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STATUTORY INSTRUMENTS

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**1993 No. 69**

**The Merchant Shipping (Navigational  
Equipment) Regulations 1993**

**PART I**

**GENERAL**

**Provision of navigational equipment installations**

**3.—**(1) Every ship shall be fitted with a magnetic compass installation which shall comply with Part II of these Regulations.

(2) Every ship of 500 tons or over but less than 1600 tons constructed on or after 1st September 1984 shall:

- (a) be fitted with a gyro compass installation which shall comply with Part III of these Regulations;
- (b) be fitted with a radar installation which shall comply with Part IV of these Regulations. From 1st February 1995 the radar installation shall be capable of working in the 9 GHz frequency band;
- (c) be fitted with indicators showing the rudder angle, the rate of revolution and direction of thrust of each propeller and, 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 normal navigation control position.

(3) Every ship of 500 tons or over but less than 1600 tons when engaged on an international voyage shall:

- (a) if constructed on or after 25th May 1980 be fitted with an echo sounder installation which shall comply with Part V of these Regulations;
- (b) if constructed on or after 1st September 1984 be fitted with a speed and distance measuring installation which shall comply with Part VI of these Regulations.

(4) Every ship of 1600 tons or over, whenever constructed, shall:

- (a) be fitted with a gyro compass installation which shall comply with Part III of these Regulations: Provided that this requirement shall apply to ships constructed before 1st September 1984, only when engaged on international voyages;
- (b)
  - (i) if less than 10,000 tons, be fitted with a radar installation which shall comply with Part IV of these Regulations. From 1st February 1995 the radar installation shall be capable of working in the 9 GHz frequency band;
  - (ii) if of 10,000 tons or over, be fitted with two radar installations, each capable of being operated independently of the other which shall comply with Part IV of these Regulations. From 1st February 1995, at least one of the radar installations shall be capable of operating in the 9 GHz frequency band;

- (c) be fitted with indicators showing the rudder angle, the rate of revolution and direction of thrust of each propeller and, 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 normal navigation control position.
- (5) Every ship of 1600 tons or over when engaged on an international voyage shall:
  - (a) whenever constructed, be fitted with an echo sounder installation which shall comply with Part V of these Regulations;
  - (b) if constructed on or after 1st September 1984 be fitted with a speed and distance measuring installation which shall comply with Part VI of these Regulations;
  - (c) whenever constructed, be fitted with a direction finder installation which shall comply with Part VII of these Regulations;
  - (d) until 1st February 1999, if constructed on or after 25th May 1980 and before 1st February 1995, be fitted with radio equipment for homing on the radiotelephone distress frequency which shall comply with Part VIII of these Regulations.
- (6) Every United Kingdom ship having a Passenger Certificate of Class II(A) or III shall either—
  - (a) be fitted with an echo sounder installation which shall comply with Part V of these Regulations; or
  - (b) be provided with—
    - (i) two hand lead lines each 45 metres long and each with a lead weighing at least 3 kilograms; and
    - (ii) in the case of a ship of 1600 tons or over having a Passenger Certificate of Class II(A), an efficient mechanical depth sounding device.
- (7) Every ship of 10,000 tons or over shall be fitted with an automatic radar plotting aid which shall comply with Part IX of these Regulations:

provided that this requirement shall not apply to ships, other than tankers, of less than 15,000 tons constructed before 1st September 1984.

(8) After 1st February 1995, passenger ships irrespective of size and cargo ships of 300 tons 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. This radar may be one of those required by regulations 3(2)(b) or 3(4)(b).

(9) Every ship of 100,000 tons or over constructed on or after 1st September 1984 shall be fitted with a rate of turn indicator which shall comply with Part X of these Regulations.

### **Serviceability of installations**

4.—(1) Each navigational equipment installation required by these Regulations to be provided shall be in a satisfactory working condition whenever the ship goes to sea:

provided that, except in respect of magnetic compass, direction-finding and homing installations, this requirement shall not apply when a ship is going to sea from a place at which prompt maintenance is not available or practicable without delaying the ship.

(2) Each navigational equipment installation required by these Regulations shall be in a satisfactory working condition at all times when the ship is at sea, unless there is a defect in an installation and maintenance is being carried out or is not practicable.

(3) Each navigational equipment installation required by these Regulations shall, where practicable, be mounted in such a manner as to prevent the performance and reliability of the installation being adversely affected by vibration.

(4) Units of each navigational equipment installation required by these Regulations shall, where practicable, be sited in positions which facilitate easy access for operation and maintenance.

### **Interference with other installations**

5.—(1) At no time while the ship is at sea shall any interference or mechanical noise produced by any navigational equipment installation required by these Regulations be such as to prevent the effective reception of radio signals.

(2) At no time while the ship is at sea shall any interference or mechanical noise produced by any equipment in the ship be sufficient to prevent the efficient operation of any navigational equipment installation required by these Regulations.

(3) Units of navigational equipment installations, where practicable, shall not be installed closer to the ship's standard and steering compasses than the appropriate compass safe distances marked on the units.

### **Provision of electrical energy**

6.—(1) There shall be provided in every ship at all times while the ship is at sea and at all reasonable times when she is in port, a supply of electrical energy suitable and sufficient for the operation of the navigational equipment installations required by these Regulations, for testing purposes and for the charging of any rechargeable batteries which are a source of electrical energy for the navigational equipment installations.

(2) The supply of electrical energy shall not exceed the limits set out below:

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AC supplies:	variation from nominal voltage of $\pm 10\%$ variation from nominal frequency of $\pm 6\%$
DC supplies:	variation from nominal voltage: 110/220V supplies, $+10\%$ , $-20\%$ 24/32V supplies, $+30\%$ , $-10\%$

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(3) Readily accessible means shall be provided for isolating each navigational equipment installation from its source of electrical energy without causing any interruption to, or adversely affecting, the supply of electrical energy to any other equipment.

(4) Where a ship is required to be provided with two radar installations—

- (a) they shall be so installed that failure of either radar installation shall not cause the supply of electrical energy to the other radar installation to be interrupted or adversely affected; and
- (b) on ships constructed on or after 25th May 1982, both radar installations shall be capable of being operated one at a time, from the ship's emergency source of electrical energy, if provided.

### **Charging of batteries**

7.—(1) If rechargeable batteries are provided on a ship as a source of electrical energy for any part of the navigational equipment installations, adequate means shall be provided on board the ship for the charging of such batteries from the ship's main source of electrical energy.

(2) Any such battery when not in use shall be capable of being fully charged within a period of not more than 16 hours by the means of charging required by paragraph (1) of this regulation.

(3) When any such battery is float-charged whilst in use, the voltage used for charging the battery shall be within the limits set out in regulation 6(2) above.

(4) If any navigational installation derives electrical energy for internal circuits from non-rechargeable batteries, failure of such batteries, where practicable, shall not cause malfunction of the installation. Where this is not practicable, the installation shall be provided with means to test the condition of such batteries.

### **Servicing and operating information**

8. Adequate information and instructions as to the use and maintenance of every navigational equipment installation required by these Regulations shall be provided by the owner and shall be available at all times for use when the particular installation is being operated, tested or serviced. In United Kingdom ships such information and instructions shall be in English.

### **Spares and tools**

9. For each navigational equipment installation required by these Regulations there shall be supplied such special tools and equipment as are necessary for shipboard maintenance and such spares as are likely to be required for the duration of the intended voyage.

### **Approval of navigational equipment**

10.—(1) Navigational equipment required by these Regulations shall be of a type which has been approved by the Secretary of State:

Provided that in the case of a ship registered in a State party to the Safety of Life at Sea Convention 1974 this requirement shall not apply in relation to any equipment of a type approved by the Administration of that State.

(2) Any approval given by the Secretary of State pursuant to these Regulations shall be given in writing and shall specify the conditions (if any) on which it is given.