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 STATUTORY INSTRUMENTS
 

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1984 No. 1219

## MERCHANT SHIPPING

## SAFETY

**The Merchant Shipping (Cargo Ship Construction and Survey)  
Regulations 1981 (Amendment) Regulations 1984**

<i>Made - - - -</i>	<i>2nd August 1984</i>
<i>Laid before Parliament</i>	<i>10th August 1984</i>
<i>Coming into Operation</i>	<i>1st September 1984</i>

The Secretary of State after consulting with the persons referred to in section 22(2) of the Merchant Shipping Act 1979 (a), in exercise of the powers conferred on him by subsection (1)(a) paragraphs (a), (d), (f), (g), (p) and (q) of subsection (3), (4)(a) and (5) of section 21 and by section 22(1)(a) and (c) of that Act and of all other powers enabling him in that behalf, hereby makes the following Regulations:—

1. These Regulations may be cited as the Merchant Shipping (Cargo Ship Construction and Survey) Regulations 1981 (Amendment) Regulations 1984 and shall come into operation on 1st September 1984.

2. The Merchant Shipping (Cargo Ship Construction and Survey) Regulations 1981 (b) shall be amended as follows:—

(1) In regulation 1(3)(a) after the words “paragraphs (4)” there shall be inserted “, (6A)”;

(2) In regulation 1(4) in each of subparagraphs (b) and (c) the words “paragraph (7)” shall be replaced by “paragraphs (6A) and (7)”;

(3) In regulation 1(5) after the words “paragraph (6)” there shall be inserted “and (6A)”;

(4) In regulation 1, after paragraph (6) there shall be inserted:

“(6A) (i) These Regulations shall in relation to United Kingdom ships apply only to ships the keels of which were laid or which were at a similar stage of construction before 1st September 1984.

(ii) For the purpose of this regulation “a similar stage of construction” means the stage at which:

- (a) construction identifiable with a specific ship begins; and
- (b) assembly of that ship has commenced comprising at least 50 tonnes or one per cent of the estimated mass of all structural material whichever is less.”;

(5) In regulation 1, after paragraph (8) there shall be added:

“(9) United Kingdom ships which undergo repairs, alterations, modifications and outfitting related thereto shall comply with the

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 (a) 1979 c.39.

(b) S.I. 1981/572.

requirements of the Merchant Shipping (Cargo Ship Construction and Survey) Regulations 1984<sup>(a)</sup> to at least the same extent as they did before undergoing such repairs, alterations, modifications or outfitting. United Kingdom ships which undergo repairs, alterations and modifications of a major character shall meet the requirements of the Merchant Shipping (Cargo Ship Construction and Survey) Regulations 1984 in so far as the Secretary of State deems reasonable and practicable except where such repairs, alterations and modifications were commenced before or were carried out pursuant to a contract entered into before these regulations came into operation.”;

(6) In regulation 34(1) (Compasses) the words “which is not a United Kingdom ship” shall be added after the words “every ship to which these Regulations apply”;

(7) In regulation 38 the following shall be added as paragraph (2):—

“(2) Regulations 39 to 41 apply only to ships which are not United Kingdom ships; regulations 41A to 41E apply only to United Kingdom ships.”;

(8) There shall be inserted after regulation 41 the following:—

“**41A.** For the purposes of this section:—

“Auxiliary steering gear” means the equipment which is provided for effecting movement of the rudder for the purpose of steering the ship in the event of failure of the main steering gear.

“Main steering gear” means the machinery, rudder actuators, steering gear power units, if any, and ancillary equipment and the means of applying torque to the rudder stock (e.g. tiller or quadrant) necessary for effecting movement of the rudder for the purpose of steering the ship under normal service conditions.

“Power actuating system” means the hydraulic equipment provided for supplying power to turn the rudder stock, comprising a steering gear power unit or units, together with the associated pipes and fittings, and a rudder actuator. The power actuating systems may share common mechanical components, i.e. tiller, quadrant and rudder stock, or components serving the same purpose.

“Steering gear control system” means the equipment by which orders are transmitted from the navigating bridge to the steering gear power units. Steering gear control systems comprise transmitters, receivers, hydraulic control pumps and their associated motors, motor controllers, piping and cables.

**41B.** In every tanker (including chemical tankers and gas carriers) of 10,000 tons and over:—

- (a) two steering gear control systems shall be provided, each of which shall be capable of being operated separately from the navigating bridge. Duplication of the steering wheel or lever is not required;
- (b) in the event of failure of the steering gear control system in operation, the other system shall be capable of being brought into immediate operation from a position on the navigating bridge;
- (c) each steering gear control system, if electric, shall be served by its own separate circuit supplied from a steering gear power circuit from a point within the steering gear compartment, or directly

(a) S.I. 1984/1217.

from switchboard busbars supplying that steering gear power circuit at a point on the switchboard adjacent to the supply to the steering gear power circuit;

- (d) in the event of failure of electrical power supply to a steering gear control system, an alarm shall be given on the navigating bridge which shall be audible and visual and situated where it can be readily observed;
- (e) means for control of the main steering gear shall be provided in the steering gear compartment;
- (f) means shall be provided in the steering gear compartment to disconnect the steering gear control system from the steering gear it serves;
- (g) means of communication shall be provided between the navigating bridge and the steering gear compartment;
- (h) the rudder angle indication system on the navigating bridge shall be independent of the steering gear control system;
- (i) the angular position of the rudder shall be recognisable in the steering gear compartment;

**41C.** On and after 1st September 1986 in every tanker (including chemical carriers and gas carriers) of 10,000 tons and over:—

- (a) a low level alarm shall be provided for each hydraulic fluid reservoir to give the earliest practicable indication of hydraulic fluid leakage. Audible and visual alarms shall be given on the navigating bridge and in the machinery space where they can be readily observed;
- (b) a fluid storage tank shall be provided having sufficient capacity to recharge at least one power actuating system including the reservoir. The storage tank shall be permanently connected by piping in such a manner that the hydraulic systems can be readily recharged from a position within the steering gear compartment and shall be provided with a contents gauge;
- (c) the steering gear compartment shall be provided with suitable arrangements to ensure working access to the steering gear machinery and controls. These arrangements shall include hand-rails and gratings or other non-slip surfaces to ensure suitable working conditions in the event of hydraulic fluid leakage.

**41D.** On and after 1st September 1988, in every tanker (including chemical carriers and gas carriers) of 40,000 tons and over the steering gear shall be so arranged that, in the event of a single failure of the piping or of one of the power units, steering capability can be speedily regained. This shall be achieved by:—

- (a) an independent means of restraining the rudder, or
- (b) fast acting valves, which may be manually operated, to isolate the actuator or actuators from the external hydraulic piping together with a means of directly refilling the actuators by a fixed independent power-operated pump and piping system, or
- (c) an arrangement such that, where hydraulic power systems are interconnected, loss of hydraulic fluid from one system shall be detected and the defective system isolated either automatically or from the navigating bridge so that the other system remains fully operational.

**41E.**—(1) The provisions of this regulation shall apply to every tanker (except chemical tankers and gas carriers) of 10,000 tons or over;

- (a) for which the building contract was placed after 1st June 1979; or
- (b) in the absence of a building contract, the keel of which was laid or which was at a similar stage of construction after 1st January 1980; or
- (c) the delivery of which was after 1st June 1982; or
- (d) which has undergone an alteration or modification of a major character;
  - (i) for which the contract was placed after 1st June 1979; or
  - (ii) in the absence of a contract, the construction work of which was begun after 1st January 1980; or
  - (iii) which was completed after 1st June 1982.

(2) The main steering gear shall comprise two or more identical power units and it shall be capable of operating the rudder as required by regulation 32(2)(b) of these Regulations while operating with one or more power units. As far as reasonable and practicable, the main steering gear shall be so arranged that a single failure in its piping or in one of the power units will not impair the integrity of the remaining part of the steering gear. All mechanical components which are part of the steering gear and the mechanical connection with any steering gear control system, if any, shall be of sound construction.

(3) The main steering gear power units shall be arranged to start automatically when power is restored after a power failure.

(4) In the event of failure of any of the steering gear power units, means shall be provided to ensure that an alarm shall be given on the navigating bridge. Every steering gear power unit shall be capable of being brought into operation either automatically or manually from a position on the navigating bridge.

(5) An alternative power supply, at least sufficient to supply a steering gear power unit so as to enable it to move the rudder as specified below, and also to supply its associated steering gear control system and the rudder angle indicator, shall be provided, automatically, within 45 seconds, either from the emergency source of electrical power, or from another independent source of power located in the steering gear compartment. This independent source of power shall be used only for this purpose and shall have a capacity sufficient for half an hour of continuous operation. The steering gear power unit, when being supplied by the alternative power supply, shall at least be capable of putting the rudder over from 15 degrees on one side to 15 degrees on the other side in not more than 60 seconds with the ship at its deepest sea-going draught while running at one half of its maximum service speed ahead or 7 knots, whichever is the greater.”;

(9) Parts IV and V shall be amended as follows:—

- (a) In Parts IV and V, after the words “every ship” in regulations 71(1), 72(3), 74(1), 74(3), 75(1), 76(1), there shall be added the words “which is not a United Kingdom ship”, and after the words “every tanker” in regulation 72(1) there shall be added “which is not a United Kingdom tanker”;
- (b) There shall be added after regulation 74 the following:—

*“Surveys before issue of a cargo ship safety construction certificate*

**74A.**—(1) The owner of every United Kingdom ship to which these Regulations apply shall cause the same to be surveyed on completion and thereafter at intervals not exceeding five years by a surveyor appointed by a Certifying Authority.

(2) Subject to the provisions of paragraph (3) of this regulation the surveyor shall survey the ship to satisfy himself that the arrangements, materials and scantlings of the structure including the sea connections, overboard discharge valves and other ship side fittings, the boilers and other pressure vessels and their appurtenances (other than domestic boilers having a heating surface of 5 square metres or less and a working pressure of 3.5 bar gauge or less and other domestic pressure vessels having such a working pressure), main and auxiliary machinery including steering gear and associated control systems, electrical installations and other equipment comply with the requirements of these Regulations and are in all respects satisfactory for the service for which the ship is intended, having regard to the period for which the cargo ship safety construction Certificate in respect of the ship is to be issued. The survey of the lower external areas of the hull of all ships including the sea connections, overboard discharge valves and other ship side fittings and the rudder shall be carried out whilst the ship is in dry-dock. The survey shall also, in the case of tankers, include an inspection of the pump rooms, cargo piping systems, vent piping, pressure/vacuum valves and flame arresting devices.

(3) The Certifying Authority may, on any ship that becomes subject to regulations 1(3)(a) or 1(5)(a) of these Regulations by change of registry, issue a certificate under these Regulations if it is satisfied that these Regulations are complied with and the appropriate surveys have been conducted within the periods specified in these Regulations.

*Intermediate surveys*

**74B.**—(1) The owner of every United Kingdom tanker of ten years of age and over shall, so long as the certificate remains in force, cause the ship to be subjected to an intermediate survey carried out in the manner specified in paragraph (3) of this regulation at least once during the period of validity of the certificate for the purpose of seeing whether the certificate should remain in force, and if the ship is not so surveyed the Secretary of State may cancel the certificate. Where only one such intermediate survey is made, the survey shall be made not more than six months before, nor later than six months after, the half way date of the period of validity of the cargo ship safety construction certificate. In no case shall the period between the surveys so required exceed three years. The age of a tanker shall be determined from the year of build as indicated on the ship's certificate of registry.

(2) The owner of every United Kingdom ship to which Part III of these Regulations applies and in respect of which a cargo ship safety construction certificate has been issued, shall, so long as the certificate remains in force, cause the ship to be surveyed not more than six months before, nor later than six months after, the half way date of the period of validity of the cargo ship safety construction certificate by a surveyor in the manner specified in paragraph (4) of this regulation for the purpose of seeing whether the certificate should remain in force, and if the ship is not so surveyed the Secretary of State may cancel the certificate.

(3) The intermediate surveys to be carried out under paragraph (1) of this regulation shall be in accordance with the procedures specified by the Secretary of State in Merchant Shipping Notice No. M 1134.

(4) The surveys to be carried out under paragraph (2) of this regulation shall be to establish that the following equipment and materials are maintained in a satisfactory manner;

- (a) insulation of 'A' Class divisions and integrity of 'A' Class and 'B' Class divisions;
- (b) doors fitted in 'A' Class and 'B' Class divisions and their self-closing devices;
- (c) fittings by which doors in 'A' Class and 'B' Class divisions can be remotely released;
- (d) arrangement and insulation of ventilation ducts.

#### *Periodic Surveys*

**74C.**—(1) The owner of every United Kingdom ship in respect of which a cargo ship safety construction certificate has been issued shall, so long as the certificate remains in force, cause the ship to be periodically surveyed in the manner and at the intervals specified in paragraph (2) of this regulation for the purpose of seeing whether the certificate should remain in force, and if the ship is not so surveyed the Secretary of State may cancel the certificate.

(2) The periodic surveys to be carried out under paragraph (1) of this regulation shall be as follows:—

- (a) The lower external areas of the hull structure, the rudder, the fastenings of the sea connections, the fastenings of overboard discharge valves and other ship side fittings shall be examined at least once during the period of validity of the certificate. This examination shall be conducted whilst the ship is out of the water except that, subject to the approval of the Secretary of State, it may be carried out whilst the ship is afloat. Where only one such examination is made it shall be conducted not more than six months before nor later than six months after the half way date of the period of validity of the certificate. In no case shall the period between the surveys so required exceed three years.
- (b) Steam heated steam generators in any ship and the water-tube boilers supplying steam for main propulsion purposes in ships fitted with either;
  - (i) more than one such water-tube boiler, or
  - (ii) a single such water-tube boiler and auxiliary means of maintaining adequate power for safe navigation in the event of failure of that boiler,
 shall be examined internally and externally at intervals not exceeding two years.
- (c) Auxiliary water-tube boilers which the Certifying Authority is satisfied are being given correct feed water treatment with proper boiler water analysis shall be examined internally and externally at intervals not exceeding two years.
- (d) All other boilers including exhaust-gas boilers, superheaters, economisers and domestic boilers (other than domestic boilers having a heating surface of not more than five square metres and a

working pressure not more than 3.5 bar gauge) shall be examined internally and externally at intervals not exceeding two years until they are eight years old and thereafter annually.

- (e) Propeller shafts and tube shafts driving screw propellers other than those detailed in sub-paragraphs (2)(f) and (2)(g) of this regulation shall be withdrawn and surveyed at intervals not exceeding two years and six months. The Certifying Authority may extend the interval to three years when it considers that it is safe so to do.
- (f) Tube shafts fitted with continuous liners or running in oil which have been designed to reduce stress concentration shall be withdrawn and surveyed at intervals not exceeding five years.
- (g) Propeller shafts fitted with continuous liners or running in oil, shall, subject to sub-paragraphs (2)(h) and (2)(i) of this regulation, be withdrawn and surveyed at intervals not exceeding five years if;
  - (i) the shaft and the keyway have been designed to reduce stress concentration, or
  - (ii) the shaft is fitted with a keyless screw propeller, or
  - (iii) the screw propeller is attached to the shaft by a bolted flange.
- (h) The Certifying Authority may permit a propeller shaft of the type detailed in sub-paragraph (2)(g) (i) of this regulation that runs in oil and is protected from sea water to be withdrawn for survey at intervals not exceeding seven years and six months provided that at least one satisfactory examination is made in accordance with Part 1 of Schedule 2 of these Regulations whilst the ship is in dry dock not less than four years or more than five years after the previous survey required by this regulation, or regulation 74A of these Regulations.
- (i) The Certifying Authority may permit a propeller shaft of the type detailed in sub-paragraphs (2)(g) (ii) or (2)(g) (iii) of this regulation that runs in oil and is protected from sea water to be withdrawn for survey at intervals not exceeding ten years provided that at least one satisfactory examination is made in accordance with Part 2 of Schedule 2 of these Regulations whilst the ship is in dry dock not less than four years and six months or more than five years and six months after the previous survey required by this regulation or regulation 74A of these Regulations.

#### *Annual surveys*

**74D.**—(1) The owner of every ship in respect of which a cargo ship safety construction certificate has been issued shall, subject to the requirements of paragraph (2) of this regulation and so long as the certificate remains in force, cause the ship to be subjected to an annual survey carried out in the manner specified in paragraph (3) of this regulation for the purpose of seeing whether the certificate should remain in force, and if the ship is not so surveyed the Secretary of State may cancel the certificate. The survey shall be carried out within three months before or after the anniversary date of the cargo ship safety construction certificate.

(2) An annual survey in accordance with paragraph (1) of this regulation shall not be required in respect of any tanker of ten years of age and over in any year in which it has been surveyed in accordance with regulation 74A(1) within three months before or after the anniversary

date of the cargo ship safety construction certificate. The age of a tanker shall be determined from the year of build as indicated on the ship's certificate of registry.

(3) The surveyor shall, upon receipt of an application, survey the ship in accordance with the procedures specified by the Secretary of State in Merchant Shipping Notice No. M 1134 and shall satisfy himself;

(a) that such of the parts of the ship and its equipment specified in that Merchant Shipping Notice as are the subject of the application for survey remain efficient, and,

(b) that no material alterations have been made in the hull, machinery or equipment of the ship to which the cargo ship safety construction certificate relates without the approval of the Certifying Authority.

*General*

75.—(1) Every application for a survey of a ship under regulations 74A, 74B, 74C or 74D of these Regulations shall be made by or on behalf of the owner of the ship to the Certifying Authority and shall be accompanied by such information relating to the ship as the Certifying Authority may require for the purposes of the survey.

(2) The Certifying Authority shall, on receipt of the application and of any fee payable on such application, cause the survey to be carried out by a qualified surveyor.

(3) On completion of a survey in accordance with the requirements of these Regulations, the surveyor shall, where he is so satisfied;

(a) in the case of a survey before the issue of a cargo ship safety construction certificate as required by regulation 74A(1) of these Regulations, forward to the Certifying Authority a declaration of survey containing such particulars of the ship as are required by the Certifying Authority to enable it to issue a cargo ship safety construction certificate in respect of the ship,

(b) in the case of an intermediate survey as required by regulation 74B(1) of these Regulations, forward a report on the survey to the Certifying Authority and endorse the supplement to the cargo ship safety construction certificate,

(c) in the case of an intermediate survey as required by regulation 74B(2) of these Regulations or a periodic survey as required by regulation 74C of these Regulations, forward a report on the survey to the Certifying Authority,

(d) in the case of an annual survey as required by regulation 74D of these Regulations, endorse the attachment to the cargo ship safety construction certificate.”;

(10) The following Schedule shall be added:—



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## SCHEDULE 2

Regulation 74C(2)

*Examination of propeller shafts*

## PART 1

The examination required to extend the interval between surveys as permitted shall include;

- (1) an inspection of the bearing oil to establish that it is not contaminated by water or debris,
- (2) measurement of the clearance between the shaft bearing and the shaft to ascertain that the wear is negligible,
- (3) removal of the propeller from the shaft to the extent that a full visual and non-destructive crack detection inspection of the shaft by the forward end of the keyway can be made, and
- (4) an inspection of the shaft sealing arrangements to establish that they will remain efficient for the extended period.

## PART 2

The examination required to extend the interval between surveys as permitted shall include;

- (1) an inspection of the bearing oil to establish that it is not contaminated by water or debris,
- (2) measurements of the clearance between the shaft bearing and the shaft to ascertain that the wear is negligible,
- (3) where the propeller is fitted to a taper on the shaft without a key, a visual and non-destructive crack detection examination of the forward part of the taper to establish that corrosion or corrosion cracking has not occurred. Alternative methods of ascertaining that sea water has not penetrated the shaft taper/propeller boss bore and that corrosion or corrosion cracking has not occurred may be accepted by the Certifying Authority,
- (4) where the propeller is attached to the shaft by a bolted flange, a visual and a non-destructive crack detection examination of the shaft flange radii and bolt hole bores and recesses,
- (5) an inspection of the shaft sealing arrangements, which shall require dismantling the aft seals to the extent considered necessary by the Certifying Authority, to establish that they will remain efficient for the extended period, and
- (6) an inspection of the surface of that part of the shaft that normally lies within the aft part of the aft bearing to a distance at least equal to one-half of the shaft diameter.”.

*Nicholas Ridley,*  
Secretary of State  
for Transport.

2nd August 1984.

## EXPLANATORY NOTE

*(This Note is not part of the Regulations.)*

These Regulations amend the Merchant Shipping (Cargo Ship Construction and Survey) Regulations 1981 in relation to United Kingdom ships so that they apply only to existing United Kingdom ships and bring into force in relation to such ships the relevant requirements for existing ships as required by the Amendments to the International Convention for the Safety of Life at Sea 1974. The relevant requirements are in respect of steering systems for tankers (Regulation 2(8) and (9)).

In addition they delete for such ships the compass requirements which have been transferred to the Merchant Shipping (Navigational Equipment) Regulations 1984 (S.I. 1984/1203) and modify the survey requirements (Regulation 2(8) and (10)).

The Merchant Shipping Notices are obtainable from the Department of Transport Marine Library, Sunley House, 90 High Holborn, London WC1V 6LP, and from any Department of Transport Mercantile Marine Office or Marine Survey Office.

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