
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

Main source of electrical power and main switchboards

54.—(1) In every ship a main source of electrical power shall be provided of sufficient capacity to supply all the services referred to in regulation 53(3). The main source of electrical power shall consist of at least two generating sets of such power, that services essential for the propulsion and safety of the ship can be operated when any one of the sets is out of service.

- (a) (2) (a) In any ship with only one main generating station, the main switchboard shall be located in the same space as the main generating sets;
- (b) Where there is more than one main generating station and only one main switchboard, that switchboard shall be located in the same space as one of the main generating stations;
- (c) Where other essential features of the ship render the application of these requirements impracticable, equivalent arrangements may be permitted;
- (d) For the purpose of this paragraph an environmental enclosure for the main switchboard, such as a machinery control room fitted within the boundary of the space, does not provide separation between the generating sets and switchboards.

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

(3) The arrangement of the generating sets required by paragraph (1) shall be such that the services required by regulation 53(3) can be maintained regardless of the speed and direction of rotation of the propulsion machinery or shafting, and that with any one of the sets out of service—

- (a) normal operational conditions of propulsion and safety of the ship and minimum comfortable conditions of habitability including those for cooking, heating, domestic, refrigeration, mechanical ventilation, sanitary and fresh water can be maintained; and
 - (b) from a dead ship condition, the remaining sets are capable of providing the electrical services necessary to start the main propulsion plant. The emergency source of electrical power may be used for this purpose if it is capable of simultaneously supplying the emergency supplies required by these Regulations or is capable of supplying such services when combined with any other source of electrical power.
- (a) (4) (a) Load shedding or other equivalent arrangements shall be provided to protect the generators required by paragraph (1) against sustained overload.
 - (b) Where two or more generating sets may be in operation at the same time for maintaining the auxiliary services essential for the propulsion or safety of the ship, provision shall be made for the sets to operate in parallel.

(5) Any transforming equipment supplying an electrical system referred to in this regulation shall be arranged to ensure the same continuity of supply as that required for generating sets by this regulation.

(6) The main busbars shall be sub-divided in every ship which has a total installed electrical power of the main generating sets in excess of 3 megawatts. Each section of the busbars shall be interconnected by removable links or other suitable means such that the main generating sets and any supplies to duplicated services which are directly connected to the busbars are, so far as is practicable, equally divided between the sections. Other arrangements may be permitted if it can be shown that they can provide equivalent system redundancy.