



For Securing the Safety of the Public and for Insuring a Proper and Sufficient Supply of Electrical Energy

Definitions

In these Regulations the under-mentioned expressions shall have the meanings respectively assigned thereto.

"*Apparatus*" means electrical apparatus and includes all machines, apparatus and fittings in which conductors are used or of which they form a part.

"*Authorised person*" means a person employed, appointed or selected by the Undertakers, or by a consumer, or jointly in cases where any electric lines or apparatus are in the joint charge of the Undertakers and a consumer or any other body, company, or person, to carry out duties incidental to the generation, transformation, distribution or use of energy, such person being competent for the purposes of the Regulation in which the term is used.

"*Circuit*" means an electrical circuit forming a system or branch of a system.

"*Conductor*" means an electrical conductor arranged to be electrically connected to a system.

"*Connected with earth*" means connected with the general mass of earth in such manner as will ensure at all times an immediate and safe discharge of energy.

"*Consumer*" means any body or person supplied or entitled to be supplied with energy by the Undertakers.

"*Consumers installation*" means the consumers wiring together with any apparatus upon the premises connected or intended to be connected thereto.

"*Consumers wiring*" means the electric lines situate upon the consumers side of the supply terminals.

"*Daily Penalty*" means a penalty for each day on which any offence is continued after conviction therefor.

"*Dead*" means at or about earth potential and disconnected from any live system.

"*Distributing main*" means the portion of any main which is used or intended to be used for the purpose of giving origin to service lines for the purposes of general supply.

"*Electric line*" means a wire or wires, conductor, or other means used for the purpose of conveying, transmitting or distributing electricity with any casing, coating, covering, tube, pipe, or insulator enclosing, surrounding, or supporting the same, or any part thereof, or any apparatus connected therewith for the purpose of conveying, transmitting, or distributing electricity or electric currents.



“*Electrode boiler*” means apparatus for the electrical heating of water by the passage of an electric current between electrodes immersed in the water.

“*Energy*” means electrical energy, and for the purpose of applying the provisions of the Electricity (Supply) Acts, 1882 to 1936, to any Act or Order relating to the undertaking of the Undertakers, electrical energy shall be deemed to be an agency within the meaning of electricity as defined in the Electric Lighting Act, 1882.

“*General supply*” means the general supply of energy to ordinary consumers, and includes, unless otherwise specially agreed with the local authority, the general supply of energy to the public lamps, where the local authority are not themselves the Undertakers, but shall not include the supply of energy to any one or more particular consumers under special agreement.

“*Generating station*” means any station for generating electricity including any buildings, and plant used for the purpose, and the site thereof, and a site intended to be used for a generating station, but does not include any station for transforming, converting, or distributing electricity.

“*High voltage*” means a voltage normally exceeding 650 volts.

“*Home Office Electricity Regulations*” means any Regulations for the time being in force relating to the generation, transformation, distribution or use of electricity and made by the Secretary of State in pursuance of powers conferred by (a) the Factory and Workshop Acts, 1901 to 1929, in relation to any factory, workshop or other place to which the provisions of Section 79 of the Factory and Workshop Act, 1901, are applied by those Acts, or (b) the Cinematograph Act, 1909, in relation to any buildings or cinematograph exhibition to which the provisions of that Act apply.

“*Institution of Electrical Engineers Regulations*” means the Tenth Edition (September, 1934) of the Regulations for the Electrical Equipment of Buildings issued by the Institution of Electrical Engineers, with the alterations and additions current at the date of these Regulations; or subsequent Regulations, alterations or additions issued by the said Institution and approved by the Electricity Commissioners for the purposes of these Regulations.

“*Insulation*” means non-conducting material enclosing, surrounding or supporting a conductor or any part thereof and of such quality and thickness as to be suitable for the purposes of the Regulation in which the term is used.

“*Live*” means electrically charged.

“*Low voltage*” means a voltage not exceeding 250 volts under normal conditions subject however to the percentage variation allowed by these Regulations.

“*Main*” means any electric line through which energy may be supplied or intended to be supplied by the Undertakers for the purposes of general supply.

“*Medium voltage*” means a voltage exceeding 250 volts but not exceeding 650 volts under normal conditions subject however to the percentage variation allowed by these Regulations.

“*Mines Department Electricity Regulations*” means in relation to any mine or quarry as the case may require any Regulations or Rules for the time being in force in pursuance of any enactment relating to mines and quarries and relating to the generation, transformation, distribution or use of electricity.

“*Outdoor substation*” means any ground whereon apparatus of the kind included within the definition of substation is situate in the open air, and includes the said apparatus.

“*Outdoor switch station*” means any ground whereon apparatus of the kind included within the definition of switch station is situate in the open air, and includes the said apparatus.

“*Overhead line*” means any electric line which is placed above ground and in the open air.

“*Prior Regulations*” means Regulations (other than Regulations relating to Overhead Lines) in force immediately prior to 1st January, 1937, whether made by the Board of Trade or the Electricity Commissioners, and applying to authorised undertakers and their undertakings.

“*Service line*” means any electric line through which energy may be supplied or intended to be supplied by the Undertakers to a consumer either from any main or directly from the premises of the Undertakers.

“*Substation*” means any premises or enclosure or part thereof being large enough to admit the entrance of a person after the apparatus therein is in position, containing apparatus for transforming or converting energy to or from a voltage above medium voltage (other than transforming or converting solely for the operation of switchgear or instruments) with or without any other apparatus for switching, controlling or otherwise regulating the energy, and includes the apparatus therein.

“*Supply of electricity in bulk*” means a supply of electricity to any local authority, company, body or person authorised to supply electricity.

“*Supply terminals*” means the ends of the electric lines situate upon any consumer’s premises at which the supply of energy is delivered from the service lines.

“*Switch station*” means any premises or enclosure or part thereof, being large enough to admit the entrance of a person after the apparatus therein is in position, containing apparatus for switching, controlling or otherwise regulating energy at a voltage above medium voltage but *not* for transforming or converting energy (other than transforming or converting solely for the operation of switchgear or instruments), and includes the apparatus therein.

“*System*” means an individual electrical system in which all the conductors and apparatus are electrically connected to a common source of voltage, and includes all the said conductors and apparatus.

“*Voltage*” means electro-motive force and in particular the voltage between any pair of conductors forming part of a system or between any part of either conductor and the earth. In the case of alternating current, the expression means the virtual voltage or root mean square value (i.e., the square root of the mean or average value of the squares of the instantaneous values of the voltage during a complete cycle).

“*Works*” means and includes electric lines, also any buildings, machinery, engines, works, matters or things of whatever description required to supply electricity and to carry into effect the object of the Undertakers under the Electricity (Supply) Acts.

Any other words, terms and expressions to which meanings are assigned by the Electricity (Supply) Acts, 1882 to 1936, and the Schedule to the Electric Lighting (Clauses) Act, 1899, shall have in these Regulations the same respective meanings.

Short Title and Application of Regulations

Short Title.

1. These Regulations may be cited as the Electricity Supply Regulations, 1937.

Application of Regulations.

2. These Regulations shall come into force on 1st January, 1937 (hereinafter referred to as “the prescribed date”) and shall apply as from the prescribed date to all undertakers and authorised undertakers within the meaning of the Electricity (Supply) Acts, 1882 to 1936, and to their undertakings, and to all works of and all supplies of energy given by such undertakers whether brought into use or commenced before or after the prescribed date, subject to the following exceptions and qualifications:—

(a) In relation to works and supplies brought into use or commenced before the prescribed date (hereinafter referred to as “existing works” and “existing supplies”)—

- (i) Regulations 12 and 25 (b), and the provisos to Regulation 24 shall not apply to existing works; and Regulations 28 (a) and 30 (a) and (d), and so much of Regulation 34 (a) as is concerned with the declaration of the number of phases in the case of alternating current, shall not apply to existing supplies.
- (ii) Regulations 1 and 6 shall apply in so far as they are concerned with any reconnection of existing works after the prescribed date, but not further or otherwise.
- (iii) Regulations 9 (a) (ii) and (iii), 10 (b), 16 (b), 19, 22, 23 and 31 shall, unless the Electricity Commissioners otherwise prescribe in any particular case, have effect as from 1st January, 1939, in their application to any existing works

or existing supplies which at the prescribed date do not comply or are given otherwise than in conformity with the relevant provisions thereof or as from the date (if earlier) when the said existing works or existing supplies shall have been brought into compliance or are being given conformity with the relevant provisions of the said Regulations.

Provided that the said existing works or existing supplies shall, unless otherwise prescribed by the Electricity Commissioners, continue until 1st January, 1939, or the said earlier date, but no longer, to be subject to the provisions of any corresponding prior Regulations which were applicable thereto.

Save as aforesaid, any existing works or existing supplies which at the prescribed date do not comply or are given otherwise than in conformity with the relevant provisions of these Regulations shall be brought into compliance or given in conformity therewith as soon as may be after the prescribed date.

- (b) (i) In relation to any supply of electricity in bulk given by the Undertakers to any other undertakers, the said other undertakers shall be deemed to be a consumer for the purposes of Regulations 5 (b), 34 and 35, and the electric lines used for the purpose of affording the supply of electricity in bulk shall be deemed to be a distributing main within the meaning of Regulation 35; but the said other undertakers shall not be a consumer for any of the purposes of Regulations 22 to 33 (inclusive).
- (ii) In relation to any supply of electricity for traction purposes given by the Undertakers to a railway company, the said company shall not be a consumer for any of the purposes of Regulations 22 to 33 (inclusive).

3. As from the prescribed date, all prior Regulations shall cease to have effect and shall be revoked without prejudice to anything done or suffered thereunder:

Revocation
of prior
Regulations.

Provided that this paragraph in its application to individual undertakers shall not have effect so as to revoke such prior Regulations as are referred to in paragraph 2 (a) (iii) hereof in so far and so long as they continue in virtue of that paragraph to apply to any existing works or existing supplies or such undertakers:

Provided also that nothing in this paragraph shall effect any consent or approval given under or in pursuance of any prior Regulations if the powers or authorities conferred by such consent or approval have not been fully exercised.

Saving for Acts and Orders.

4. Where any Act or Order provides for the determination of any question in respect of a consumers installation, nothing in these Regulations shall derogate from the right of any party to proceed under the provisions of that Act or Order.

Regulations

Electric Lines and Systems for Low and Medium Voltages

Test for resistance of insulation.

1.—(a) Electric lines of the Undertakers for use at low voltage or medium voltage shall not be connected to a system for the purposes of the supply of energy unless the insulation of the said electric lines has withstood either (i) the tests prescribed in that behalf in the appropriate specification of the British Standards Institution then current, or (ii) in cases where no such tests have been prescribed, the continuous application of a testing voltage of not less than 500 volts between conductors and also between conductors and earth during a period of not less than 15 minutes.

(b) If the tests prescribed in paragraph (a) hereof are made prior to the said electric lines being placed in position for the purposes of the supply of energy, the said electric lines after having been placed in position and before being connected to the system shall have withstood a further test for resistance of insulation by the application of a testing voltage of not less than 500 volts between conductors and also between conductors and earth during a period of not less than one minute.

(c) Where any electric line for use at low voltage or medium voltage has been disconnected from a system for alteration or repair, such electric line shall not be reconnected to the system until the Undertakers have applied the test prescribed in paragraph (b) hereof and have satisfied themselves that the insulation of the electric line is in sound condition.

(d) The foregoing provisions of this Regulation shall not apply to overhead lines unless the Electricity Commissioners otherwise prescribe in any particular case.

Maintenance of insulation.

2. The Undertakers shall maintain in sound condition the insulation of all electric lines and apparatus (including service lines up to the supply terminals) forming a system for use at low voltage or medium voltage, and so that the leakage current in the case of a direct current system shall not under normal conditions exceed one-thousandth part of the maximum supply current.

Systems at medium voltage.

3. Where a system at medium voltage is employed for giving a general supply, the voltage between earth and any conductor forming part of the said system shall not under normal conditions exceed low voltage.

Connection with earth.

4. The following provisions shall apply to the connection with earth of alternating current systems at low voltage in cases where the voltage

normally exceeds 125 volts, and of systems at medium voltage employed for giving a general supply:—

- (i) Unless otherwise allowed by the Electricity Commissioners, a point of every such system shall be connected with earth.
- (ii) The connection with earth shall, subject as hereinafter provided, be made at one point only in each system and the insulation of the system shall be efficiently maintained at all other parts.
- (iii) In the case of a system comprising electric lines having concentric conductors, the external conductor shall be the one to be connected with earth.
- (iv) In the case of a direct current system, an ammeter shall be permanently inserted in the connection with earth and a continuous record of the amount of the leakage current (if any) passing through the ammeter shall be taken and kept by the Undertakers. Where three-wire direct current systems are used, a fusible cut-out or automatic circuit breaker may be inserted in the connection with earth in parallel with a resistance of not more than five ohms.
- (v) In the case of an alternating current system, there shall not be inserted in the connection with earth any impedance (other than that required solely for the operation of switchgear or instruments), fusible cut-out or automatic circuit-breaker, and the result of any test made to ascertain whether the current (if any) passing through the connection with earth is normal shall be duly recorded by the Undertakers:

Provided that for the purpose of operating relays for the remote control of switches, the Undertakers may insert in the connection with earth the secondary winding of a high frequency transformer, the ohmic resistance of the said secondary winding not to exceed 2,000 microhms at a temperature of 60°F. and its inductance not to exceed 10 microhenries.

- (vi) Alternating current systems which are connected with earth at one point as aforesaid may be electrically interconnected subject to the following conditions and qualifications:—
 - (a) Each connection with earth shall be bonded to the metal sheathing and metallic armouring (if any) of the electric lines concerned; and the Undertakers shall serve a notice on the Postmaster-General at least seven days prior to the

making of any such interconnection, specifying the location of the point or points at which such interconnection is to be made and at which the interconnected systems are connected with earth, and the date on which such interconnection is to be made.

- (b) Overhead lines forming a system or part of a system shall not be electrically interconnected with other electric lines (including other overhead lines) unless the neutral conductor or conductors of the overhead lines is or are of the same material and cross-sectional area as the corresponding phase conductors of the overhead lines.
 - (c) Where a system includes a generator or a transformer not having a mesh winding of low impedance, it shall not be electrically interconnected with another system if the neutral point of such generator or transformer is connected with earth.
- (vii) Where an alternating current system having a point connected with earth (whether electrically interconnected as aforesaid with another system or not) is used for affording a supply of energy at low or medium voltage to an electrode boiler which is also connected with earth, the following conditions shall have effect:—
- (a) The metal work of the electrode boiler shall be efficiently connected to the metal sheathing and metallic armouring (if any) of the electric line whereby energy is supplied to the electrode boiler.
 - (b) The Undertakers shall serve a notice on the Postmaster-General at least seven days prior to the date on which such supply of energy is to be afforded, specifying the location of every point (including the earth connection of the electrode boiler) at which the system (including any interconnected systems) is connected with earth.
- (viii) Except as hereinbefore provided, it shall not be permissible for the Undertakers to connect any system or interconnected systems with earth at any further point unless such additional connection with earth is for the time being approved by the Electricity Commissioners, with the concurrence of the Postmaster-General and is made in accordance with the conditions, if any, of that approval.

Nothing in this Regulation, or in any approval given by the Electricity Commissioners thereunder shall—

- (a) relieve the Undertakers from the obligation to comply with the requirements of Regulation 21 (a); or
- (b) affect any rights or remedies of the Postmaster-General in relation to injury to or injurious affection of his telegraphic lines, or confer any exemption from any liability or penalty in respect of any such injurious affection.

Electric Lines, Systems and Apparatus for High Voltages

5.—(a) Electric lines of the Undertakers for use at high voltage shall be placed in position, properly jointed and duly completed and examined before they are brought into use for the purpose of the supply of energy. Completion and control.

(b) Except as otherwise provided in these Regulations, every electric line as aforesaid shall during its use be in the sole charge of the Undertakers:

Provided that for any purpose connected with the efficiency and safety of the supply of energy to a particular consumer, the Undertakers may make arrangements with the consumer for control by an authorized person of the electric lines on the premises of the consumer through which energy is supplied to the premises.

6.—(a) Electric lines and apparatus of the Undertakers for use at high voltage shall not be connected to a system for the purposes of the supply of energy unless the insulation of the said electric lines and apparatus has withstood either (i) the tests prescribed in that behalf in the appropriate specification of the British Standards Institution then current; or (ii) in cases where no such tests have been prescribed, the continuous application between conductors and also between conductors and earth during a period of not less than 15 minutes of alternating current either at a testing voltage equal to at least one and one-quarter times the normal working voltage to which the electric lines or apparatus will be subject under conditions of supply, or at a testing voltage equal to the aforesaid working voltage with the addition of 10,000 volts, whichever be the less: Test for resistance of insulation.

Provided that for the purposes of such alternative tests—

- (i) the testing voltage between the outer conductor and earth in cases where the outer conductor of an electric line having concentric conductors is to be connected with earth shall be 1,000 volts;
- (ii) the aforesaid working voltage between any phase of an alternating current system and earth in cases where the neutral conductor of the said system is not to be connected with earth shall be deemed to be the voltage between phases;
- (iii) the duration of the test may be reduced to one minute in the case of apparatus for use at high voltage subject to the testing

voltage being increased so as to equal not less than one and one-half times the aforesaid working voltage, or the aforesaid working voltage with the addition of 20,000 volts, whichever be the less;

- (iv) direct current may be used instead of alternating current subject to the testing voltage being increased so as to exceed by at least 50 per cent the corresponding testing voltage prescribed for alternating current.

(b) If the tests prescribed in paragraph (a) hereof are made prior to the said electric lines and apparatus being placed in position for the purposes of the supply of energy, the said electric lines and apparatus after having been placed in position and before being connected to the system shall have withstood a further test for resistance of insulation either by the application of the tests prescribed in paragraph (a) hereof whenever reasonably practicable, or by the application of a testing voltage of not less than 1,000 volts between conductors and also between conductors and earth during a period of not less than one minute.

(c) Where any electric line or apparatus for use at high voltage has been disconnected from a system for alteration or repair, such electric line or apparatus shall not be reconnected to the system until the Undertakers have applied the test prescribed in paragraph (b) hereof and have satisfied themselves that the insulation of the electric line or apparatus is in sound condition.

(d) The Undertakers shall duly record the result of every test made under this Regulation.

7.—(a) The following provisions shall apply to electric lines of the Undertakers for use at high voltage:—

- (i) The conductors shall be enclosed in metal sheathing which shall be electrically continuous and connected with earth; and the conductivity of the metal sheathing shall be maintained and reasonable precautions taken where necessary to avoid corrosion of the sheathing.
- (ii) In the event of a failure of insulation occurring between one conductor and the metal sheathing at any point along an electric line as aforesaid, the impedance of the relevant circuit shall be such that with the full voltage maintained at the source of supply the current resulting from such failure shall be not less than twice the value of the current for which a suitable fusible cut-out of adequate rupturing capacity or other suitable overload preventive device has been set to operate or of the current required to operate a suitable discriminative fault current relay:

Provided that the operation of the aforesaid overload preventive device or of the discriminative fault current relay shall cause the automatic operation of a circuit breaker of adequate rupturing capacity.

Electric lines to be metal sheathed; Precautions against excess leakage.

(iii) The relevant circuit hereinbefore referred to means the complete circuit from the source of supply to the point of failure of the insulation, including any connection with earth of the system of which the electric line as aforesaid forms part and any current limiting device inserted in such connection with earth; and the source of supply means the point at which energy is given to the system or circuit of which the electric line as aforesaid forms part.

(iv) Where an electric line as aforesaid has concentric conductors and the external conductor is insulated from an outer metal sheathing and connected with earth, the external conductor may be regarded as the metal sheathing for the purposes of this Regulation provided that the foregoing provisions as to conductivity are complied with.

(b) Nothing in the provisions of paragraph (a) hereof shall preclude the employment in generating stations, substations and switch stations (including outdoor substations and outdoor switch stations) of conductors for use at high voltage which are not enclosed in metal sheathing, or preclude the use of electric lines laid before the prescribed date to which the provisions of paragraph (a) of Regulation 17 apply.

(c) This Regulation shall not apply to overhead lines unless the Electricity Commissioners otherwise prescribe in any particular case.

8. The following provisions shall apply to the connection with earth of systems for use at high voltage:— Connection with earth.

(i) Unless otherwise allowed by the Electricity Commissioners and subject as hereinafter provided, a point of every such system shall be connected with earth.

(ii) The connection with earth shall, subject as hereinafter provided, be made at one point only in each system and the insulation of the system shall be efficiently maintained at all other parts.

(iii) In the case of a system as aforesaid comprising electric lines having concentric conductors, the external conductor shall be the one to be connected with earth.

(iv) Where the Undertakers propose to connect with earth at one point only an existing system for use at high voltage which has not hitherto been so connected with earth, the Undertakers shall give notice and particulars to the Postmaster-General of the proposed connection with earth and such notice shall be deemed to be a notice of works served upon the Postmaster-General within the meaning and for the purposes of Section 14 of the Schedule to the Electric Lighting (Clauses) Act, 1899, or corresponding provision in any Act or Order relating to the undertaking of the Undertakers.

(v) Where a system having a point connected with earth is used for affording a supply of energy at high voltage to an electrode boiler which is also connected with earth, the following conditions shall have effect:—

(a) The metal work of the electrode boiler shall be efficiently connected to the metal sheathing and metallic armouring (if any) of the high voltage electric line whereby energy is supplied to the electrode boiler.

(b) The supply of energy at high voltage to the electrode boiler shall be controlled by a suitable automatic circuit-breaker so set as to operate in the event of the phase currents becoming unbalanced to the extent of 10 per cent of the rated current consumption of the electrode boiler under normal conditions of operation:

Provided that if in any case a higher setting is essential to ensure stability of operation of the electrode boiler, the setting may be increased to but shall in no circumstances exceed 15 per cent of the rated current consumption of the electrode boiler under normal conditions of operation.

(c) An inverse time element device may be used in conjunction with the aforesaid automatic circuit-breaker to prevent the operation thereof unnecessarily on the occurrence of unbalanced phase currents of momentary or short duration.

(d) The Undertakers shall serve a notice on the Postmaster-General at least seven days prior to the date on which such supply of energy is to be afforded specifying the location of every point (including the earth connection of the electrode boiler) at which the system is connected with earth.

(vi) It shall not be permissible for the Undertakers to interconnect electrically systems for use at high voltage which are each connected with earth at one point, or, except as hereinbefore provided, to connect any such system with earth at more than one point, unless electrical interconnection as aforesaid or connection with earth at more than one point is for the time being approved by the Electricity Commissioners with the concurrence of the Postmaster-General and is made in accordance with the conditions, if any, of that approval.

Nothing in this Regulation or in any approval given by the Electricity Commissioners thereunder shall affect any rights or remedies of the Postmaster-General in relation to injury to or injurious affection of his telegraphic lines, or confer any exemption from any liability or penalty in respect of any such injurious affection.

Transformation and Control of Energy at High Voltage

9.—(a) Where energy at high voltage is transformed, converted, regulated or otherwise controlled in substations or switch stations (including outdoor substations and outdoor switch stations), in street boxes constructed under ground, or in fire-resisting casings on the premises of a consumer, the following provisions shall have effect:—

General conditions as to transformation, control, etc.

- (i) Substations and switch stations shall preferably be erected above ground, but where necessarily constructed under ground there shall be due provision for ventilation and drainage.
- (ii) Outdoor substations and outdoor switch stations shall (unless the apparatus is completely enclosed in a metal casing connected with earth, the said apparatus also being connected with the system by armoured electric lines) be efficiently protected by fencing not less than eight feet in height or other means so as to prevent access to the electric lines and apparatus therein by any unauthorised person.
- (iii) Underground street boxes (other than substations) which contain transformers shall not also contain switches or other apparatus, and any switches, fusible cut-outs or other apparatus required for controlling or other purposes shall be fixed in separate receptacles preferably above ground.
- (iv) Fire-resisting casings on the premises of a consumer, preferably of metal connected with earth, shall completely enclose all electric lines (other than overhead lines) and apparatus on the premises designed to be electrically charged at high voltage and shall be secured so as to prevent access by any unauthorised person.

(b) Wherever energy at high voltage is transformed, converted, regulated or otherwise controlled, the works of the Undertakers shall be labelled with an appropriate danger notice, with the name of the Undertakers and with the address of their local office at which an officer or servant of the Undertakers will be in attendance.

10. The following provisions as to constructional details shall have effect where energy at high voltage is transformed, converted, regulated or otherwise controlled—

Further constructional details in certain cases.

- (a) In street boxes or similar structures or in fire-resisting casings on the premises of a consumer.

All doors or covers shall be so secured that they cannot be opened except by means of a key or special appliance. The enclosed conductors and apparatus shall be so constructed, protected and arranged that when the door or cover giving access to an operating or switch panel is opened, it shall not be possible for the person opening the door or cover to come into accidental contact with metal electrically charged at high voltage. Unless the conditions of supply are such that the whole of the enclosed conductors and apparatus may be made dead at the same time for the purpose of cleaning or for other work thereon, the conductors and apparatus shall be so arranged that they may be made dead in sections, and the sections shall be so separated by divisions or screens from all adjacent live metal that work on any section made dead may be carried on by an authorised person without danger. Every fusible cut-out shall either be capable of being made dead by a switch or shall be so constructed and placed that it can be handled without danger by an authorised person for the purpose of renewal.

- (b) On the supports of overhead lines or in other suitable positions (other than outdoor substations or outdoor switch stations) adjacent to the electric lines of the system concerned.

Conductors and transforming or switching apparatus, unless completely enclosed and connected with the system by armoured electric lines or effectively screened, shall be so arranged that no live metal with which contact can be made shall be at a less distance than 14 feet from the ground or less than 14 feet from any place accessible to an unauthorised person or less than the appropriate distance specified in table 5 of British Standard Specification No. 162, 1938, from any operating or inspecting platform upon which it is intended that any authorised person may stand while live metal is exposed. Provision shall be made to prevent so far as reasonably possible unauthorised climbing; and where a portable ladder is used for the purpose of operating, special means shall be provided to secure the ladder in position and the arrangements shall be such that there is no danger to an authorised person when operating. The means provided for disconnecting a transformer, circuit-breaker or fusible cut-out from electric lines which are live at high voltage, and also the said fusible cut-out itself if intended to be renewed while the electric lines are live at high voltage, shall be so constructed and placed that they can be operated or renewed as the case may be by an authorised person without danger.

Trans-
forming
apparatus:
Precautions
against
danger.

11. Where energy is transformed, suitable provision shall be made, either by connecting with earth a point of the system at the lower voltage or otherwise, to guard against danger by reason of the said system becoming accidentally charged above its normal voltage by leakage from or contact with the system at the higher voltage.

Electric Lines and Apparatus (General) other than Consumers Installations

12. The standard of construction of electric lines (other than overhead lines) of the Undertakers (including service lines up to the supply terminals) shall, unless otherwise allowed by the Electricity Commissioners, be that prescribed in the appropriate specification (if any) of the British Standards Institution current at the time of their manufacture.

Standard of construction of electric lines.

13. Every circuit of the Undertakers (other than service lines from distributing mains) shall be protected against excess energy by a suitable fusible cut-out or automatic circuit-breaker of adequate rupturing capacity which shall not be inserted in any conductor permanently connected with earth.

Protection against excess energy.

14.—(a) Where any electric line of the Undertakers (including a service line up to the supply terminals) at the time it is placed in position crosses or is in proximity to any pipe, line or other metal, precautions shall be taken by the Undertakers to prevent such pipe, line or other metal from becoming electrically charged.

Precautions against metal work becoming electrically charged.

(b) Any metal work, enclosing, supporting or otherwise associated with electric lines and apparatus unless designed to serve as a conductor shall where necessary to prevent danger be connected with earth.

(c) The foregoing provisions of this Regulation shall not apply to overhead lines.

15. Overhead lines of the Undertakers (including overhead service lines up to the supply terminals) shall be erected and maintained in accordance with the provisions of any Regulations in that behalf made under the Electricity (Supply) Acts, 1882 to 1936, and in force and applicable at the date of the erection of the overhead lines, and also of these Regulations save in so far as the same are expressly excluded from application thereto.

Overhead lines.

Nothing in this Regulation shall relieve the Undertakers from the obligation of obtaining any necessary consent under the aforesaid Acts to the placing of an electric line above ground.

16.—(a) In delivering energy to a substation or switch station (including an outdoor substation or outdoor switch station) or to the premises of a consumer the Undertakers shall exercise all due precautions so as to avoid risk of causing fire therein.

Precautions against risk of fire.

(b) Where a substation or switch station is situated in any building so that a fire in the substation or switch station might involve risk to the said building and the said substation or switch station contains oil-immersed transformers or switches involving the use of more than 2,000 gallons of oil in any one oil tank, receptacle or chamber, provision shall be made for the draining away or removal of any oil which may leak or escape from the tanks, receptacles or chambers containing the same; special precautions shall be taken to prevent the spread of any fire resulting from the ignition of the oil from any cause; and adequate

provision shall be made for the extinguishing of any fire which may occur. Spare oil shall not be stored in any such substation or switch station.

Bituminous etc. insulation of protection.

17.—(a) Where the Undertakers have prior to the prescribed date brought into use an electric line (other than an overhead line) which is not completely enclosed in a continuous metallic sheathing connected with earth, and is insulated or protected in situ by composition or material of a bituminous character—

- (i) any pipe, conduit or the like into which such electric line may have been drawn or placed shall, unless other arrangements are approved by the Electricity Commissioners in any particular case, be effectively sealed at its point of entry into any street box so as to prevent any flow of gas from or into the said pipe, conduit or the like into or from the said street box; and
- (ii) such electric line shall be periodically inspected where accessible, and the result of each such inspection shall be duly recorded by the Undertakers.

(b) It shall not be permissible for the Undertakers after the prescribed date to bring into use any further electric line as aforesaid which is insulated or protected in situ by any composition or material known to be liable to produce noxious or explosive gases on excessive heating.

Receptacles for electric lines and apparatus.

18. All conduits, pipes, casings, street boxes and similar structures used by the Undertakers as receptacles for electric lines or apparatus shall be constructed of durable material, and where placed under carriageways shall be of ample strength to withstand heavy traffic.

Street boxes: Underground substations and switch stations.

19.—(a) Street boxes shall not contain gas pipes, and means shall be taken to prevent as far as reasonably possible any influx of water or gas.

(b) Where electric lines forming part of different systems pass through the same street box they shall be readily distinguishable from one another, and all electric lines at high voltage in street boxes shall be adequately supported and protected so as to minimise risk of damage to or from adjacent electric lines.

(c) All street boxes shall be regularly inspected for the presence of gas and if any influx or accumulation is discovered the Undertakers shall give immediate notice to any authority or company who have gas mains in the neighbourhood of the street box; and in cases where a street box is large enough to admit of the entrance of a person after the electric lines or apparatus therein have been placed in position, ample provision shall be made (i) to ensure that any gas which may by accident have obtained access to the box shall escape before a person is allowed to enter and (ii) for the prevention of danger from sparking.

(d) The expression "street box" where used in this Regulation shall include an underground substation and an underground switch station.

(e) Nothing in this Regulation shall relieve the Undertakers from the obligation to comply with the requirements of Regulations 9 and 10 in relation to the use of street boxes for the transformation, conversion, regulation, or control of energy at high voltage.

20. Where access to any electric line is obtained through underground shafts, passages or the like not subject to regular inspection, no person shall enter any such shafts, passages or the like until the same shall have been tested by the Undertakers for the presence of noxious or explosive gases, and until any such gases discovered as the result of such test shall have been dispelled.

21.—(a) The lay-out of the electric lines of the Undertakers for the supply of energy throughout their area of supply shall under normal working conditions be sectionalised and so arranged, and provided where necessary with fusible cut-outs or automatic circuit-breakers so located, as to restrict within reasonable limits the extent of the portion of the undertaking affected by any failure of supply.

Underground shafts, etc.

(b) During and in connection with the installation, extension, replacement, repair and maintenance of any of their works, the Undertakers shall take all reasonable precautions to avoid any accidental interruptions of supply, and also to avoid danger to the public or to any employee or authorised person when engaged on any operation as aforesaid not coming within the scope of the Home Office Electricity Regulations.

Precautions against failures of supply, etc. Notice of failures.

(c) The Undertakers shall send to the Electricity Commissioners notice of failures of supply of such kind as the Electricity Commissioners may from time to time require to be notified to them, and such notice shall be sent by the earliest practicable post after the failure occurs or as the case may be after the failure becomes known to the Undertakers, and shall be in such form and contain such particulars as the Electricity Commissioners may from time to time prescribe.

Supply to premises of Consumers : Consumers installations

22. Any service line of the Undertakers which is taken into the premises of a consumer at a point below the level of the ground shall be taken into the premises in such manner as to prevent as far as reasonably possible any influx of gas at the point of entry.

Service lines into consumers premises.

23. The separate conductors of service lines shall be permanently marked by colouration, labels or otherwise as close as practicable to the supply terminals so as to indicate in a distinctive manner the polarity of the conductors or the neutral and live phase conductors as the case may be.

Identification of conductors of service lines.

Protection of consumers installations against excess energy.

24. For protection against excess energy, a suitable fusible cut-out or automatic circuit-breaker of adequate rupturing capacity completely enclosed in a suitable locked or sealed receptacle of solid fire-resisting construction shall be inserted by the Undertakers in every service line as close as practicable to the supply terminals and in a position which, in the opinion of the Undertakers, is suitable for the purpose :

Provided that no such fusible cut-out or automatic circuit-breaker shall be inserted in any conductor which is permanently connected with earth :

Provided also that where a supply of energy is given at high voltage, provision shall be made whereby the fusible cut-out or automatic circuit-breaker can be isolated from the service line and whereby the consumer is enabled to cut off all voltage from the supply terminals without risk of danger.

Under-takers lines, etc., on consumers premises.

25.—(a) The Undertakers shall be responsible for all electric lines and apparatus placed by them on the premises of a consumer and either belonging to the Undertakers or under their control (whether forming the whole or part of the consumers installation or not) being installed and maintained in a safe condition and suitable for their respective purposes and being so fixed and protected as to prevent so far as is reasonably practicable leakage to any adjacent metal.

(b) The standard of construction and installation adopted by the Undertakers in complying with paragraph (a) hereof is so far as it relates to the whole or any part of a consumers installation shall not be lower than that which the Undertakers would be prepared to accept under Regulations 27 to 30 (inclusive).

(c) The obligation imposed by paragraph (a) of this Regulation as regard to the maintenance of any electric lines and apparatus as aforesaid situated on the consumers side of the supply terminals and forming the whole or part of a consumers installation shall be subject to the terms of any agreement entered into between the Undertakers and the consumer with respect to the letting on terms of hire or hire-purchase of the said whole or part of the consumers installation.

(d) Nothing in this Regulation shall relieve the owner or occupier of any premises, being a consumer within the meaning of these Regulations, from any obligation imposed on him by the Home Office Electricity Regulations or the Mines Department Electricity Regulations.

As to connection with consumers installation where leakage exists.

26. The Undertakers shall not permanently connect a consumers installation with their electric lines unless they are reasonably satisfied that the connection, if made, would not cause a leakage from the consumers installation exceeding one ten-thousandth part of the maximum current to be supplied to the said installation.

27.—(a) The Undertakers shall not be compelled to commence or, subject to the provisions of Regulation 32, to continue to give a supply of energy to any consumer unless they are reasonably satisfied in respect of the consumers installation—

General conditions as to supply to consumers.

- (i) That all conductors (including flexible conductors) and apparatus (including portable apparatus) are sufficient in size and power for the purposes for which the supply of energy is to be used and are constructed, installed and protected so as to prevent danger so far as is reasonably practicable; and that all single-pole switches are inserted in live conductors only.
- (ii) That every distinct circuit is protected against excess energy by means of a suitable fusible cut-out or automatic circuit-breaker of adequate rupturing capacity suitably located and of such construction as to prevent danger from overheating, arcing or the scattering of hot metal when it comes into operation and as to permit of the ready renewal of the fusible metal without danger.
- (iii) That every electric motor is controlled by an efficient switch or switches for starting and stopping and that the said switch or switches is or are so placed as to be readily accessible to and easily operated by the person in charge of the motor.

Provided that any consumers installation which complies with the provisions of the Institution of Electrical Engineers Regulations shall be deemed to fulfil the requirements of this Regulation.

(b) The foregoing provisions of this Regulation shall not apply in respect of the supply of energy by the Undertakers to any consumers installation to which the provisions of the Home Office Electricity Regulations or the Mines Department Electricity Regulations as the case may be are applicable.

28.—(a) The Undertakers shall not commence a supply of energy at low voltage to any consumer from more than one pair of conductors of a three-wire or multi-phase system at medium voltage unless—

Supply at low voltage from more than one pair of conductors of system at medium voltage.

- (i) the total rating in kilowatts of the apparatus (including electric lamps) connected or intended to be connected to the consumers wiring exceeds 8 kilowatts
and
- (ii) the giving of the supply of low voltage from more than one pair of conductors of a system as aforesaid is necessary to avoid a variation in excess of the limits allowed by Regulation 34 in the voltage declared to that consumer or to any other consumer supplied from the same distributing main.

(b) The Undertakers shall not in any case be compelled to commence, or, subject to the provisions of Regulation 32, to continue to give a supply of energy at low voltage to any consumer from more than one pair of conductors of a system as aforesaid unless they are reasonably satisfied in respect of the consumers installation—

- (i) That the supply terminals are arranged in separate pairs in such a manner that so far as is reasonably practicable there shall be no danger of shock at medium voltage.

- (ii) That the consumers wiring connected to the separate pairs of supply terminals is kept separate and distinct, or complies with the conditions applicable to a supply at medium voltage prescribed by Regulation 29.
- (iii) That in the case of any room containing the different pairs of conductors, all socket outlets are connected to one and the same pair of conductors.

Provided that any consumers installation which complies with the provisions of the Institution of Electrical Engineers Regulations shall be deemed to fulfil the requirements of paragraph (b) of this Regulation.

(c) The provisions of paragraph (b) of this Regulation shall not apply in respect of the supply of energy by the Undertakers to any consumers installation to which the provisions of the Home Office Electricity Regulations or the Mines Department Electricity Regulations as the case may be are applicable.

Supply at
medium
voltage.

29.—(a) The Undertakers shall not be compelled to commence or, subject to the provisions of Regulation 32, to continue to give a supply of energy at medium voltage to any consumer unless they are reasonably satisfied in respect of the consumers installation—

- (i) That all metal work enclosing supporting or associated with the consumers installation, other than that designed to serve as a conductor, is where necessary to prevent danger connected with earth.
- (ii) That the consumers wiring is either completely enclosed in metal which is electrically continuous and adequately protected against mechanical damage; or, alternatively, is so constructed, installed and protected as to prevent danger so far as is reasonably practicable.
- (iii) That the supply of energy to each motor or separate piece of apparatus is controlled by an efficient cut-off switch placed in such a position as to be readily accessible to and easily operated by the person in charge of the said motor or apparatus and so connected in circuit that by its means all voltage can be cut off from the motor or apparatus itself and from any regulating switch, resistance or other device associated therewith.

Provided that any consumers installation which complies with the provisions of the Institution of Electrical Engineers Regulations shall be deemed to fulfil the requirements of this Regulation.

(b) The foregoing provisions of this Regulation shall not apply in respect of the supply of energy by the Undertakers to any consumers installation to which the provisions of the Home Office Electricity Regulations or the Mines Department Electricity Regulations as the case may be are applicable.

30.—(a) The Undertakers shall not commence a supply of energy at high voltage to any consumer unless—

Supply
at high
voltage.

(i) All conductors and apparatus intended for use at high voltage and situated on the premises of the consumer are inaccessible to the consumer, and all operations in connection with the said conductors and apparatus are carried out by the Undertakers by arrangement with the consumer; or

(ii) The consumer gives to the Undertakers a guarantee in writing that every portion of the consumers installation which is for use at high voltage will be maintained in an efficient state and, if so required, to the satisfaction of the Undertakers; that in cases where the said portion of the consumers installation is not enclosed in a building or other structure to which access can only be obtained by means of a key or special appliance, an authorised person will be available to cut off the supply in the event of emergency; and that instructions as to the treatment of persons suffering from electric shock will be affixed on or in the premises of the consumer.

(b) The Undertakers shall not in any case be compelled to commence or, subject to the provisions of Regulation 32, to continue to give a supply of energy at high voltage to any consumer unless they are reasonably satisfied in respect of the consumers installation—

(i) That no metal work designed to be electrically charged at high voltage will normally be exposed so that it can be touched.

(ii) That all conductors for use at high voltage (other than overhead lines) are completely enclosed in metal which is electrically continuous and adequately protected against mechanical damage.

(iii) That all metal work enclosing supporting or associated with the consumers installation, other than that designed to serve as a conductor is where necessary to prevent danger connected with earth.

(iv) That the supply of energy to each motor or separate piece of apparatus is controlled by an efficient cut-off switch placed in such a position as to be readily accessible to and easily operated by the person in charge of the said motor or apparatus and so connected in circuit that by its means all voltage can be cut off from the motor or apparatus itself and from any regulating switch, resistance or other device associated therewith.

(v) That all windings at high voltage of motors or other apparatus within reach from any position in which a person may require to be are efficiently protected so as to prevent danger.

(vi) That where transforming apparatus is used, suitable provision is made, either by connecting with earth a point of the circuit at the lower voltage or otherwise, to guard against danger by

reason of the said circuit becoming accidentally charged above its normal voltage by leakage from or contact with the circuit at the higher voltage.

- (vii) That unless the conditions are such that the whole of the conductors and apparatus for use at high voltage may be made dead at the same time for the purpose of cleaning or for other work thereon, the said conductors and apparatus are so arranged that they may be made dead in sections, and that such sections are so separated by divisions or screens from all adjacent metal which is live that work on any section made dead may be carried on by an authorised person without danger.
- (viii) That an adequate gangway or working space is provided in front of any switchboard (other than panels for controlling circuits at low voltage) and at parts of the installation where live conductors can be exposed.
- (ix) That adequate means are provided for preventing access by the public or any unauthorised person to any part of the consumers installation which is designed to be electrically charged at high voltage.

(c) The provisions of paragraphs (a) and (b) of this Regulation shall not apply in respect of the supply of energy by the Undertakers to any consumers installation to which the provisions of the Home Office Electricity Regulations or the Mines Department Electricity Regulations as the case may be are applicable.

(d) The Undertakers shall give to the Factory Inspector of the District concerned notice of their intention to commence a supply of energy at high voltage to any premises to which the Home Office Electricity Regulations apply.

Supply for
luminous
tube signs
on outside
of premises.

31.—(a) The Undertakers shall not knowingly commence or, subject to the provisions of Regulation 32, continue to give a supply of energy to any consumer who proposes to transform or is transforming the energy to a higher voltage for the purposes of a luminous tube sign or the like on the outside of any premises unless the consumer gives to the Undertakers a guarantee in writing in respect of the consumers installation—

- (i) That efficient cut-off switches on the lower voltage side of the transforming apparatus are provided both inside and outside any premises on which the said sign is placed and in such positions as to be readily accessible and easily operated without danger in an emergency and so connected in circuit that by their means all high voltage can be cut off from the sign itself and from any regulating switch, resistance, or other device associated therewith.
- (ii) That no metal work designed to be electrically charged at high voltage will normally be exposed so that it can be touched.
- (iii) That all conductors for use at high voltage (other than overhead lines and series wires connecting the parts in a luminous tube

sign or the like) are completely enclosed in metal which is electrically continuous and where necessary to prevent danger adequately protected against mechanical damage, and that the said conductors are so arranged as to give a clear space of not less than three inches between the outside of their metallic coverings and the outside covering of any other electric line not forming part of the consumers installation or any pipe.

- (iv) That all metal work enclosing supporting or associated with the consumers installation, other than that designed to serve as a conductor, is where necessary to prevent danger connected with earth.
- (v) That all windings at high voltage of apparatus within reach from any position in which a person may require to be are efficiently protected so as to prevent danger.
- (vi) That in respect of the transforming apparatus, suitable provision is made to guard against danger by reason of the circuit at the lower voltage becoming accidentally charged above its normal voltage by leakage from or contact with the circuit at the higher voltage.
- (vii) That unless the conditions of supply are such that the whole of the conductors and apparatus may be made dead at the same time for the purpose of cleaning or for other work thereon, they are so arranged that they may be made dead in sections, and that such sections are so separated from all adjacent metal which is live that work on any section made dead may be carried on by an authorised person without danger.
- (viii) That adequate means are provided for preventing any unauthorised person from coming into contact with any part of the consumers installation which is designed to be electrically charged at high voltage, and that an appropriate danger notice is displayed at points of access thereto.

(b) A guarantee in writing that any consumers installation complies with the provisions of the Institution of Electrical Engineers Regulations shall be deemed to fulfil the requirements of this Regulation save in so far as this Regulation specifies any requirements not contained in the Institution of Electrical Engineers Regulations.

(c) The foregoing provisions of this Regulation shall not apply in respect of the supply of energy by the Undertakers to any consumers installation to which the provisions of the Home Office Electricity Regulations or the Mines Department Electricity Regulations as the case may be are applicable.

32.—(a) Where a supply of energy is being afforded to a consumer and the Undertakers after making such examination as the circumstances permit have reasonable grounds for supposing that a leakage exceeding the amount mentioned in Regulation 26 (hereinafter called

Discontin-
uance of
supply in
certain
circum-
stances.

the “specified amount”) exists at some part of the consumers installation or that the said installation or any part thereof fails to fulfil any requirements of Regulations 27 to 31 (inclusive), the following provisions shall (subject as provided in paragraph (b) hereof) have effect:—

- (i) In any case where the Undertakers are prima facie satisfied that immediate action is justified as a work of emergency in the interests of the public safety or in order to avoid undue interference with the efficient supply of energy to other consumers, they may as a work of emergency forthwith discontinue the supply of energy to the consumers installation and shall give immediate notice in writing of the discontinuance to the consumer, specifying the matter complained of.
- (ii) In any other case, the Undertakers may by notice in writing require the consumer within a reasonable time after the service of the notice to permit an officer or servant of the Undertakers duly authorised by them in writing to inspect and test the said installation at any time between the hours of 9 a.m. and 6 p.m. If the consumer does not give all due facilities for inspection and testing or if, as the result of any such inspection or testing, the officer or servant makes a report confirming the existence of a leakage from the consumers installation exceeding the specified amount, or reports that the said installation or any part thereof fails to fulfil any requirements of Regulations 27 to 31 (inclusive), the Undertakers may forthwith by notice in writing specify the matter complained of; and if the consumer fails to show to the reasonable satisfaction of the Undertakers within such reasonable period as may be specified in that behalf in the notice that the said matter has been remedied the Undertakers may, on the expiration of the said period but subject as hereinafter provided, discontinue the supply of energy to the consumers installation, giving immediate notice in writing of such discontinuance to the consumer.
- (iii) Any difference which may arise between a consumer and the Undertakers in regard to any matter complained of or as to the period specified for remedying the same in any notice as aforesaid shall be settled in manner provided for by Regulation 33.
- (iv) In the exercise of the powers conferred by paragraph (ii) hereof, the Undertakers shall not discontinue the supply of energy pending the settlement of any difference referred to in paragraph (iii) hereof, and shall in no case discontinue the supply of energy to the whole of the consumers installation where it is practicable to disconnect that portion in respect of which any matter is complained of:

Provided that nothing in this paragraph shall prevent the Undertakers from exercising the powers conferred by paragraph

(i) hereof in the event of the development of a condition of emergency as therein provided.

(v) Where in pursuance of this Regulation the Undertakers have discontinued the supply of energy to the consumers installation or any part thereof, the Undertakers shall not recommence the supply of energy until they are reasonably satisfied in respect of the consumers installation that any requirements of Regulations 26 to 31 (inclusive) have been fulfilled or until it has been determined or decided in manner provided for by Regulation 33 that the Undertakers are not entitled under Regulations 26 to 31 (inclusive) to decline to recommence the supply, and thereupon the supply of energy shall be recommenced by the Undertakers.

(b) The foregoing provisions of this Regulation shall extend so far as applicable and with the necessary adaptations to any electric lines and apparatus situated on the consumers side of the supply terminals and belonging to the Undertakers or under their control within the meaning of Regulation 25; and where the supply of energy has been discontinued in pursuance of the said provisions the Undertakers shall, subject to the terms of any agreement entered into between the Undertakers and the consumer with respect to the letting on terms of hire or hire-purchase of any such electric lines and apparatus, forthwith remedy any defect in the said electric lines and apparatus and recommence the supply of energy.

(c) The foregoing provisions of this Regulation in so far as they relate to any requirements of Regulations 27 to 31 (inclusive) shall not apply in respect of the supply of energy by the Undertakers to any consumers installation to which the provisions of the Home Office Electricity Regulations or the Mines Department Electricity Regulations as the case may be are applicable.

33.—(a) In any case where the Undertakers in pursuance of these Regulations decline to connect a consumers installation or any part thereof with their electric lines or to commence to continue to give a supply of energy thereto or decline to recommence the supply of energy after the same has been discontinued, they shall serve on the consumer a notice in writing stating their reasons for so declining.

(b) Any difference which may arise between a consumer and the Undertakers either with reference to any notice under paragraph (a) hereof, or under Regulation 32, or with reference to any consumers installation to which the provisions of Regulation 25 (a) and (b) apply, shall be determined by an Inspector nominated by the Electricity Commissioners on the application of the consumer or his authorised agent or of the Undertakers, as the case may be. The Electricity Commissioners shall prescribe the fee to be paid to such Inspector and the Inspector shall determine by which of the parties the costs of and incidental to the proceedings before him (including the prescribed fee) or any portion of such costs shall be paid.

Notices by Undertakers Procedure as to settlement of differences: Appeals.

Provided that in the case of any consumers installation (or any part thereof) which was connected with the electric lines of the Undertakers and supplied with energy prior to the prescribed date it shall not be competent for an Inspector nominated under this Regulation to determine that the Undertakers were or are entitled under Regulations 27 to 30 (inclusive) to refuse a supply of energy thereto if the Inspector is satisfied that—

- (i) the said installation has continued to function satisfactorily up to the material time;
- (ii) the installation is to be or is being continued in use only within the limits of the maximum power for which it was originally intended; and
- (iii) there are no grounds for supposing that the installation will fail to continue to function satisfactorily for a further reasonable period without risk of danger.

(c) If the Undertakers or the consumer or his authorised agent are or is dissatisfied with the determination of the Inspector, they or he may appeal to the Electricity Commissioners and thereupon the Electricity Commissioners shall enquire into and decide upon the matter of the appeal and their decision shall be final and binding on all parties.

(d) This Regulation and Regulation 32 shall be endorsed on every notice given by the Undertakers to a consumer under the provisions of either of the said Regulations, or alternatively the notice shall be accompanied by a copy of each of the said Regulations.

34.—(a) Before commencing to give a supply of energy to any consumer, the Undertakers shall declare to that consumer—

- (i) the type of current, whether direct or alternating, which they propose to supply;
- (ii) in the case of alternating current, the number of phases and also the constant frequency at which they propose to deliver the energy to the supply terminals; and
- (iii) the constant voltage at which they propose to deliver the energy to the supply terminals.

(b) The type of current, the number of phases and the frequency in the case of alternating current and the voltage declared as aforesaid shall be constantly maintained subject as respects the frequency to a permissible variation not exceeding one per cent above or below the declared frequency and as respects the voltage to a permissible variation not exceeding 6 per cent above or below the declared voltage, and shall not be altered or departed from nor shall the aforesaid permissible

Declared
type of
current,
frequency
and voltage
at supply
terminals.

variations be exceeded except with the consent of the Electricity Commissioners and subject to such terms and conditions as they may impose:

Provided that any supply of energy at high voltage for the time being given by the Undertakers in accordance with a requirement of any prior Regulations that the energy should be supplied at a voltage not less than a declared minimum at the supply terminals and not exceeding the said minimum by more than $12\frac{1}{2}$ per cent shall unless otherwise agreed between the Undertakers and the consumer be continued by the Undertakers in accordance with that requirement unless the Electricity Commissioners otherwise allow in manner provided for in this Regulation.

(c) Public notice in such manner and for such period as the Electricity Commissioners may approve or require shall be given by the Undertakers of any application made by them for the consent of the Electricity Commissioners to an alteration of the declared type of current, or the number of phases or the frequency in the case of alternating current, or the voltage, as the case may be, or of the aforesaid permissible limits of variation in respect of frequency or voltage.

35. From the time when the Undertakers commence to supply energy through any distributing main, they shall maintain supply of energy sufficient for the use of all consumers for the time being entitled to be supplied from that distributing main; and that supply shall be constantly maintained without change of the neutral conductor unless otherwise allowed by the Electricity Commissioners and subject to such terms and conditions as they may impose:

Under-takers to provide constant supply.

Provided that for the purposes of testing or for any other purposes whatsoever connected with the proper working of the undertaking, or in case of emergency affecting or liable to affect the proper working of any other undertaking from which the Undertakers receive a supply of electricity directly or indirectly, the supply of energy may be discontinued by the Undertakers for such period as may be necessary subject (except in any case of emergency) to not less than 24 hours notice being given by the Undertakers to all consumers likely to be affected by such discontinuance.

Miscellaneous

36. The Undertakers shall within one month after they have become subject to these Regulations serve a printed copy thereof upon the local authority in cases where the local authority are not themselves the Undertakers; and the Undertakers shall also keep printed copies of these Regulations at their principal office within the area of supply and shall supply a copy thereof to any person demanding the same at a price per copy not exceeding the price paid by the Undertakers themselves for the printed copies.

Publication of Regulations.

This Regulation shall not apply to the Central Electricity Board.

Inspections, examinations and tests by Electricity Commissioners.

37. Officers and servants of the Electricity Commissioners duly authorised by them shall be entitled at all times to inspect and to make examination and tests of the works of the Undertakers and to examine and take records of the readings of any instruments, and the Undertakers shall afford all due facilities for any such inspections, examinations and tests:

Provided that the Undertakers shall not be responsible for any interruption in the supply of energy which may be occasioned by any such inspection, examination or test.

Notice of accidents: Inquiries by Electricity Commissioners.

38.—(a) The Undertakers shall send to the Electricity Commissioners notice of any accident by explosion, or fire, and also of any other accident of such kind as to have caused, or to be likely to have caused, loss of life, or personal injury which has occurred in any part of the Undertakers works or their circuits, or in connection with those works or circuits, and also notice of any loss of life or personal injury occasioned by any such accident. The notice shall be sent by the earliest practicable post after the accident occurs, or, as the case may be, after the loss of life or personal injury becomes known to the Undertakers. If the Undertakers fail to comply with the provisions of this paragraph they shall be liable, for each default, to a penalty not exceeding twenty pounds.

(b) The Electricity Commissioners may also, if they deem it necessary, appoint any Electric Inspector or other fit person to inquire and report as to the cause of any accident affecting the safety of the public, which may have been occasioned by or in connection with the Undertakers works, whether notice of the accident has or has not been received from the Undertakers, or as the manner in which and extent to which the provisions of the Electricity (Supply) Acts and any Act or Order relating to the undertaking, and of any Regulations in force and applicable to the undertaking, so far as those provisions affect the safety of the public, have been complied with by the Undertakers; and any person appointed under this Regulation, not being an Electric Inspector, shall for the purposes of his appointment have all the powers of an Electric Inspector under any Act or Order relating to the undertaking.

(c) The foregoing provisions of this Regulation shall not apply to the Undertakers in respect of any undertaking authorised by an Act or Order which incorporates Section 38 of the Schedule to the Electric Lighting (Clauses) Act, 1899, or includes any corresponding provision.

(d) The Undertakers shall send to the Electricity Commissioners by the earliest practicable post after the happening becomes known to the Undertakers notice of any fatality on the premises of any ordinary consumer occasioned by or attributed to the consumer's installation.

Penalty for default.

39. If the Undertakers make default in complying with any of the preceding Regulations, they shall, subject to the provisions of Regulation 38 (a) and of any Act or Order relating to the undertaking, be

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Regulations 4 and 8. (Connection with earth.)

By Section 10 (c) of the Schedule to the Electric Lighting (Clauses) Act, 1899, it is provided in effect that the Undertakers shall *not* permit any part of any circuit to be connected with earth *except* in the following circumstances:—

- (i) So far as may be necessary for carrying out the provisions of Regulations made under the Electricity (Supply) Acts; and
- (ii) In virtue of an approval of the Electricity Commissioners with the concurrence of the Postmaster-General, and in accordance with the conditions, if any, of that approval.

Regulations 4 and 8 prescribe the circumstances in which and conditions under which it is necessary for the Undertakers to connect with earth certain systems for use at low and medium voltage (Regulation 4), and systems for use at high voltage (Regulation 8); and with the concurrence of the Postmaster-General, the Electricity Commissioners have extended these two Regulations so as to permit of certain kinds of multiple earthing, including that involved in giving a supply from an earthed system to an electrode boiler which is also connected with earth, subject to specified conditions.

The attention of Undertakers is specially directed to the conditions which place them under obligation to serve prior notice on the Postmaster-General giving certain particulars and also stating the location of all the points of earthing concerned in any multiple earthing carried out under these Regulations. The Electricity Commissioners have ascertained that such notices may be served on the Post Office Sectional Engineer, or, where there is no Sectional Engineer, on the Telephone Manager.

Any multiple earthing other than that permitted by these two Regulations will necessitate the approval of the Electricity Commissioners and the concurrence of the Postmaster-General; and the Undertakers will accordingly have to make individual applications to the Electricity Commissioners for any desired approvals.

Attention is drawn to the new proviso to paragraph (vi) of Regulation 4. Since the issue of the Electricity Supply Regulations, 1934, and as indicated in their Annual Reports, the Electricity Commissioners have dealt with a number of applications for consent to a modification of the requirements of paragraph (e) of Regulation 4 thereof (corresponding to the above-mentioned paragraph (vi)) to permit of the insertion of the secondary winding of a high frequency transformer in the connection with earth of an alternating current distribution system for the purpose of the remote control of switches for street lighting. The new proviso embodies the conditions which the Electricity Commissioners attached to their consents in a number of cases, and the object of the proviso is to obviate individual applications in the future.

Regulation 7. (Electric lines to be metal sheathed: Precautions against excess leakage.)

This Regulation, the form of which has been revised, is intended to relate more particularly to cable systems for use at high voltage, and does *not* apply to overhead

The intention of the second proviso to paragraph 3 is to preserve the rights and obligations of the Undertakers in relation to consumers or other bodies under consents to or approvals of operations of a continuing character which have been given under prior Regulations and have not been fully exercised. For example, there are cases where Undertakers in virtue of such consents are in process of changing over the type of current or the voltages declared to consumers and have not yet completed the whole of the change-over authorised by the consents.

General Scope of Regulations

The Regulations are divisible into two main groups concerned respectively with—

- (a) the electric lines and works of the Undertakers (Regulations 1 to 21 inclusive); and
- (b) the supply of energy to consumers and consumers installations (Regulations 22 to 35 inclusive).

There are also certain additional Regulations of a miscellaneous character (Regulations 36 to 39 inclusive).

Electric Lines and Works of the Undertakers

(Regulations 1 to 21 inclusive)

With regard to the Regulations falling into the first main group, brief comment may be made on the provisions of the undermentioned.

Regulations 1 and 6. (Test for resistance of insulation.)

These two Regulations are concerned with the testing of the insulation of electric lines for use at low and medium voltage (Regulation 1), and of electric lines and apparatus for use at high voltage (Regulation 6) before such lines and apparatus are actually brought into use by the Undertakers for the purposes of the supply of energy.

The Regulations are intended to ensure that the electric lines and apparatus shall be subjected to certain tests *after* they have been placed in position but *before* final jointing to or connection with a live system and before they are brought into use, although tests were carried out *prior to* the electric lines or apparatus being placed in position (for example while they were at the manufacturers works).

Regulation 1 does *not* apply to overhead lines *unless* the Electricity Commissioners otherwise prescribe in any particular case. With regard to this qualification, it should be noted that insulated cables are sometimes placed above ground in the open air (See Note on definition of "Overhead lines" on page 15).

Regulation 6 is *not* excepted from application to overhead lines.

lines *unless* the Electricity Commissioners otherwise prescribe in any particular case. With regard to this qualification, it should be noted that high voltage insulated cables are sometimes placed above ground in the open air (See Note on definition of "Overhead lines" on page 15).

Regulation 9. (General conditions as to transformation, control, etc.)

The Electricity Commissioners are advised that a substation under a street is a street box within the meaning of the Electricity (Supply) Acts. In consequence of the words in brackets in paragraph (a) (iii) of Regulation 9, the provisions of that paragraph do *not* extend to any underground street box which by reason of its size and contents would be a substation as defined in the Regulations.

Regulation 12. (Standard of construction of electric lines.)

While this Regulation does *not* preclude the Undertakers from installing electric lines which do not conform in all respects to British Standard Specifications, the standard of construction of the said electric lines must *not be lower* than that prescribed in such Specifications *unless* the Electricity Commissioners otherwise allow in any particular case.

Regulation 13. (Protection against excess energy.)

This Regulation has been amended to make it clear that it does not require the insertion in a service line from a distributing main of a fusible cut-out or automatic circuit-breaker apart from that required by Regulation 24 (Protection of consumers installations against excess energy).

Regulation 14. (Precautions against metal work becoming electrically charged.)

This Regulation, the form of which has been revised, is *excepted* from application to overhead lines. The Overhead Line Regulations of the Electricity Commissioners makes provision for precautions to be taken in cases where line conductors cross over or under or are in proximity to other overhead wires; and in the case of high voltage overhead lines for all metal work other than conductors to be connected with earth.

Regulation 15. (Overhead lines.)

In addition to these Regulations which are expressly excluded from application to overhead lines (for example Regulation 1), there are other Regulations which by their nature do not extend to overhead lines (for example Regulation 19).

Regulation 17. (Bituminous, etc., insulation or protection.)

With regard to paragraph (b) of this Regulation, a prohibition against the bringing into use of any further mains insulated with bitumen or composition of a bituminous character has been in force since June, 1931, when a general Regulation dealing with this matter was made by the Electricity Commissioners as the outcome of an Inquiry into an explosion which occurred in connection with a main of that type.

Regulation 21. (Precautions against failures of supply, etc.; Notice of failures.)

Attention is drawn to the new provisions contained in paragraph (b) of Regulation 21 placing an obligation upon the Undertakers to take all reasonable precautions during and in connection with constructional and maintenance work so as to avoid accidental interruptions of supply and also to avoid danger to the public or to any employees or authorised persons engaged on operations which do not come within the scope of the Home Office Electricity Regulations.

The notice to be given by the Undertakers to the Electricity Commissioners of failures of supply is to be in such form and to contain such particulars as the Commissioners may from time to time prescribe. If and when the Commissioners decide to modify the form at present prescribed, as set out in Appendix "B", due notification of the modifications will be given to all Undertakers.

Supply to Premises of Consumers: Consumers Installations

(Regulations 22 to 35 inclusive)

An important feature of the second main group of Regulations (which are broadly in accord with a corresponding group in the Electricity Supply Regulations, 1934) is the general relationship laid down as between the Undertakers and consumers of electricity.

The Regulations provide that the Undertakers shall not be compelled to commence, or subject to the provisions of Regulation 32 (Discontinuance of supply in certain circumstances) to continue to give, a supply of energy to any consumer unless they are reasonably satisfied as to the suitability and condition of the consumer's installation, e.g. that the conductors and apparatus are sufficient in size and power for the purposes for which the supply is to be used, and are constructed, installed and protected so as to prevent danger as far as reasonably practicable.

The Regulations also accord official recognition to the Regulations for the Electrical Equipment of Buildings (Tenth Edition, September, 1934) issued by the Institution of Electrical Engineers by providing that consumers installations which comply with the provisions of the Institution of Electrical Engineers Regulations (as defined) shall be deemed to fulfil the requirements of Regulations 27, 28 and 29, as the case may be, as regards the suitability and condition of the installations.

It is important to emphasise that the Regulations of 1937 (as was indicated by the Electricity Commissioners in their Fourteenth Annual Report for the year ending 31st March, 1934, when commenting upon the analogous provisions in the Electricity Supply Regulations, 1934) do *not* provide as an essential requirement that a consumers installation *must* comply with the Institution of Electrical Engineers Regulations.

Neither do they entitle the Undertakers, in the absence of other adequate reasons, to decline to connect or give a supply to a consumers installation *merely* on the ground that the installation embodies materials, methods of wiring or appliances other than those specified in the Institution of Electrical Engineers Regulations.

The reasons for so declining must be stated in *writing* by the Undertakers to the consumer, as provided for by Regulation 33 (a); and it is then open to the consumer or his authorised agent in the event of disagreement with the reasons stated by the Undertakers, to have the matter determined in manner provided for by Regulation 33, namely, by an Inspector nominated by the Electricity Commissioners, with a further right of appeal to the Electricity Commissioners.

While the Regulations thus enable all Undertakers to accept the provisions embodied in the Institution of Electrical Engineers Regulations as a standard for consumers installations, they do *not* prescribe those provisions as an absolute standard from which no departure is permissible. At the same time the Regulations enable consumers effectively to resist any demand by the Undertakers for a standard of installation in excess of the provisions of the Institution Regulations.

It should be noted that the Regulations do not apply in respect of the supply of energy to any consumer's installation to which the Home Office Electricity Regulations or the Mines Department Electricity Regulations apply.

Special consideration was given by the Electricity Commissioners to the bearing of Regulations 27 to 30 (inclusive) in relation to the supply of electricity to existing installations.

Owing to developments in technical practice, many existing installations may not be in accord in all respects with the generally accepted standards of construction or installation now current. On the other hand, it appeared to the Electricity Commissioners that unnecessary expense and inconvenience would be caused if an existing supply of electricity to such an installation could be discontinued, or if a new supply to such an installation could be refused in the event of the present occupier leaving the premises and a new consumer coming into occupation, merely on the grounds that the installation was not fully in conformity with current technical practice and irrespective of whether it was otherwise functioning satisfactorily without risk of danger.

With the view of obviating such a condition of affairs, the Electricity Commissioners have included in Regulation 33 (Notices by Undertakers: Procedure as to settlement of differences: Appeals) a protective provision in respect of consumers installations which were connected up and supplied by the Undertakers prior to the prescribed date.

If any question arises of discontinuing an existing supply or of refusing a new supply to such an installation, and the existing consumer or new consumer who

has taken over the installation satisfies an Inspector that the installation is in a satisfactory and safe condition although not in accord with current technical practice, it is not competent for the Inspector to decide that the Undertakers were or are entitled under Regulations 27 to 30 (inclusive) to refuse a supply of electricity to the installation.

In addition to the foregoing general observations, comment may be made on the provisions of the undermentioned Regulations.

Regulation 25. (Undertakers lines, etc., on consumers premises.)

This Regulation relates to electric lines and apparatus placed by the Undertakers on the premises of consumers and either belonging to or under the control of the Undertakers.

Paragraph (a) extends to all such electric lines and apparatus whether on the supply side or on the consumer's side of the supply terminals; and therefore applies to wiring installations and apparatus provided by the Undertakers on terms of hire or hire-purchase. In so far as the agreements between the Undertakers and consumers make provision with respect to the maintenance of such wiring installations and apparatus, paragraph (c) of the Regulation provides for a corresponding adjustment of the obligations of the Undertakers under the Regulation.

Attention is drawn to the new provisions of paragraph (b) which are directed to ensure that the standard of construction and installation adopted by the Undertakers in cases where they provide the consumers wiring and apparatus shall not be lower than the standard which the Undertakers would be prepared to accept for the purposes of Regulations 27 to 30 (inclusive) if the wiring and apparatus had been provided by the consumer.

Any difference which may arise between a consumer and the Undertakers with reference to the standard of construction and installation adopted by the Undertakers in providing the consumers wiring and apparatus can, under the provisions of Regulation 33, be determined by an Inspector, with a right of appeal to the Electricity Commissioners.

Regulation 28. (Supply at low voltage from more than one pair of conductors of system at medium voltage.)

This Regulation relates to cases where, in effect, separate supplies each at *low* voltage are given to separate circuits on the premises of an individual consumer from more than one pair of conductors of a three-wire or multi-phase system at *medium* voltage, so that in the event of the too close proximity of the separate low voltage circuits or of apparatus connected thereto there is the possibility of danger of shock at *medium* voltage.

It should be noted that *both* of the requirements (i) and (ii) specified in paragraph (a) of the Regulations must be complied with to entitle the Undertakers to commence a supply of energy at low voltage to a consumer from more than

one pair of conductors of a medium voltage system. The provisions of paragraph (a) relate to supplies commenced on or after the prescribed date and do *not* apply to supplies commenced by the Undertakers before the prescribed date. (See paragraph 2 (a) (i) of the Short Title, etc.)

The Regulation is *not* concerned with supplies at *medium* voltage, for example with a supply at 400 volts to an electric motor. Such medium voltage supplies come within the scope of Regulation 29 (Supply at medium voltage), and this does *not* prescribe any limitation as to the rating in kilowatts of any apparatus which may be supplied at medium voltage.

Attention is drawn to the amended form of paragraph (b) (iii) of Regulation 28.

Regulation 31. (Supply for luminous tube signs on outside of premises.)

This Regulation in its amended form provides that the Undertakers shall not *knowingly* commence, or, subject to the provisions of Regulation 32, continue to give a supply which is to be or is being transformed to a higher voltage for the purposes of a luminous tube sign or the like on the outside of any premises *unless* the consumer gives a guarantee in writing as to the suitability and condition of the consumers installation.

Regulation 32. (Discontinuance of supply in certain circumstances.)

This Regulation is concerned with the circumstances in which a supply of energy may be discontinued by the Undertakers, and deals with cases of emergency and other cases.

Where the Undertakers are *prima facie* satisfied that immediate action is justified as a work of emergency in the interests of the public safety or in order to avoid undue interference with the efficient supply of energy to other consumers, immediate discontinuance of the supply as a work of emergency is authorised by the Regulation.

In all other cases where the question of possible discontinuance arises, provision is made for due notification to the consumer of the matter complained of by the Undertakers, and for the settlement of any differences that may arise between a consumer and the Undertakers (in manner provided for by Regulation 33). Pending the settlement of any such difference, the Undertakers are not entitled by the Regulation to discontinue the supply except in the event of the development of a condition of emergency.

Every notice given to a consumer under this Regulation (as well as every notice under Regulation 33) must be endorsed with or be accompanied by a copy of Regulations 32 and 33.

In making a Regulation conferring upon the Undertakers the important right to discontinue a supply in circumstances other than those of emergency, the Electricity Commissioners were necessarily concerned to ensure as far as possible

that consumers should be safeguarded against the risk of any unreasonable exercise of the right.

Where the question of the discontinuance of supply arises and the issue turns on the alleged non-compliance of the consumer's installation with the provisions of particular Regulations, it is apparent that there may be legitimate grounds for differences between the consumer and the Undertakers as to the matters complained of or as to the time specified for remedying the same. Even when these matters have been settled either by eventual agreement between the parties or in manner provided for in Regulation 33, there is still the possibility of subsequent differences as to whether defects have been properly rectified and the installation brought into compliance with the relevant provisions of the Regulation concerned.

It has thus been necessary to have regard to a variety of different circumstances in laying down the conditions under which a supply may properly be discontinued by the Undertakers in cases other than those of emergency.

Regulation 33. (Notices by Undertakers: Procedure as to settlement of differences: Appeals.)

This Regulation places an obligation on the Undertakers to give notice in *writing* to a consumer in any case where in pursuance of the Regulations the Undertakers decline to commence, to continue, or to recommence a supply of energy thereto. The notice *must* state the reasons of the Undertakers for so declining; and every notice given to a consumer under this Regulation (as well as every notice under Regulation 32) must be endorsed with or be accompanied by a copy of Regulations 32 and 33.

Provision is then made for the settlement of differences which may arise between a consumer and the Undertakers in connection with such notices, or on certain other matters, by an Inspector nominated by the Electricity Commissioners on the application of the consumer or his authorised agent or of the Undertakers, with a right of subsequent appeal to the Electricity Commissioners.

Reference has already been made to the protective provisions included in this Regulation for cases where consumers installations which were connected up and supplied prior to the prescribed date are shown to be in a satisfactory and safe condition although not fully in accordance with the generally accepted current standard of technical practice. (See pages 9-10.)

Miscellaneous

Of the Regulations and provisions under this heading, attention may be drawn to the following.

Regulation 38. (Notice of accidents: Inquiries by Electricity Commissioners.)

The provisions of paragraphs (a) and (b) of this Regulation are closely in accord with the provisions of Section 38 of the Schedule to the Electric Lighting

APPENDIX "A"

Definitions

The words and expressions which are defined in the Electricity Supply Regulations, 1937, for the purposes of those Regulations may be grouped into the following classes:—

(1) Expressions which are also defined in the *same terms* in the Electricity (Supply) Acts or the Schedule to the Electric Lighting (Clauses) Act, 1899 (subsequently referred to as the Schedule of 1899) for the purposes of those Acts.

This group includes the following word and expressions:—

"Consumer".
"Daily penalty".
"General supply".
"Service line".

} All defined in Section 1 of the Schedule of 1899.

"Electric Line". Defined in Section 32 of the Electric Lighting Act, 1882.

"Generating station". As defined in Section 36 of the Electricity (Supply) Act, 1919, and *not* as defined in Section 25 of the Electric Lighting Act, 1909.

(2) Expressions which are also defined but in *somewhat different terms* in the Electricity (Supply) Acts or the Schedule of 1899 for the purposes of those Acts.

This group includes the following expression and words:—

"Distributing main". The definition in Section 1 of the Schedule of 1899 has been adapted for the purposes of the Regulations by the addition of the words "or intended to be used".

"Energy". The definition in Section 1 of the Schedule of 1899 has been adapted, the words "applying the provisions of the principal Act to the Special Order" having been replaced in the Regulations by the words "applying the provisions of the Electricity (Supply) Acts, 1882 to 1936, to any Act or Order relating to the undertaking of the Undertakers".

"Main". The definition in Section 1 of the Schedule of 1899 has been adapted by the omission of the words "which may be laid down by the Undertakers in any street or public place and". A main as defined in the Regulations for the purposes thereof is thus not limited to a main laid down in any street or public place.

"Works". The definition in Section 32 of the Electric Lighting Act, 1882, has been adapted, the words "object of the Undertakers under this Act" having been replaced in the Regulations by the words "object of the Undertakers under the Electricity (Supply) Acts".

(3) Expressions which have been adapted from *somewhat analogous* expressions in the Electricity (Supply) Acts or the Schedule of 1899.

This group includes the following expressions:—

"Supply of electricity in bulk". The definition in Section 25 of the Electric Lighting Act, 1909, has been adapted. The definition in the Regulations does not include a supply of electricity by an authorised undertaking to a local authority authorised to undertake or contract for the lighting of streets, bridges, or public places.

"Supply terminals". The definition of "Consumer's terminals" in Section 1 of the Schedule of 1899, has been adapted by the omission of the words "and belonging to him". The wiring on the premises of many consumers is provided by and belongs to the Undertakers and forms part of their authorised undertaking. See Section 16 of the Electric Lighting Act, 1909; and Section 23 of the Electricity (Supply) Act, 1919.

(4) Expressions which were defined either in the same or in somewhat different terms in the Board of Trade Regulations of 1909 as adopted by the Electricity Commissioners in 1920 and subsequently included in their Electricity Supply Regulations, 1934.

This group includes the following words and expressions:—

"Connected with earth". The present definition was included in the Regulations of 1934 and accords closely with that of the expression "efficiently connected with earth" contained in the Codes of 1909 and 1920.

"Consumers wiring". The present definition was included in the Regulations of 1934 and was adapted from the definition of "Consumers wires" in the Codes of 1909 and 1920 so as to accord with the definition of "Supply terminals".

(Clauses) Act, 1899. The Acts or Orders of the great majority of authorised undertakers incorporate Section 38 or include a corresponding provision, and the object of paragraphs (a) and (b) of Regulation 38 is to apply similar provisions to all *remaining* Undertakers, the said paragraphs being *excepted* from application to Undertakers who are already subject to Section 38 (or corresponding provision).

The new provisions contained in paragraph (d) of Regulation 38 apply to *all* Undertakers, and are directed to ensure that the attention of the Electricity Commissioners shall be drawn to all cases of fatalities occasioned by or attributed to installations on the premises of ordinary consumers. The expression "ordinary consumer" is intended to mean the general body of consumers, such as domestic consumers, as contrasted with particular consumers (such as large power consumers) supplied under special agreements to whom as a general rule the provisions of the Home Office Electricity Regulations or the Mines Department Electricity Regulations would probably be applicable.

It should be noted that in virtue of the concluding paragraph of the Regulations, it is open to individual Undertakers to make application to the Electricity Commissioners from time to time for the making of a special Regulation.

A corresponding paragraph was included in prior Codes, and special Regulations have been made by the Electricity Commissioners in cases for example where a new technical development (such as the use in connection with overhead line systems of coils for suppressing arcing to earth) could not be brought into operation without some modification of the then-current Regulations, or where the Undertakers showed good cause for some variation in the provisions of a particular Regulation in its application to their undertaking.

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