

## PART 55.—RADIO APPARATUS.

55-01. (1) The regulations in this Part shall apply to apparatus which is used, or adapted for, radio reception or radio transmission, or both, and which is or which may be in electrical contact with any submain or subcircuit which is connected to a service-main.

(2) The regulations in this Part shall not apply to the fixed wiring on any premises where such apparatus as aforesaid may be installed.

(3) Except as provided in Regulation 55-04 hereof nothing in this Part or any other Parts of these regulations shall apply to any part of the apparatus specified in clause (1) of this regulation beyond the secondary side of the power-transformer where such apparatus is supplied by means of a power-transformer incorporated in such apparatus.

55-02. (1) Nothing in Regulations 21-12 (2), 21-13, 28-11, and 41-11 hereof shall apply to radio apparatus.

(2) Nothing in Regulation 54-24 hereof, so far as the provision for earthing purposes of a separate contact in the plug or a separate conductor within the flexible cord, shall apply to radio apparatus where the earthing-lead used for reception purposes is the only earth with which a person in contact with the metalwork of the radio set can, under normal conditions, make contact, provided that such earthing-lead is used for earthing the metalwork of the radio set.

55-03. No radio material or apparatus shall be used on any circuit having a pressure in excess of  $33\frac{1}{3}$  per cent. greater than that for which it is primarily designed, nor shall it be adapted for such use solely by the insertion of an additional resistance.

55-04. All live parts of any radio apparatus operating under normal working conditions at a pressure in excess of 100 volts shall be adequately insulated, or so protected that accidental personal contact therewith is impossible.

55-05. Auto-transformers may be used only for supply to the primary winding of a double-wound transformer and provided they are enclosed in a case of metal or some tough non-hygroscopic material which is not readily combustible, and provided further that all live parts are enclosed.

55-06. Reactances shall not be used to reduce the pressure of supply for any radio apparatus.

55-07. No single-pole switch mounted on a radio receiving set shall be used to control the power input unless the electrical energy is introduced into the set by means of a non-reversible accessory device. No such switch shall be connected in any neutral conductor or earthed conductor.

55-08. Every radio set, battery-charger, and eliminator shall be adequately protected by a cut-out.

55-09. Every set of radio apparatus other than a battery-charger or eliminator shall be provided with a legible warning notice permanently fixed to the set in a conspicuous position where access to the electrical equipment is provided. This notice shall contain a warning that no internal parts shall be touched until the set has been disconnected from the supply by the withdrawal of the plug or adaptor.

55-10. Where it is reasonably necessary to protect the supply system from high pressure surges, or feed-back, there shall be installed in the supply to each radio transmitting set exceeding  $\frac{1}{4}$  kilowatt input, and as near as possible to each radio transformer, rotary converter, or other auxiliary apparatus some one of the following:—

- (a) A condenser of not less than one-tenth micro-farad capacity and capable of withstanding the test prescribed by Regulation 62-42 hereof and having therewith connected across the line, in parallel with such condenser, a shunting fixed spark-gap capable of not more than  $\frac{3}{8}$  in. separation: or
- (b) A protector of the vacuum-tube type across the line; or
- (c) A lightning-arrester of the aluminium-cell type or other approved type.

## PART 56.—ELECTRIC SIGNS, OUTLINE AND DECORATIVE LIGHTING.

56-01. Electric signs, outline and/or decorative lighting shall be installed in accordance with Regulations 56-02, 56-03, and 56-04 hereof, and with the following requirements:—

- (a) Every such sign shall be accessible for inspection and attention; and
- (b) Every such sign having more than five lamps, and all outline or decorative lighting (other than that on portable signs) and all luminous-discharge-tube electric signs (other than portable signs) shall be connected to subcircuits to which no other lighting is connected, and shall, except as provided in paragraph (c) of Regulation 56-04 hereof, be controlled by a switch in each live conductor; and

(c) Where motor-driven switching and flashing apparatus is installed a special metal enclosure shall be provided for such apparatus and shall be earthed.

56-02. If exposed to the weather, in addition to the requirements of the last preceding regulation,—

- (a) Every such sign shall be weatherproof or alternatively the lamp-holders and the wiring shall be weatherproof; and
- (b) All wiring exposed to the weather (except in the case of high pressure or extra-high pressure wiring for luminous-discharge-tube systems) shall be of cables—
  - (i) Enclosed in steel conduit in accordance with Regulation 45-01 hereof; or
  - (ii) Covered with tough rubber compound in accordance with Regulation 23-71 hereof; or
  - (iii) Metal sheathed in accordance with paragraph (b) of Regulation 23-43 hereof; and

(c) Every such system of outline or decorative lighting (other than luminous-discharge-tube lighting) shall be supplied at extra-low pressure unless the lamp-holders are enclosed or of the weatherproof type.

56-03. (1) In the case of outline and/or decorative lighting or indoor signs in which the lamps are spaced not more than 12 in. apart the maximum number of lamps on any sub-circuit shall be such that the total current supplied from such subcircuit does not exceed 15 amperes.

(2) In the case of outdoor signs each subcircuit supplying an electric lamp sign may be considered as supplying one appliance irrespective of the number of lamps.

(3) In all other cases the installation shall comply with the requirements of Regulation 43-01 hereof.

56-04. In the case of luminous-discharge-tube electric signs, outline and/or decorative lighting, the following conditions shall apply in addition to the requirements of Regulations 56-01, 56-02, and 56-03 hereof:—

- (a) All metal which does not normally carry current shall be earthed, and the earthing-lead shall be adequately protected against damage, disconnection, or corrosion; and
- (b) A legible warning notice shall be placed so as to be readily visible to any one working on or about any high pressure or extra-high pressure connection. This notice shall contain a warning that no internal part shall be touched until the supply has been switched off; and
- (c) Every sign and all outline and decorative lighting, or the submain to the distribution board from which such sign or lighting is supplied, shall be controlled by a separate switch, save that in the case of an indoor sign supplied from a plug-socket the switch may be omitted. Every such switch shall be permanently and conspicuously marked with the words "ELECTRIC SIGN." In the case of outdoor signs the switch shall be mounted on the main switchboard. In all other cases the switch shall be mounted in a conspicuous position easy of access to any fireman; and
- (d) No electrode or electrode lead-wire shall be placed at a less distance than 6 in. from any unprotected combustible material; and
- (e) All tubes shall be substantially supported, and they shall not normally be exposed to mechanical injury; and
- (f) High pressure or extra-high pressure conductors—
  - (i) Shall be of types approved for that purpose and have a cross-sectional area of not less than that prescribed by Regulation 43-11 hereof; and
  - (ii) Where exposed, under normal conditions, to mechanical injury and where outdoors and within reach from ground, roof, or window shall be armoured or otherwise suitably protected; and
  - (iii) Where unenclosed, shall be secured at intervals not exceeding 2 ft. when horizontal and 3 ft. 6 in. when vertical by suitable clips, saddles, clamps, or insulators; and
  - (iv) Need not be bunched and shall not be enclosed with any lower pressure conductors, and shall be kept away from the latter as far as practicable; and
  - (v) Shall not be bare, except when used for connections (not exceeding 12 in. in length) between separate tubes and letters.
- (g) All bends or sets in the high pressure or extra-high pressure conductors shall have a radius as large as the circumstances conveniently permit, and in no case less than six times the outside diameter of the conductor; and
- (h) Not more than one transformer shall be connected to any subcircuit, except when the combined load on such subcircuit is less than 1,800 volt-amperes; and