
STATUTORY INSTRUMENTS

1998 No. 2514

**The Merchant Shipping (Passenger Ship Construction:
Ships of Classes I, II and II(A)) Regulations 1998**

PART VII

ELECTRICAL EQUIPMENT AND INSTALLATIONS

General precautions against shock, fire and other hazards

59.—(1) All electrical equipment shall be so constructed and installed that there will be no danger or injury to any person handling it in a proper manner. Exposed metal parts of electrical equipment which are not intended to have a voltage above that of earth, but which may have such a voltage under fault conditions, shall be earthed unless such equipment is—

- (a) supplied at a voltage not exceeding 50 volts direct current or 50 volts root mean square alternating current between conductors, hereinafter referred to as “RMS ac”, from a source other than an auto-transformer;
- (b) supplied at a voltage not exceeding 250 volts RMS ac by safety isolating transformers supplying only one consuming device; or
- (c) of double insulation construction.

(2) All electrical apparatus shall be constructed and installed so that it will not cause injury when handled or touched in the normal manner. In particular when electrical lamps, welding equipment, tools or other apparatus are used in confined or damp spaces or spaces with large exposed conductive surfaces, special provision shall be made so far as is practicable, to ensure that the danger of electric shock is reduced to a minimum. Such spaces shall at least include open decks and machinery spaces.

(3) Every main and emergency switchboard shall be so arranged as to give easy access for operation and sufficient access for maintenance without danger to any person. Every such switchboard shall be suitably guarded and a non-conducting mat or grating shall be provided at the back and front where necessary. No exposed parts which may have a voltage between conductors or to earth exceeding 250 volts direct current or 50 volts RMS ac shall be installed on the face of any switchboard or control panel.

(4) The hull return system shall not be used in any such ship for the power, heat and light distribution systems thereof.

(5) The final sub-circuits of any hull return system of distribution shall be two wire.

(6) The requirements of paragraphs (4) and (5) do not preclude the use of—

- (a) impressed current cathodic protection systems;
- (b) limited and locally earthed systems; and
- (c) insulation monitoring devices with a maximum circulation current of 30 milliamperes.

(7) The insulation of any distribution system that is not earthed shall be continuously monitored by a system capable of giving audible and visual indication of abnormally low insulation values.

(8) For ships constructed on or after 1st October 1994, [the requirement of] paragraph (4) does not preclude the use of limited and locally earthed systems, provided that any possible resulting current does not flow directly through any dangerous spaces.

(9) Every separate electrical circuit shall be protected against short circuits.

(10) Each separate electrical circuit, other than a circuit which operates the ship's steering gear shall, unless it is permitted otherwise, be protected against overload. There shall be clearly and permanently indicated on or near each overload protective device the current carrying capacity of the circuit which it protects and the rating or setting of the device.

(11) All lighting and power circuits terminating in a cargo space shall be provided with a multiple pole switch outside the space for disconnecting all such circuits.

(12) Accumulator batteries shall be housed in boxes or compartments which are constructed to protect the batteries from damage and are so ventilated as to minimise the accumulation of explosive gas. Subject to regulation 60(1), electrical or other equipment which may constitute a source of ignition of flammable vapours shall not be installed in any compartment assigned to accumulator batteries. Accumulator batteries shall not be installed in sleeping accommodation spaces.

(13) Every electrical space-heater forming part of the equipment of a ship shall be fixed in position and shall be so constructed as to reduce the risk of fire to a minimum. No such heater shall be constructed with an element so exposed that clothing, curtains or other material can be scorched or set on fire by heat from the element.

Additional requirements for ships constructed on or after 1st September 1984

(14) The insulation of any distribution system that is not earthed shall be continuously monitored by a system capable of giving audible and visual indication of abnormally low insulation values.