emergency power, emergency switchboard and emergency lighting switchboard shall be located above the upper-most continuous deck and shall be readily accessible from the open deck. They shall not be located forward of the collision bulkhead, except where permitted by the Chief Surveyor in exceptional circumstances.

(3) The location of the emergency source of electrical power, associated transforming equipment, if any, the transitional source of emergency power, the emergency switchboard and the emergency lighting switchboard in relation to the main source of electrical power, associated transforming equipment, if any, and the main switchboard shall be such as to ensure to the satisfaction of the Chief Surveyor that a fire or other casualty in the space containing the main source of electrical power, associated transforming equipment, if any, and the main switchboard, or in any machinery space of category A will not interfere with the supply, control and distribution of emergency electrical power. As far as practicable the space containing the emergency source of electrical power, associated transforming equipment, if any, the transitional source of emergency electrical power and the emergency switchboard shall not be contiguous to the boundaries of machinery spaces of category A or those spaces containing the main source of electrical power, associated transforming equipment, if any, and the main switchboard.

(4) Provided that suitable measures are taken for safeguarding independent emergency operation under all circumstances, the emergency generator may be used, exceptionally, and for short periods, to supply non-emergency circuits.

(5) The electrical power available shall be sufficient to supply all those services that are essential for safety in an emergency, due regard being paid to such services as may have to be operated simultaneously. The emergency source of electrical power shall be capable, having regard to starting currents and the transitory nature of certain loads, of supplying simultaneously at least the following services for the periods specified hereinafter, if they depend upon an electrical source for their operation:

(a) For a period of 3 hours, emergency lighting at every muster and embarkation station and over the sides as required by the Shipping (Lifesaving Appliances) Regulations 1989.

(b) For a period of 18 hours, emergency lighting:

(i) in all service and accommodation alleyways, stairways and exits, personnel lift cars and personnel lift trunks;

(ii) in the machinery spaces and main generating stations including their control positions;

(iii) in all control stations, machinery control rooms, and at each main and emergency switchboard;

(iv) at all stowage positions for firemen's outfits;

(v) at the steering gear; and

(vi) at the fire pump referred to in paragraph (e) below at the sprinkler pump, if any, and at the emergency bilge pump, if any, and at the starting positions of their motors.

(c) For a period of 18 hours, the navigation lights and other lights required by the Shipping (Distress Signals and Prevention of Collisions) Regulations 1988.

(d) For a period of 18 hours:

(i) all internal communication equipment as required in an emergency;

(ii) the navigational aids as required by the Shipping (Electronic Navigational Equipment) Regulations 1989; where such provision is unreasonable or impracticable the Chief Surveyor may waive this requirement for ships of less than 5,000 gross tonnage;

(iii) the fire detection and fire alarm system; and

(iv) intermittent operation of the daylight signalling lamp, the ship's whistle, the manually operated call points and all internal signals that are required in an emergency;

unless such services have an independent supply for the period of 18 hours from an accumulator battery suitably located for use in an emergency.

(e) For a period of 18 hours one of the fire pumps required by the Shipping (Fire Appliances) Regulations 1989 if depending upon the emergency generator for its source of power.

(f) For the period of time required by clause 45(16) of this Code, the steering gear if required to be so supplied by that clause.

(g) In a ship engaged regularly in 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 18 hour period specified in sub-clauses (5)(b) 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 main source of electrical power supply unless a transitional source of emergency electrical power in accordance with paragraph (iii) below is provided; where the emergency generator is automatically started, it shall be automatically connected to the emergency switchboard; those services referred to in sub-clause (7) of this clause shall then be connected automatically to the emergency generator; and unless a second independent means of starting the emergency generator 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 as specified in sub-clause (7) of this clause, unless an emergency generator is provided capable both of supplying the services mentioned in that sub-clause and of being automatically started and supplying the required load as quickly as is safe and practicable, subject to a maximum of 45 seconds.

(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 where 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 shall be so arranged as to supply automatically in the event of failure of either the main or the emergency source of electrical power for half an hour at least the following services if they depend upon an electrical source for their operation:

(i) the lighting required by sub-clauses (5)(a), (5)(b) and (5)(c) of this clause. For this transitional phase, the required emergency electric lighting, in respect of the machinery space and accommodation and service spaces may be provided by permanently fixed, individual,