

(ii) the emergency arrangements to bring the lift cars to deck level for the escape of persons. The passenger lift cars may be brought to deck level sequentially in an emergency.

(g) In a ship engaged regularly on voyages of short duration, the Chief Surveyor if satisfied that an adequate standard of safety would be attained may accept a lesser period than the 36 hour period specified in sub-clause (5)(a) to (5)(e) of this clause but not less than 12 hours.

(6) The emergency source of electrical power may be either a generator or an accumulator battery, which shall comply with the following:

(a) Where the emergency source of electrical power is a generator, it shall be:

(i) driven by a suitable prime mover with an independent supply of fuel having a flashpoint (closed cup test) of not less than 43°C;

(ii) started automatically upon failure of the electrical supply from the main source of electrical power and shall be automatically connected to the emergency switchboard; those services referred to in sub-clause (7) of this clause shall then be transferred automatically to the emergency generating set. The automatic starting system and the characteristic of the prime mover shall be such as to permit the emergency generator to carry its full rated load as quickly as is safe and practicable, subject to a maximum of 45 seconds; unless a second independent means of starting the emergency generating set is provided, the single source of stored energy shall be protected to preclude its complete depletion by the automatic starting system; and

(iii) provided with a transitional source of emergency electrical power according to sub-clause (7) of this clause.

(b) Where the emergency source of electrical power is an accumulator battery, it shall be capable of:

(i) carrying the emergency electrical load without recharging while maintaining the voltage of the battery throughout the discharge period within 12 per cent above or below its nominal voltage;

(ii) automatically connecting to the emergency switchboard in the event of failure of the main source of electrical power; and

(iii) immediately supplying at least those services specified in sub-clause (7) of this clause.

(7) The transitional source of emergency electrical power required by sub-clause (6)(a)(iii) of this clause shall consist of an accumulator battery suitably located for use in an emergency which shall operate without recharging while maintaining the voltage of the battery throughout the discharge period within 12 per cent above or below its nominal voltage and be of sufficient capacity and so arranged as to supply automatically in the event of failure of either the main or emergency source of electrical power at least the following services, if they depend upon an electrical source for their operation:

(a) For half an hour:

(i) the lighting required by sub-clauses (5)(a) and (5)(b) of this clause.

(ii) all services required by sub-clauses (5)(c)(i), (5)(c)(iii) and (5)(c)(iv) of this clause unless such services have an independent supply for the period specified from an accumulator battery suitably located for use in an emergency.

(b) Power to close the watertight doors but not necessarily all of them simultaneously, together with their indicators and warning signals as required by sub-clause (5)(f)(i) of this clause.

(8) The emergency switchboard shall be installed as near as is practicable to the emergency source of electrical power.

(9) Where the emergency source of electrical power is a generator, the emergency switchboard shall be located in the same space unless the operation of the emergency switchboard would thereby be impaired.

(10) No accumulator battery fitted in accordance with this clause shall be installed in the same space as the emergency switchboard. An indicator shall be mounted in a suitable place on the main switchboard or in the machinery control room to indicate when the batteries constituting either the emergency source of electrical power or the transitional source of emergency electrical power referred to in sub-clauses (6)(a)(iii) or (7) of this clause are being discharged.

(11) The emergency switchboard shall be supplied during normal operation from the main switchboard by an interconnector feeder which is to be adequately protected at the main switchboard against overload and short circuit and which is to be disconnected automatically at the emergency switchboard upon failure of the main source of electrical power. Where the system is arranged for feedback operation, the interconnector feeder is also to be protected at the emergency switchboard at least against short circuit.

(12) In order to ensure ready availability of the emergency source of electrical power, arrangements shall be made where necessary to disconnect automatically non-emergency circuits from the emergency switchboard to ensure that electrical power shall be available automatically to the emergency circuits.

(13) The emergency generator and its prime mover and any emergency accumulator battery shall be so designed and arranged as to ensure that they will function at full rated power when the ship is upright and when inclined at any angle of list up to 22.5° or when inclined up to 10° either in the fore or aft direction, or when in any combination of angles within those limits.

(14) Provision shall be made for the periodic testing of the complete emergency system and shall include the testing of automatic starting arrangements.

**63. Supplementary emergency lighting for Ro-Ro Passenger Ships—**(1) In addition to the emergency lighting required by clause 62(5) of this Code, on every passenger ship with ro-ro cargo spaces or special category spaces.

(a) All passenger public spaces and alleyways shall be provided with supplementary electric lighting that can operate for at least three hours when all other sources of electric power have failed and under any condition of heel. The illumination provided shall be such that the approach to the means of escape can be readily seen. The source of power for the supplementary lighting shall consist of accumulator batteries located within the lighting units that are continuously charged, where practicable, from the emergency switchboard. Alternatively, any other means of lighting which is at least as effective may be accepted by the Chief Surveyor. The supplementary lighting shall be such that any failure of the lamp will be immediately apparent. Any accumulator battery provided shall be replaced at intervals having regard to the specified service life in the ambient conditions that they are subject to in service; and

(b) a portable rechargeable battery operated lamp shall be provided in every crew space alleyway, recreational space and every working space which is normally occupied unless supplementary emergency lighting, as required by paragraph (a) above, is provided.

**64. Emergency Source of Electrical Power in Cargo Ships—**(1) A self-contained emergency source of electrical power shall be provided.

(2) The emergency source of electrical power, associated transforming equipment, if any, transitional source of