less than 150 gross tonnage and of 12 metres in overall length and upwards shall comply with the requirement for BNWAS not later than 1 July 2023.

## 11. *Nautical charts and nautical publications*

1. The intended voyage shall be planned prior to departure.

2. Ships shall have up-to-date official nautical charts and nautical publications for the planned voyage available on board, so that the positions can be plotted and monitored throughout the voyage. Electronic chart display and information system (ECDIS) with backup may be used in order to meet the requirement of having up-to-date official nautical charts. The nautical publications referred to in the first sentence can be digital, cf. SLS.14/Circ.213.

3. A chart machine with backup of a type approved by the Norwegian Maritime Authority may be used on ships engaged on domestic voyages in order to meet the requirement to have up-to-date official nautical charts, cf. second paragraph. If the ship is provided with a gyro compass, THD or a log indicating the speed through the water, such devices shall be wheel-marked and connected to the chart machine.

4. Ships using paper charts shall have a chart table installed in the wheelhouse.

5. Ships of less than 8 metres in overall length may use a chart plotter with charts based on chart data from the Norwegian Mapping Authority.

## 12. *Magnetic compass*

1. The magnetic compass and direction-finding device shall be independent of any power supply.

2. The standard magnetic compass shall be properly adjusted and display the reading at the main steering position of the ship.
3. It shall be possible to use the direction-finding device to take bearings over an arc of the horizon of 360°.
4. Ships with a standard magnetic compass shall have a deviation table or curves for correcting heading and bearings to true.

### 13. *Bridge navigational watch alarm system*

The bridge navigational watch alarm system (BNWAS) shall not be opened when the ship is underway.

### 14. *Automatic Identification System (AIS)*

1. AIS shall be in operation at all times, except where international agreements, rules or standards provide for the protection of navigational information.
2. AIS shall be tested in connection with the annual radio survey. The test shall verify the programming of the ship's static information, correct data exchange with connected sensors and the radio performance by radio frequency measurement and on-air test (for instance using a Vessel Traffic Service (VTS)). One copy of the test report shall be kept on board.

### 15. *Global satellite-based system for identification and tracking of ships (LRIT)*

1. Information about identity and position (latitude and longitude), as well as the date and time of the position provided shall be transmitted automatically in the LRIT (Long Range Identification and Tracking) system from ships of 300 gross tonnage and upwards engaged on foreign voyages outside sea area A1.
2. Systems and equipment used to meet the LRIT requirements shall be capable of being switched off on board or be capable of ceasing the distribution of LRIT information where:
  - a. international agreements provide for the protection of navigational information; or
  - b. the master considers it necessary for the safety or security of the vessel.
3. If the transmission of LRIT information is stopped pursuant to the second paragraph subparagraph b, the master shall inform the Norwegian Maritime Authority.

### 16. *Spare magnetic compass*

Spare magnetic compasses shall comply with the requirements of section 12.2.

### 17. *Integrated navigation and bridge systems*

1. Integrated bridge systems on ships shall be so arranged that failure of one sub-system is brought to the immediate attention of the navigator in charge of the watch by audible and visual alarms and does not cause failure to any other sub-system.
2. In case of failure in one part of an integrated navigational system, it shall be possible to operate each other individual item of equipment or part of the system separately.