

Electricity Rules, 1937

27th March 1937

Notification No. S. 601, In exercise of the powers conferred by section 37 of the Electricity Act, 1910 (IX of 1910), and in supersession of the Electricity Rules, 1922, the Central Government is pleased after previous publication to make the following Rules applicable to the whole of Pakistan, to regulate the generation, transmission, supply and use of energy, and generally to carry out the purposes and objects of the said Act: -

CHAPTER 1 PRELIMINARY

1. Short title. These Rules may be called the Electricity Rules, 1937.

2. Definitions. (1) In these Rules, unless there is anything repugnant in the subject or context: -

(a) 'the Act' means the Electricity Act, 1910 (IX of 1910);

(b) 'ampere' means a unit of electric current, and is the electric current which, when passed through a solution of nitrate of silver, in water in accordance with the specification set out in Annexure I deposits silver at the rate of 0.001118 of a gramme per second;

The aforesaid unit is represented by the current which is passing in and through the coils of wire forming part of the instrument marked 'Government of Pakistan Ampere Standard Verified' when the suspended coil in its sighted position is exactly balanced by the force exerted by gravity in Calcutta on the iridio platinum weight forming part of the said instrument;

(c) 'Annexure' means an Annexure to these Rules;

(d) 'apparatus' means electrical apparatus, and includes all apparatus, machines, and fittings in which conductors are used, or of which they form a part;

(e) 'bare' means not covered with insulating material;

(f) 'circuit' means an electrical circuit forming a system or branch of system ;

(g) 'concentric system' means a system in which a conductor, called the inner conductor, is insulated and in which the circuit is completed through one or more conductors, called the outer conductors, which are insulated from one another and are disposed over the insulation of, and more or less completely round, the inner conductor ;

(h) 'conductor' means an electrical conductor arranged to be electrically connected to a system ;

(i) 'covered with insulating material' means adequately covered with insulating material of such quality and thickness that there is no danger ;

(j) 'cut-out' means appliance for automatically interrupting the transmission of energy through any conductor when the current rises above a predetermined

amount;

(k) 'danger' means danger to health or danger to life or limb from shock, burn, or other injury to persons, or from fire or explosion, attendant upon generation, transformation, distribution, or use of energy;

(l) 'dead' means at or about earth potential, and disconnected from any live system, provided that apparatus separated from a live conductor by a spark gap shall not be considered dead ;

(m) 'distributing licensee' means a licensee who obtains from another licensee or other source a supply of energy in bulk for distribution;

(n) 'earthed' or 'connected with earth' means connected with the general mass of earth in such manner as to ensure at all times an immediate discharge of energy without danger;

(o) 'earthing system' means an electrical system in which all the conductors are earthed ;

(p) 'electrician' means a person who is over 21 years of age and is competent for the purpose of the Rule in which the term is used and who has been appointed in writing by the lessee, owner, agent or manager of any apparatus for the purpose of supervising it;

(q) 'Inspector' means an Electric Inspector appointed under section 36;

(r) 'Inspector of Mines' means an Inspector appointed under the Mines Act, 1923 [IV of 1923];

(s) 'live' means electrically charged;

(t) 'metallic covering' means iron or steel armouring, with or without a lead or other metallic sheath as the conditions of the case may require, or an iron or steel pipe surrounding one or more conductors ;

(u) 'neutral conductor' means that conductor of a multiwire system, the pressure of which is normally intermediate between the pressures of the other conductors of the system ;

(v) 'non-licensee' means a person generating, supplying, transmitting or using energy to whom any of the provisions of Part III of the Act apply;

(w) 'ohm' means a unit of electric resistance, and is the resistance offered to an electric current by a column of mercury at the temperature of melting ice 14-4521 grammes in mass of an uniform cross-sectional area and of a length of 106-3 centimeters; the aforesaid unit is represented by the resistance between the terminals of the instrument marked 'Government of Pakistan Ohm Standard Verified' to the passage of an electric current the coil of wire forming part of the aforesaid instrument and connected to the aforesaid terminals is in all parts at a temperature of 30°C ;

(x) 'open sparking' means sparking which owing to the lack of adequate provisions for preventing the ignition of inflammable gas external to the apparatus would ignite such inflammable gas ;

(y) 'owner', 'agent' or 'manager' of a mine have the same meanings as are assigned to them in sections 3(g), (3)(a) and 15(l), respectively, of the Mines Act, 1923 (IV of 1923);

(z) 'pressure' means the difference of electric potential measured in volts between any two conductors, or between any part of either conductor and the earth as measured by a suitable voltmeter, and is said to be :--

(i) 'low' where the normal pressure is not greater than 250 volts, and the pressure in no circumstances exceed 263 volts;

(ii) 'medium' where the normal pressure is greater than 250 volts but is not greater than 650 volts, and the pressure in no circumstances exceeds 683 volts;

(iii) 'high' where the normal pressure exceeds 650 volts of the pressure at any time exceeds 683 volts;

(aa) 'section' means a section of the Act; .

(bb) 'switchgear' means switches, cut-outs of fuses, conductors, and other apparatus in connection therewith, used for the purpose of controlling the current or pressure in any system or part of a system;

(cc) 'system' means an electrical system in which all the conductors and apparatus are electrically connected to a common source of pressure ;

(dd) 'volt' means a unit of electro-motive force, and is the electric pressure which, when steadily applied to a conductor whose resistance is one ohm, will produce a current of one ampere ; and

(ee) 'watt' means a unit of power, and is the energy expended per second by an electric current of one ampere under an electric pressure of one volt.

Explanation.- With alternating current the product of the instantaneous value of the amperes and the instantaneous value of the volts gives the instantaneous value of the power in watts, and the mean value, over a whole period, is the power in watts.

(2) In these Rules other words and expressions have the same meaning as are assigned to them in the Act.

3. Authorization. (1) A licensee, a non-licensee or a consumer, or the owner, agent or manager of a mine, or the agent of any company operating in an oil-field, or the owner of a drilled well in an oil-field, or a contractor for the time being under contract with a licensee, a non-licensee or a consumer, to carry out duties incidental to the generation, transformation, distribution or use of energy may authorise any person for the purpose of any or all of the following Rules, namely, Rules 43, 60, 64 (1), 96 (2), 105 (1), 108 (4) and 109.

(2) No person shall be authorised under Sub-rule (1) unless he is competent to perform the duties specified in the Rules for the purpose of which he is authorised.

(3) No person shall be deemed to be authorised under Sub-rule (1) unless his name has been entered in a list maintained at the office or premises of the person authorizing him, and giving the purposes for which such person is authorised, and the entry has been attested by the person authorizing him.

(4) Every list maintained under sub-rule (3) shall be produced before an Inspector when required.

CHAPTER II INSPECTORS

4. Qualification of Inspector. No person shall be appointed to be an Inspector unless :-

(a) he has had at least five years' practical experience in an electrical or mechanical engineering workshop or electric power station ; and

(b) after acquiring such experience, he has been regularly engaged for a period of at least five years in the practice of electrical engineering :

Provided that the Central Government or the Provincial Government, as the case may be, may appoint any person not so qualified if in their opinion such person is otherwise fully qualified to exercise the power and perform the functions of an Inspector.

5. Entry and Inspection. (1) Any Inspector or any officer appointed to assist an Inspector may enter, inspect and examine any place, carriage or vessel in which he has reason to believe that there is any appliance or apparatus used in the generation, transmission, supply or use of energy, and may carry out tests therein.

(2) Every licensee, non-licensee, consumer and occupier shall afford at all times all reasonable facilities to any such Inspector or officer to make such

examinations and tests as may be necessary to satisfy himself as to the due observance of the Act, the licence (if any) and these Rules.

(3) Every licensee and every non-licensee supplying energy with the previous sanction of the Provincial Government under section 28 shall, if required so to do by an Inspector, provide means for carrying out all tests prescribed by or under the Act of the appliances or apparatus used for the supply of energy by him.

(4) An Inspector may serve an order in the Form set out in Annexure VIII upon any licensee, non-licensee, consumer or occupier, calling upon him to comply with any specified Rule, and the person so served shall thereupon comply with the order within the period named therein, and shall report in writing to the Inspector when the order is complied with :

Provided that, if within that period an appeal is filed against the order the appellate authority may suspend its operation pending the decision of the appeal.

6. Limitation of appeals. No appeal from any decision of an Inspector shall be entertained unless it is preferred within three months of the date of the communication to the appellant of the decision.

7. Amount of fees. (1) The fees set out in Annexure II shall be payable in respect of the services therein mentioned, where the tests are carried out by comparison with the Government of Pakistan Standards referred to in Rule 2(1), (2) The Central Government or the Provincial Government, as the case may be, may levy such fees for testing and inspection and generally for the services of Inspectors as he or it may, from time to time, by general or special order, direct; and may, if he thinks fit, remit any fee or any portion thereof.

8. Incidence of fees. Where an Inspector is called in to decide any difference or dispute, and where a fee for such service is recoverable, the Inspector shall decide by whom such fee shall be payable.

9. Submission of records. An Inspector may require a licensee and a licensee may require an Inspector to submit to such Inspector or licensee for examination any records of tests made in connection with the licensee's works by the licensee or the Inspector ; and the licensee or Inspector shall comply with such requisition.

10. List of consumers. 'An Inspector may require a licensee or non-licensee to submit to him a list of all persons supplied with the energy by him at a pressure exceeding low pressure and of the addresses at which such energy is supplied ; and the licensee or non-licensee shall comply with such requisition.

CHAPTER III LICENCES

11. Application for licences.-- (1) Every, application for a licence shall be signed by, or on behalf of, the applicant and addressed to such officer as the Provincial Government may designate in this behalf, and it shall be accompanied by--

(a) six copies in print, of the draft licence as proposed by the applicant, with the name and address of the applicant and of his agent (if any) printed on the outside of the draft;

(b) three copies, signed by the applicant, of a map of the proposed area of supply, which shall be so marked or coloured as to define any portion of such

area which is under the administration of any local authority and shall be on a scale--

- (i) of not less than six inches to a mile, or
- (ii) if no such map is available, of not less than that of the largest scale ordinarily available, or
- (iii) such as may be approved by the Provincial Government;
- (c) a list of any local authorities invested with administration of any portion of the area of supply ;
- (d) an approximate statement describing any lands which the applicant proposes to acquire for the purpose of the licence under the provisions of the Land Acquisition Act, 1894 [1 of 1894] ;
- (e) an approximate is a company which is registered under any of the enactments relating to companies for the time being in force in Pakistan, or in any other part of His Majesty's Dominions, or is incorporated by an Act of Parliament or of the Governor-General in Council or by Royal Charter or Letters Patent, a copy of the Memorandum and Articles of Association ; and
- (g) a treasury receipt for a fee of five hundred rupees paid into a Government treasury in the Province concerned, unless such fee is remitted, wholly or in part, by general or special order of the Provincial Government.

(2) If the application for a licence is rejected or if a licence is revoked under sub-section (3) of section 4 as to the whole or any part of the area of supply, the Provincial Government may at its discretion refund, wholly or in part, the fee referred to in clause (g) of Sub-rule (1).

12. Copies of map and draft licence for public inspection.--The applicant shall deposit at his own office and at that of his agents (if any) and at the office of every local authority invested with the administration of any portion of the proposed area of supply--

- (a) a copy of the map referred to in clause (b) of Sub-rule (1) of Rule 11 for public inspection ; and
- (b) a sufficient number of copies of the draft licence to be furnished to all persons applying for them at a price not exceeding one rupee per copy.

13. Contents of draft licence. The draft licence shall contain the following particulars, namely :--

- (a) a short title descriptive of the proposed undertaking, together with the address and description of the applicant, or, in the case of a firm, the names of all the individual members of the firm ;
- (b) a statement of the boundaries of the proposed area of supply;
- (c) if the generating station is situated, or is to be situated, outside the area of supply or if any intervening area, not included in the area of supply, to be crossed, a list of the streets not included in the area of supply along or across which electric supply-lines are to be laid down or placed ;
- (d) the proposed conditions of supply, including the maximum prices, the nature and amount of the supply (if limited) and the like ;
- (e) a list of the streets (if any) which are repairable neither by Government nor by a local authority and of the railways and temporary (if any) the soil or pavement of which the applicant seeks powers to open or break up, and the names of the persons by whom such streets are repairable, or who are for the time being entitled to work such railway or tramway ;
- (f) the proposed periods after which the right to purchase is to take effect;
- (g) a statement of any special terms of purchase or orders proposed to be made under section 10 ; and
- (h) any proposed modification of the Schedule to the Act to be made under clause (f) of Sub-section (2) of Section 3.

14. Form of draft licence. The Form of draft licence contained in Annexure III may, with such variation as the circumstances of each case require, be used for the purposes of Rule 11, and, if used, shall be sufficient.

15. Advertisement of application and contents thereof. (1) The applicant shall, within fourteen days from the submission of the application under Rule 11, publish notice of his application by public advertisement, and such advertisement shall consist of--

(a) the draft licence,

(b) the addresses of the offices at which, under Rule 12, copies of the map therein referred to may be inspected and copies of the draft licence obtained.

(2) The advertisement shall be headed by a short title corresponding with that at the end of draft licence, and shall state that every local authority, company or person, desirous of making any representation with reference to the application to the Provincial Government, may do so by letter addressed to such officer as the Provincial Government may designate in this behalf, within three months of the date of issue of the newspaper containing the first advertisement.

(3) The advertisement shall be inserted by the applicant in at least three successive issues of such newspaper as the Provincial Government having regard to its circulation among persons likely to be interested, may direct, and, in the absence of any such direction in at least three successive issues of any newspaper published within the proposed area of supply, or if there is no such newspaper of any newspaper published within the Province.

(4) The applicant shall send a copy of each of three successive issues of the newspaper containing the advertisement to such officer as the Provincial Government may designate in this behalf as soon as third issue has appeared, and the Provincial Government shall publish the advertisement published under sub-clause (3) : Provided that any failure or delay on the part of the Provincial Government in publishing the advertisement shall not, of itself, preclude the grant of a licence.

16. Amendment of draft licence. Any person who desires to have any amendment made in the draft licence shall deliver a statement of the amendment to the applicant and to such officer as the Provincial Government may designate in this behalf within the time allowed under Sub-rule (2) of Rule 15 for the submission of representations referring to the application.

17. Local inquiries. If any person locally interested objects to the grant of a licence applied for under the Act, the Provincial Government shall if either the applicant or the objector so desires, cause a local inquiry to be held, of which due notice shall be given to both applicant and objector : Provided that the Provincial Government may refuse such an inquiry if in its opinion the objection is of a trifling or vexatious nature.

18. Approval of draft licence. When the Provincial Government has approved a draft licence, either in original form or in a modified form, such officer as the Provincial Government may designate in this behalf shall inform the applicant of such approval and of the form in which it is proposed to grant the licence.

19. Notification of grant of licence. On receiving an intimation in writing from the applicant that he is willing to accept a licence in the form approved by the Provincial Government the Provincial Government shall publish the licence by notification in the Official Gazette, together with a statement that it has been granted.

20. Date of commencement of licence. The date of a notification under Rule 19 shall be deemed to be the date of commencement of a licence.

21. Deposit of map. When a licence has been granted, a map showing, as regards such licence, the particulars specified in clause (b) of Sub-rule (1) of Rule 11 shall be signed and dated to correspond with the date of the notification of the grant of the licence by such officer as the Provincial Government may designate in this behalf and retained by him as the deposited map.

22. Deposit of printed copies. When a licence has been granted, the licensee shall, within three days, deposit printed copies of the licence together with copies of the map for public inspection at his own office and at that agents (if any) and at the office of every local authority within the area of supply, and shall furnish printed copies of the licence to all persons applying for them at a price not exceeding one rupee per copy.

23. Application for written consent of Provincial Government in certain cases.-- If a licensee desires the written consent of the Provincial Government under Sub-section (5) of section 2 to enable him to open or break up the soil or pavement of any street which is repairable neither by Government nor by a local authority, or any railway or tramway, he shall, apply for such consent in writing to such officer as the Provincial Government may designate in this behalf, and shall describe accurately the street, railway or tramway which he seeks power to open or break up and the names of persons by whom such street is repairable, or who are for the time being entitled to work such railway or tramway, and the extent to which he propose to open or break-up the same.

24. Amendment of licence. (1) No alterations or amendments in the terms and conditions of any licence shall be made under clause (b) of sub-section (3) of section 4 until they have been published by the applicant and by the Provincial Government, and the provisions of Sub-rules (2), (3) and (4) of Rule 15 shall apply to such publication.

(2) If any such alteration or amendment as is referred to in Sub-rule 1 is made, it shall be notified by the Provincial Government in the Official Gazette.

CHAPTER IV CONDITIONS OF SUPPLY BY LICENSEE

25. Precautions against leakage before connection. (1) A licensee shall not connect with his works the apparatus on the premises of any applicant for a supply unless he is reasonably satisfied that the connection will not at the time of making the connection cause a leakage from that apparatus exceeding one five-thousandth part of the maximum supply demanded on the applicant's premises.

(2) If a licensee declines to make a connection in accordance with sub-rule (1), he shall serve upon the applicant a notice stating reason for so declining.

26. Leakage on consumer's premises. If a licensee has reason to believe that there is in the system of a consumer leakage which is likely to cause danger, he may give the consumer reasonable notice in writing that he desires to inspect and test the apparatus,

(2) If on such notice being given :

(a) he consumer does not give all reasonable facilities for inspection and testing, or

(b) a leakage from the consumer's system exceeding one five-thousandth part of the maximum supply required by the consumer is shown to exist, the licensee may forthwith discontinue to supply energy to the system in

question; giving immediate notice of the discontinuance to the consumer, and need to recommence the supply until he is satisfied that the cause of the leakage has been removed.

27. Appeal to Inspector in regard to leakage. (1) If an applicant for a supply or a consumer is dissatisfied with the action of a licensee under the Rule 25 or Rule 26 in declining to make a connection or in discontinuing, or in not recommencing the supply of energy to his system, he may appeal to an Inspector, and the Inspector or under his orders any other officer appointed to assist the Inspector shall, on such application and on payment of the fee fixed under Sub-rule (2) of Rule 7, test the apparatus for the existence of leakage.

(2) The test shall be carried out within forty-eight hours of the receipt of the application for it or of the payment of the fee under Sub-rule, (1) whichever is later.

(3) If the Inspector or other officer, as aforesaid, on testing finds that the leakage from the appellant's system is less than one five-thousandth part of the maximum supply required by the appellant, the Inspector shall notify the licensee, and the licensee shall within twenty four hours, commence or continue the supply of energy, and the licensee shall pay to the appellant an amount equal to the fee paid by the appellant to the Inspector under Sub-rule (1), if the Inspector so directs.

(4) This Rule shall be endorsed on every notice given under the provisions of Rule 25 or Rule 26.

28. Declared pressure of supply to consumers. Before commencing to supply energy to a consumer, a licensee shall declare to the consumer the pressure at which he undertakes to supply energy and he shall not, without the written consent of the consumer or the previous sanction of the Provincial Government, permit the pressure to vary therefrom by more than 5 per cent in the case of low or medium pressure, or by more than 12½ per cent in the case of high pressure : Provided that, for the purposes of testing or for any other purposes connected with the efficient working of the undertaking, the supply of the energy may be discontinued by the licensee for such period as may be necessary subject (except in cases of emergency) to not less than twenty-four hours' notice being given by the licensee to all consumers likely to be affected by such discontinuance; and in the event of any such consumer objecting, the supply of energy shall not be discontinued (except in cases of emergency) without the consent of the Provincial Government and subject to such conditions as it may impose.

29. Declared frequency of supply to consumers. From the time of commencing the supply of energy to a consumer by means of an alternating current a licensee shall declare to the consumer the frequency at which he undertakes to supply energy and the licensee shall not, without the written consent of the consumer or the previous sanction of the Provincial Government, permit the frequency to vary therefrom by more than 4 per cent.

30. Examination of licensee's records by consumer. A consumer may, after giving not less than twenty-four hours' notice to the licensee, enter any testing station established by the licensee, in accordance with clause XIII of the Schedule to the Act, and may examine the records of the tests made therein ; and he may also take copies of or extracts from such records on payment to the licensee of a sum of one rupee for every such examination of a record covering a period of twenty-four hours or any part of twenty-four hours.

31. Sealing of meters. (1) A licensee may affix one or more seals to any meter,

maximum demand indicator, or other apparatus placed upon a consumer's premises in accordance with section 26, and to any cut-out placed upon a consumer's premises in accordance with Rule 40, and no person other than the licensee shall break any such seal.

(2) The consumer shall use all reasonable means in his power to ensure that no such seal is broken otherwise than by the licensee.

32. Limits of errors in the meter's. The limits of error permissible, in a meter placed upon a consumer's premises in accordance with the section 26 are for the purposes of that section the following, namely :-

(a) where the meter is of a type included in the 'British Standard Specification for Electricity Meters, No. 37' dated 1930, the limits of error laid down in that Specification;

(b) where the meter is of any other type, it shall not register more than 3 per cent, above or below absolute accuracy at all loads in excess of one fifth of full load and up to full load ;

(c) no meter shall register at no load.

33. Conditions for maximum demand indicators. 'The conditions with which a maximum demand indicator or other apparatus placed upon a consumer's premises in accordance with the section 26 shall comply are for the purposes of that section the following, namely :'

(a) it shall not register more than 3 per cent, above or below absolute accuracy at all loads in excess of one-fifth of full load and upto full load ;

(b) it shall not register at no load.

34. Sale of plans. Copies of plans or sections such as are referred to in clause VI of the Schedule to the Act shall be supplied by the licensee to every applicant at a price not exceeding one rupee per square foot.

35. Point of commencement of supply. The point at which the supply of energy by a licensee to a consumer shall be deemed to commence shall:--

(a) where the amount of energy supplied to a consumer or the electrical quantity contained in the supply is ascertained by meter be, in respect of a conductor from the service line which passes through the meter, the point at which such conductor enters the meter, and, in respect of a conductor from the service-line which does not pass through the meter, the point on such conductor nearest to the meter ;

(b) where the amount of energy supplied to a consumer or the electrical quantity contained in the supply is not ascertained by meter, by the point at which the cut-out is inserted in the service-line by the licensee in accordance with Rule 40.

36. Preparation and submission of accounts.-- (1) Every licensee, unless exempted in accordance with section 11, shall cause the accounts of his undertaking to be made up to the thirty-first day of December or the thirty first day of March, at the option of such licensee, or to such other date as the Provincial Government may approve.

(2) Such licensee shall prepare and render an annual statement of his accounts in accordance with the provisions of section 11 within a period of six months from such date as aforesaid, or such extended period as the Provincial Government may authorise after it is satisfied that the time allowed is insufficient owing to any cause not within the control of the licensee; and the statement shall be rendered in duplicate if the Provincial Government so desires.

(3) The accounts shall be made up as far as circumstances permit in one or

other of the prescribed forms set out in Annexure IV and V according as the licensee is or is not a local authority and may, at the option of the licensee, be rendered either in Pakistan or in British Sterling currency:

Provided that the Provincial Government may, by special or general order, direct that the accounts of any undertaking shall be made up in any form it may direct in such order.

37. Forms of certain requisitions. Requisitions under Sub-clause (4) of clause V or Sub-clause VI as the case may be, of the Schedule to Act, shall be made in the form set out in Annexure VI or Annexure VII.

CHAPTER V GENERAL PRECAUTIONS FOR THE SAFETY OF THE PUBLIC

38. Responsibility of licensees for their works on consumers' premises.-- Licensees shall ensure that all electric supply-lines and apparatus belonging to them, or under their control which are on a consumer's premises, are maintained in a safe condition electrically and mechanically and shall take due precautions to avoid danger arising on such premises from such supply-lines or apparatus.

39. Service-lines on consumers' premises Service lines placed by a licensee on the premises of a consumer which are underground or which are accessible without the aid of a ladder or other special appliance shall be so insulated and protected by the licensee as to be secure under all ordinary conditions against electrical, mechanical, chemical, or other injury to the insulation, and against access of moisture.

40. Cut-out on consumers' premises. A licensee shall provide a suitable cut-out in each conductor of every service-line (other than an earthed neutral conductor or the earthed external conductor of a concentric cable) within a consumer's premises, in an accessible position as close as possible to the point of entry. Such cut-out shall be contained within an adequately enclosed fire-proof receptacle:

Provided that where more than one consumer is supplied through a common service-line, each such consumer who so requires shall be provided with an independent cut-out at the point of junction to the common service.

41. Accessibility of bare conductors. Where bare conductors are used in a building the owners of such conductors shall ensure that they are inaccessible without the aid of a ladder or other special appliance and shall provide switches for rendering them dead whenever necessary.

42. Handling of apparatus. Before any conductor or apparatus is handled, adequate precautions shall be taken, by earthing or other suitable means, to discharge electrically such conductor or apparatus, and any adjacent conductor or apparatus if there is danger therefrom, and to prevent any conductor or apparatus from being accidentally or inadvertently electrically charged when persons are working thereon:

Provided that this Sub-rule shall not apply to the cleaning of commutators and sliprings working at low or medium pressures,

43. Repairs to apparatus. No repair of any part of any apparatus shall be effected while the part is live, except by an authorised person.

44. Supply to vehicles, etc. Every person owing a vehicle, travelling crane or

the like to which energy is supplied shall ensure that it is efficiently controlled by a suitable switch enabling all pressure to be cut-off, and, where such vehicles, travelling cranes or the like run on metal rails, the owner shall ensure that the rails are electrically continuous and earthed.

45. Cables for portable motors. (1) Trailing cables shall not be used for portable motors and apparatus connected therewith unless they are specially flexible, heavily insulated and protected from mechanical injury.

(2) Whether the protection is by means of metallic covering, the covering shall be in metallic connection with the frame of the motor and earth.

46. Instructions for restoration of persons suffering from electric shock.

(1). Instructions, both in English and in the vernacular of the district, for the restoration of persons suffering from electric shock, shall be affixed by the owner in a conspicuous place in every generating station and sub-station, and in every factory as defined in clause (j) of section 2 of the Factories Act, 1934 (XXV of 1934), in which electricity is used as the Inspector may, by notice served on the owner, direct.

(2) Copies of the instructions shall be supplied on demand by every Inspector at a price to be fixed by the Provincial Government.

47. Instructions in artificial respiration. The owner of every generating station and sub-station and of every factory to which Rule 46 applies shall ensure that all authorised persons employed by him are acquainted with and able to apply the instruction referred to in Rule 46.

48. Precautions to be adopted by consumers and owners, electrical contractor and electrical workmen. (1) No electrical installations work, including additions, alterations, repairs, and adjustments to existing installations, except such replacement of lamps, fans, fuses, switches and other component parts of the installation as in no way alter its capacity or character, shall be carried out upon the premises or on behalf of any consumer or owner for the purposes of the supply of energy to such consumer or owner except by an electrical contractor licensed by the Provincial Government in this behalf and under the direct supervision of a person holding a certificate of competency issued by the Provincial Government:

Provided that, the Provincial Government may by notification in the Official Gazette exempt on such conditions as it may impose any such description of work either generally or in the case of any specified class of consumers or owners from so much of this Sub-rule as requires such work to be carried out by an electrical contractor licensed by the Provincial Government in this behalf.

[(1A) No electrical installation work which has been carried out in contravention of Sub-rule (1) shall be connected with the work of any licensee or other supplier of energy.]

(2) Sub-rule (1) shall come into force in any Province or part thereof on such date as the Provincial Government may by notification in the local official Gazette appoint and Sub-rule (1A) shall come into force in any Province or part thereof on the 10th October, 1943, or one year after Sub-rule (1) has come into force therein, whichever is later]

[(3) This Rule shall not, unless the Central Government otherwise directs, apply to any work carried out by, or on behalf of, the Central Government.]

CHAPTER VI ELECTRIC SUPPLY LINES AND APPARATUS

49. Construction, insulation and earthing of apparatus. (1) All apparatus shall be sufficient in power and size and of sufficient mechanical strength for the work it may be required to do, and so far as is practicable, shall be so constructed, installed, protected, worked and maintained as to prevent danger.

(2) All insulating material shall be chosen with special regard to the circumstances of its proposed use. It shall be of mechanical strength sufficient for its purpose, and so far as is practicable, shall be of such a character or so protected as fully to maintain its insulating properties under working conditions of temperature and moisture.

(3) No live parts shall be exposed as to be capable of being touched by persons not intended to have access to them.

(4) Every part of a system shall be kept efficiently insulated from earth except that :--

(i) the neutral point of a ployphase system may be earthed at one point only ;

(ii) the mid-voltage point of any system, other than a concentric system, may be earthed at one point only.

50. Accidental charge. The owners of all circuits and apparatus shall so arrange them that there shall be no danger of any part thereof becoming accidentally charged to any pressure beyond the limits of pressure which it is intended.

51. Identification of earthed and earthed neutral conductors and positions of switches and cut-outs therein. In any case where the conductors include an earthed conductor of a two-wire system, or an earthed neutral conductor of a multi-wire system or a conductor which is to be connected thereto, the supply of energy shall not be commenced until and unless the following provisions have been or are complied with namely :--

(1) an indication of a permanent nature shall be provided by the owner of the earthed or earthed neutral conductor, or the conductor which is to be connected thereto, to enable such conductor to be distinguished from any live conductor. Such indication shall be provided :-

(a) where the earthed or earthed natural conductor is the property of the licensee at or near the point of commencement of supply ;

(b) where a conductor forming part of a consumer's system is to be connected to the licensee's earthed or earthed neutral conductor at the point where such connection is to be made ; and

(c) in all other cases, at a point corresponding to the point of commencement of the supply or at such other point as may be approved by an Inspector.

(2) No cut-out, link or switch other than a linked switch arranged to operate simultaneously on the earthed conductor and live conductor shall be inserted or remain inserted in any earthed conductor of a two-wire system or in any earthed neutral conductor of a multi-wire system or in any conductor connected thereto, with the following exceptions :

(i) a link for testing purposes, or

(ii) a switch for use in controlling a generator or transformer, or

(iii) a switch or link in the connection between the earthed conductor or the earthed neutral conductor and earth at a generating station or sub-station for use in the testing and emergencies only:

Provided that in the case of system in use prior to the 23rd December, 1932, no penalty shall attach to any breach of this Rule occurring before 23rd December, 1940.

52. Crossing metallic substances. (1) Where an electric supply-line crosses, or is in proximity to, any metallic substance the owner of the supply-line shall take such precautions as an Inspector may approve against the possibility of the

metallic substance becoming charged.

(2) Where such metallic substance is introduced after the electric supply-line has been laid or erected, the cost incurred in taking such precautions shall be refunded to the owner of the electric supply-line by the owner of the metallic substance.

53. Cut-out.--The owner of every electric supply-line (other than the earthed neutral conductor of any system or the earthed external conductor of a concentric cable) shall protect it by a suitable cut-out.

54. Metal casings. All metal casings, or metallic coverings containing or protecting any electric supply-line are apparatus shall be connected with earth by the owner, and shall be so joined and connected across all junction-boxes and other openings as to make good mechanical and electrical connection throughout their whole length:

Provided that this Rule shall not apply to isolated wall tubes or to brackets, electroliers, standards switch or fan regular covers of other fittings (other than portable hand-lamps in factories) where the supply is at low pressure.

55. Junction boxes. The owners of all street junction-boxes or pillars containing circuits or apparatus shall secure their covers and doors in such a manner that they can be opened only by means of a special appliance.

56. Distinction of circuits of different pressure.--The owner of every generating station, sub-station, junction box or pillar in which there are any circuit or apparatus, intended for operation at different pressure, shall ensure that the respective circuits are readily distinguishable from one another.

57. Connection with earth of frames of generators, etc. The frame of every generator, stationary motor, and so far as is practicable, portable motor, and the metallic parts (not intended as conductors) of all transformers and regulating or controlling apparatus connected with the supply, shall be earthed by the owner by two separate and distinct connection with earth.

58. Connection with earth of a multi-wire system. In every distributing system in which there is a neutral conductor, where the pressure between the neutral conductor and an outer or phase conductor exceeds 125 volts, the neutral conductor shall be connected with earth by two separate and distinct connections from the neutral bus-bar and in accordance with the following provisions, namely :

(a) the connection shall be made at one point only on each distinct system, namely, at the generating station or sub-station, or both, as the case may be, and the insulation of the system shall be maintained at all other parts ;

(b) the connection shall not be made by the aid of, nor shall it be in contact with any water-main, gas-main or similar main not belonging to the licensee or non-licensee, as the case may be, except with the consent of the owner thereof and of the Inspector ; a resistance, not exceeding 20 ohms may be inserted between the neutral bus-bar and earth, and if so inserted, it shall be of sufficient cross-sectional area to carry the current which would pass should an outer or phase conductor become' accidentally connected with earth ;

(c) the connection shall not be removed except for the purpose of testing in which case it shall be made good again as soon as such test is finished, and a record of any such disconnection shall be kept by the licensee or non-licensee, as the case may be ;

(d) the connection shall not be removed in a licensee's system except between 1 a.m. and, 3 a.m., and in a non-licensee's system, while the generator is in operation and energy is being used ;

(e) the current from the neutral conductor to earth shall in the case of a licensee's direct current distributing system, be continuously recorded, and, if at any time it exceeds one-thousandth part of the maximum supply current, steps shall immediately be taken to improve the insulation of the system.

59. Connection with earth of concentric conductors. '(I) Notwithstanding anything contained in Sub-rule (4) of Rule 49, when concentric conductors are used, the owner shall maintain the insulation throughout, except that the external conductor may be connected with earth at one point:

Provided that where a person generates electricity exclusively for use on his own premises, he may use a bare external conductor if it is connected with earth and if no switch, cut-out or circuit breaker is inserted in that conductor or in any conductor connected thereto.

Exception. Switches, cut-outs or circuit breakers may be used to break the connection with the generators or transformers supplying energy:

Provided that in no case shall the connection of a bare external conductor with earth be thereby broken.

CHAPTER VII SUPPLY AT MEDIUM OR HIGH PRESSURE

60. General precautions applicable to supply at medium or high pressure.

Where a licensee proposes to supply or use energy at medium or high pressure, he shall give notice to an Inspector and shall not commence or continue the supply unless and until he has complied with the following provisions, namely :-

(a) all live parts of apparatus shall, unless accessible only to, and under the control of, an authorised person, be protected by mechanically strong metal casings or metallic coverings securely fastened throughout;

(b) suitable linked switch, of requisite capacity to carry and break the current, shall be inserted in each conductor, near the point of origin on the consumer's premises ;

(c) every conductor, unless accessible only to an authorised person shall be, as far as is practicable, completely enclosed in a mechanically strong metal casing or metallic covering, securely fastened throughout or fixed in such other manner as may be approved in writing' by an Inspector ;

(d) the supply to every apparatus shall be efficiently controlled by suitable linked switches, of requisite capacity to carry and break the current, in each conductor, placed near the apparatus in such a position as to be readily handled by the operator, so that by their means all pressure can be cut off from the apparatus concerned and from any device in connection therewith :

[Provided that this clause shall not apply in the case of transformers, motors and other apparatus where these are controlled by remotely operated switchgear and where suitable arrangements are made for preventing the remote switch from being closed while men are working on the transformer, motor or other apparatus controlled by the switch, or in cases where compliance with this clause would render inoperative the provisions of Sub-rules (2) and (3) of Rule 62 ;]

(e) the word 'Caution', both in English and in the vernacular, shall be affixed permanently in a conspicuous position, where possible, on every generator and every motor and every controlling or regulating apparatus in connection with such generator or motor :

Provided that, where it is not possible to affix them on the generator, motor, or apparatus, they shall be affixed as near as possible:

Provided also that, where the generator, motor, controlling or regulating apparatus, is within an enclosure accessible only to an authorised person, one notice affixed to the enclosure shall be sufficient for the purposes of this Sub-rule.

61. Main switchboard. The owner of every main switchboard connected with a supply of energy at medium or high pressure shall comply with the following provisions, namely :-

- (a) a clear space of not less than 3 feet in width shall be provided in front of the switchboard ;
- (b) if there are attachments or bare connections at the back of the switchboard, the space (if any) behind the switchboard shall be either less than 9 inches or more than 30 inches in width, measured from the farthest outstanding part of any attachment from conductor;
- (c) if the space behind the switchboard exceeds 30 inches in width, there shall be passage-way clear to a height of not less than 6 feet, save as regards any horizontal supports of the switchboard, which may be placed at a height of not less than 4 feet 6 inches.

[62. Approval of high pressure supply] (1) No licensee or non-licensee shall deliver a high pressure to any person, other than distributing licensee, except with the approval in writing of an Inspector, and subject to such conditions (if any) as such Inspector may think reasonable and proper in the circumstances, and the owner shall not bring the installation into use until it has been inspected by an Inspector.

(2) A consumer supplied with energy at high pressure shall provide and maintain a locked weather-proof and fireproof enclosure of agreed design and location for the purposes of housing the licensee's terminal high pressure apparatus and metering equipment. This enclosure should preferably be in a separate building to the consumer's sub-station or installation but where this is not feasible, the licensee's terminal high pressure apparatus and metering equipment shall be completely segregated from any other part of the consumer's apparatus by fireproof walls. The licensee shall, at all times, have access to the enclosure for the purposes of inspecting his apparatus:

Provided that in case of disagreement between the licensee and the consumer in regard to the design and the location of the enclosure either party may appeal to the Inspector:

Provided further that installations connected to the licensee's high pressure supply before the 4th December, 1943, not fulfilling the conditions of the Sub-rule need not comply therewith before the 5th December, 1944.

(3) Where energy is proposed to be used at high tension by the owner or occupier not being a licensee at high pressure, he shall not bring the installation into use except with the approval, in writing, of the Inspector, and such approval shall not be given until the following conditions have been complied with, namely:-

- (a) every oil-field switch or switch-board, or static condenser or transformer having an oil capacity exceeding 50 gallons shall be segregated from all other apparatus by suitable fire-proof wall, and suitable oil drains and soak-pits shall be provided so as to prevent the spread of oil fires from any part to any other part of the installation ;
- (b) cable trenches inside sub-stations and containing cables shall be filled with sand, pebbles or similar non-inflammable materials or covered with non-inflammable slabs ; and
- (c) such other conditions (if any) as the Inspector may think fit to impose;

Provided that installations brought into use before the 4th December, 1943, and

not fulfilling the conditions of this sub-rule, need not comply therewith before the 4th December, 1944.

(4) When the position of a high pressure motor or other apparatus is changed, notice shall forthwith be given to the Inspector showing the extent and nature of the change of position.

(5) The owner of any high pressure installation (who makes any such alteration in or additions to the installation) as affect the supply shall not utilize the alterations or additions for the purposes of supply unless and until they have been approved by the Inspector.]

63. Testing of insulation, of high pressure circuit. (1) The owner of a high pressure circuit, other than an aerial line, shall not bring it into use unless the insulation of every electric supply-line, machine, device or apparatus pertaining thereto has withstood the continuous application, during one minute, of the testing pressure given in sub-rule (2) ; and the owner shall duly record the results of each test and shall forward them to an Inspector.

(2) For the purposes of Sub-rule (1)--

(a) if the normal working pressure does not exceed 1,000 volts the testing pressure shall be 2,000 volts ;

(b) if the normal working pressure exceeds 1,000 volts but does not exceed 10,000 volts, the testing pressure shall be double the normal working pressure ;

(c) if the normal working pressure exceeds 10,000 volts the testing pressure shall be the normal working pressure plus 10,000 volts :

Provided that an Inspector may, if he thinks fit, accept the manufacturer's certified tests in place of the tests required by this Rule.

64. High pressure electric supply-lines and apparatus placed above ground.

--(1) All owners of high pressure apparatus, including every portion of any high pressure electric supply-line (other than an aerial line) placed above the surface of the ground, unless it is in a sub-station, or in a compartment specially arranged for the purpose and accessible only to authorised persons, shall ensure that it is completely enclosed in, or protected by, a mechanically strong metal casing or metallic covering securely fastened throughout:

Provided that this Sub-rule shall not apply to neon-signs and X-rays apparatus which are operated in accordance with instructions issued by the Inspector.

(2) All owners of circuits and apparatus connected with any high pressure apparatus to which Sub-rule (1) is applicable shall ensure that they are marked at frequent intervals with the word 'Caution' both in English and in the vernacular. All supports of high pressure aerial lines shall be similarly marked at frequent intervals.

CHAPTER VIII AERIAL LINES

65. Minimum, strength of conductors of aerial lines. The owner of an aerial line shall not use it for the supply of energy unless each conductor has an actual breaking load of not less than 700 lbs:

Provided that, where the pressure is low and the span is of less than 50 feet and, is on the owner's premises a conductor having an actual breaking load of not less than 300 lbs may be used.

66. Maximum intervals between supports. The owner of an aerial line shall ensure that the conductors are attached to supports at intervals, exceeding the safe limits based on the actual breaking load of the conductor and the factor of

safety prescribed in rule 68 :

Provided that where such a line is erected in over, along or across any street, the interval shall not, without the consent in writing of the Inspector exceed 220 feet.

67. Connection with earth of metal supports and stay-wires. (1) The owner of every aerial line supported by metal supports shall ensure that these supports are permanently and efficiently earthed. For this purpose a continuous earth wire securely fastened to each support and connected with earth at four points in every mile, the spacing between the points being as nearly equidistant as possible, shall be provided, or alternatively each support shall be connected to an effective device.

(2) Each stay-wire shall be similarly earthed unless an insulator has been placed in it at a height of not less than ten feet from the ground.

68. Factors of safety. (1) The owner of every aerial line shall ensure that it has the following factors of safety.--

- (i) for metal supports, at least 2.5 ;
- (ii) for other supports, at least 3.5 ;
- (iii) for guard-wires or bearer-wires, at least 3 ;
- (iv) for conductors, at least 2 ;

under all conditions, and that the strength of support in the direction of the line is not less than one-fourth of the strength required in a direction transverse to the line.

(2) For the purpose of calculating the factors of safety :-

- (a) the maximum wind pressure shall be specified by the Provincial Government in each case ;
- (b) for cylindrical bodies the effective area shall be taken as two thirds of the sectional area exposed to wind pressure ;
- (c) for lattice steel or other compound structures the wind pressure on the lee-side members shall be taken as one-half of the wind pressure on the windward side members, and the factor of safety shall be calculated on the Gripping load of structures and upon the elastic limit of tension members ;
- (d) the temperature shall be taken at 30°F or such other temperature as the Provincial Government may specify.

(3) Notwithstanding anything in Sub-rules (1) and (2), in localities where aerial lines are liable to accumulations of ice or snow, the Provincial Government may, by order in writing, specify such factor of safety as it may think fit and the condition under which it is to be calculated.

69. Height from ground and distance from buildings. (1) Every conductor of an aerial line (not being a trolley-wire or a traction-feeder on the same support as a trolley-wire) shall be--

- (a) at least 90 feet above the ground where it is over any part of a street or other public place ;
- (b) if not covered with insulating material inaccessible either from the ground or from any building or structure, whether permanent or temporary except by the aid of a ladder or other special appliance.]

(2) Where an aerial line is on a consumer's or an owner's premises, the height of every conductor from any mineral or refuse dump and from parts of buildings or structures to which persons have access shall, unless the conductors are adequately guarded, be not less than 15 feet or such greater heights as may be necessary to prevent danger.

(3) The owner of the aerial line shall be responsible for ensuring that the provisions of sub-rules (1) and (2) are observed.

70. Erection or alteration of buildings. (1) If, at any time subsequent to the erection of an aerial line, any person proposes to erect a new building or structure, whether permanent or temporary, or to make in or upon any building or structure any permanent or temporary addition or alteration, he shall, if such building, structure, addition or alteration would, during or after construction, result in a contravention of the provisions of sub-rule (1) or sub-rule (2) or rule 69 give notice in writing of his intention to the owner, and to an Inspector and shall furnish therewith a scale-drawing showing the proposed building, structure addition or alteration and the scaffolding required during its construction ;

Provided that the owner may, before so altering the aerial line, require the person from whom the notice was received to deposit the estimated cost of such alteration.

(2) On receipt of such notice the owner shall, without undue delay, so alter the aerial line as to ensure that it will not be accessible in such a manner as to contravene the provisions of Sub-rule (1) or Sub-rule (2) of rule 69 either during or after construction and shall be entitled to recover from the person from whom the notice was received, the cost of such alterations which shall be deemed to include the following items, namely :'

(i) the cost of additional material used on the alteration;

(ii) the wages of labour employed in effecting the alteration ;

(iii) supervision charges to the extent of 15 percent of item (ii) ; and

(iv) any charges incurred by the owner in complying with the provisions of section 16 in respect of such alterations.

(3) No work upon the building, structure, addition or alteration shall be commenced until the Inspector has certified that neither during nor after construction the provisions of sub-rule (1) or sub-rule (2) of rule 69 will be contravened:

Provided that an Inspector may, if he is satisfied that the aerial line has been so guarded to secure the protection of persons and property from injury or risk of injury, permit the work to be executed prior to, or, in the case of a temporary addition or alteration, without the alteration of the aerial line.

71. Conductors at different pressures on same supports. Where conductors forming parts of systems at different pressures are erected on the same supports, the owners shall make adequate provision to- guard against danger to linesmen and other from the lower pressure system being charged above its normal working pressure by leakage from or contact with the higher pressure system ; and the type of construction and the clearances between the conductors of the two systems shall be subject to the prior approval of an Inspector.

72. Protection from lightning. The owner of every aerial line shall adopt efficient means for protecting any portion of the line or any support, guard-wire or bearer-wire of the line which is so exposed as to be liable to injury from lightning.

73. Safety devices. (1) The owner of every aerial line (not being suspended from a dead bearer-wire and not being a trolley-wire) erected over any part of a street or other public place or in any factory or mine or on any consumer's premises shall protect it with a device approved by an Inspector for rendering the line electrically harmless in case it breaks.

(2) An Inspector may by notice in writing require the owner of any such aerial line wherever it may be erected to protect it in the manner specified in sub-rule (1).

74. Lines crossing or approaching each other. Where an aerial line crosses or

is in proximity to any telegraph line the owner of the aerial line shall so protect it as to guard against the possibility of its coming into contact with the telegraph line.

(2) When it is intended to erect a telegraph-line which will cross or be in proximity to an aerial line, the person proposing to erect such telegraph-line shall give notice in writing of his intention to the owner of the aerial line and the owner of the aerial line shall, within twenty-days of receiving such notice provide the protection referred to in Sub-rule (1); the erection of the telegraph-line shall not be commenced unless and until the aerial line is so protected:

Provided that the person proposing to erect the telegraph-line may, if the aerial line transmits energy not exceeding that of medium pressure and where the protection has not been provided by the owner within 48 hours of receipt of the notice, cross or place in proximity to the aerial line a telegraph-line temporarily guarded or carrying wires insulated in accordance with sub-rule (2) of rules 49, but such guarding or insulated wires shall be removed as soon as possible after the regular protection has been provided.

(3) Where an aerial line crosses or is in proximity to an aerial line belonging to another person, the owner of the line which was last erected shall so protect it as to guard against the possibility of its coming into contact the other aerial line.

(4) A person erecting or proposing to erect an aerial line which crosses or is in proximity to another aerial line may require the owner of the other aerial line within twenty-one days to provide the protection referred to in Sub-rule (3).

(5) In all cases referred to in the preceding Sub-rules the expense of making the guarding arrangement shall be borne by the person whose line was last erected.

(6) Where two lines cross, the crossing shall be made as nearly at right angles as the nature of the case admits.

(7) The guarding shall ordinarily be carried out by the owner of the posts on which it is made, and he shall be responsible for its efficient maintenance.

(8) All work required to be done by or under this rule be carried out to the satisfaction of the Inspector.

75. Lines crossing trolley-wires.-- In the case of a crossing over a trolley-wire the guarding shall fulfill the following conditions, namely :-

(a) where there is only one trolley-wire, two guard-wires shall be erected as in the appended diagram A;

(b) where there are two trolley-wires and the distance between them does not exceed 15 inches, two guard-wires shall be erected as in the appended diagram B ;

(c) where there are two trolley-wires and the distance between them exceeds 15 inches, but does not exceed 48 inches, three guard-wires shall be erected as in the appended diagram C ;

(d) where there are two trolley-wires and the distance between them exceeds 48 inches, each trolley-wire shall be separately guarded in the appended diagram D;

(e) the rise of the trolley boom shall be so limited that, if the trolley leaves the trolley-wires, it shall not foul the guard-wires; and

(f) where a telegraph line is liable to fall or be blown down upon an arm, stay-wire or span-wire, and so slide down upon a trolley-wire, guard hooks shall be provided to prevent such sliding.

76. Guard-wires Every guard-wire shall be connected with the earth at each point at which its electrical continuity is broken and, in the case of electric traction lines, shall also be connected, at intervals of no more than five spans, with the rails.

(2) Every guard-wire shall have an actual breaking load of not less than 1,500

lbs and shall if of iron or steel, be galvanized.

(2) Every guard-wire of or cross-connected system of guard-wire shall have sufficient current carrying capacity to ensure the rendering dead till the contact has been removed, of any live wire coming into contact with it, without risk of fusing of the guard-wire or wires.

(3) Every guard-wire or system of guard-wires and its supports shall have sufficient strength to carry without breaking the extra load which may be put on them by the fall of any or all the wires guarded.

77. Alternative methods of guarding. Alternative methods of guarding may be substituted with the approval of an Inspector for those required by rule 75 and rule 76.

78. Service-lines from aerial lines. No service-line or tapping shall be taken off an aerial line except at a point of support.

79. High pressure aerial lines. The owner of high pressure aerial lines shall not make them live until they have been approved by an Inspector, and shall make arrangements to the satisfaction of the Inspector to prevent any person from climbing up any of the supports without the aid of a ladder or special appliance while the lines are in use.

80. Unused aerial line. (1) Where an aerial line erected in, over, along or across any street or other public place, ceases to be used as an electric supply line, the owner shall maintain it in a safe mechanical condition in accordance with Rule 68, or shall remove it.

(2) Where any aerial line ceases to be used as an electric supply-line, an Inspector may, by a notice served on the owner, require him to maintain it in a safe mechanical condition or to remove it within fifteen days of the receipt of the notice.

CHAPTER IX ELECTRIC TRACTION

81. Additional rules for electric traction. (1) The Rules in this Chapter apply only where energy is used for purposes of traction;

Provided that nothing in this Chapter shall apply to energy used for the public carriage of passengers, animals or goods on, or for the lighting or ventilation of the rolling-stock of, any railway or tramway subject to the provisions of the Railways Act, 1890 (X of 1860).

(2) In this Chapter the conductor used for transmitting energy to vehicle is referred to as the 'line' and the other conductor as the 'return'.

(3) The owner of the line, return, rails or trolley-wire, as the case may be, shall be responsible for the due observance of Rules 82 to 94.

82. Pressure of supply to vehicle. No person shall supply energy at high pressure on any trolley-wire or other conductor used in direct electrical and mechanical connection with vehicle, except with the written approval of the Provincial Government and subject to such conditions as the Provincial Government may think reasonable and proper in the circumstances.

83. Insulation of lines. Every line shall be insulated throughout,

84. Insulation of returns. (1) Where any rails on which was run, or any conductors, laid between or within three feet of such rails, from any part of a

return, such part may be uninsulated. All other return or parts of a return shall be insulated, unless they are of such conductivity as to secure the conditions required by the Rule 85 (2) and (3).

(2) Where any part of a return is uninsulated, it shall be connected with the negative terminal of the generator.

85. Proximity to metallic pipes, etc. (1) Where an uninsulated return is in proximity to any metallic pipe, structure or substance, not belonging to the owner of the return, he shall, if so required by the owner of such pipe, structure or substance connect his return therewith at the latter's expense.

(2) Where the return is partly or entirely uninsulated, the owner shall, in the construction and maintenance of his system, adopt such means for reducing the difference produced by the current between the potential of the uninsulated return at any one point and the potential of the uninsulated return at any other point as to ensure that the difference of potential between the uninsulated return and any metallic pipe, structure or substance in the vicinity shall not exceed four volts where the return is relatively positive, or one and one third volts where the return is relatively negative.

(3) The owner of any such pipe, structure, or substance as is referred to in Sub-rule (2) may, in respect of it, require the owner of the uninsulated return at reasonable times and intervals to ascertain by test by his representative, whether the condition specified in Sub-rule (2) is fulfilled; and, if such condition is found to be fulfilled, all reasonable expenses of, and incidental to, the carrying out of the test shall be borne by the owner of the pipe, structure or substance.

86. Difference of potential on return. Where the return is partly or entirely uninsulated, the owner shall keep a continuous record of the difference of potential, during the working of his system, between every section of an insulated return with an uninsulated return and the point of the route most distant from the junction, and the difference of potential shall not, under normal running conditions, exceed a mean value of volts between the highest momentary peak and the average for the of maximum load.

87. Leakage on conduit system. Where both the line and the return placed within a conduit, the following conditions shall be fulfilled in construction and maintenance of the system ;

(a) where the rails are used to form, any, part of the return, they shall be electrically connected, at distances apart of not more than 100 feet, with the conduit by means of copper strips having a cross-sectional area of at least one-sixteenth of a square inch or by other means of equal conductivity. Where the return is wholly insulated and contained within the conduit, the latter shall be connected with earth at the generating station or sub-station through an instrument suitable for the indication of any contact or partial contact of either the line or the return with the conduit; and

(b) the leakage-current shall be ascertained daily, before or after the hours of running, when the line is fully charged; and if at any time it is found to exceed one ampere per mile of single tramway track, the transmission and use of energy shall be suspended unless the leakage is stopped within twenty-four hours.

88. Leakage on other than conduit system. Where both the line and return are not placed within a conduit, the leakage current shall be retained daily before or after the hours of running, when the line is fully ged; and if at any time it is found to exceed one-half of an ampere per of single tramway track, the transmission and use of energy shall be ended unless the leakage is stopped within twenty-four hours.

89. Passengers not to have access to electric circuit. Precautions the satisfaction of an Inspector shall be taken by the owner of every nikle to prevent--

- (a) the access of passengers to any portion of the electric circuit where there is danger from electric shock;
- (b) any metal hand-rail or other metallic substance liable to be handled by passengers becoming charged.

90. Current density in rails. Where rails on which cars run are used as a return, the current density in such rails shall not, under ordinary working conditions, exceed nine amperes per square inch of cross-sectional area-

91. Isolation of sections. Every trolley-wire shall be constructed in sections not exceeding one mile in length, and means shall be provided for isolating each section.

92. Minimum size and strength of trolley-wire. No trolley wire shall be of less cross-sectional area than eight one-hundredth of a square inch or shall have an actual breaking load of less than 4609 lbs.

93. Height of trolley-wire and length of span. A trolley-wire or a traction-feeder on the same supports as a trolley-wire shall nowhere be at a height from the surface of the street of less than 17 feet, except where it passes under a bridge or other fixed structure, or through or along a tunnel or mine-shaft or the like, in which case it shall be suspended to the satisfaction of an Inspector. The intervals between the supports shall not exceed 140 feet.

94. Records. (1) The owner, so far as is consistent with his system of working, keep the following records, namely:--

(a) daily records showing--
the maximum working current from the source of supply; the maximum working pressure at the source of supply the difference of potential, as required by Rule 86; and the leakage-current (if any), as required by Rule 87 and Rule 88 ; and

(b) occasional records showing'
every test made under Rule 85 (2) and (3) ; every stoppage of leakage, together with the time occupied; and particulars of any abnormal occurrence affecting the electrical working of the system.

(2) These records shall be open to inspection by an Inspector by any person authorised in writing by an Inspector.

CHAPTER X

ADDITIONAL PRECAUTIONS TO BE ADOPTED IN MINES AND OIL FIELDS

95. Application of Chapter. (1) The Rules in this Chapter apply only--

(a) where energy is used in mines where the provisions of part III of the Act apply ; and

(b) where energy is used in oil-fields.

(2) In mines the Rules in this Chapter do not apply to apparatus used above ground, excepting such apparatus as may directly affect the safety of persons below ground.

96. Responsibility for observance. (1) It shall be the duty of the owner, agent, or manager of the mine or the agent of any company operating in the oil-field,

or the owner of one or more drilled wells situated in the oil-field, to comply with and enforce the following Rules, and it shall be the duty of all persons employed to conduct their work in accordance with the Rules.

(2) An authorised person shall be on duty in every mine or oil-field while energy is being used therein.

97. Notices. (1) On or before the first day of February in every year in every oil-field returns giving the size and type of apparatus and any particulars as to the circumstances of its use which may be required by the Inspector shall be sent by persons specified in Rule 96 in the form set out in Annexure IX.

(2) This Rule does not apply to telephones and signaling apparatus or to low pressure installations for lighting only.

98. Plans. (1) A correct plan on the same scale as the plan kept at the mine in fulfillment of the requirement of the Mines Act, 1923 (IV of 1923), shall be kept in the office at the mine showing the position of all fixed apparatus and conductor in the mine, other than lights, telephones or signaling apparatus, or cables for the same.

(2) A similar plan, on a scale of not less than sixteen inches to the mile, shall be kept by the manager or owner of one or more wells in any oil-field, showing similar particulars.

(3) A similar plan, on such scale as the Central Government may require, shall be kept in the office of the licensee or person transmitting or distributing energy in a mine or oil-field showing the position of all electric supply lines under this control.

(4) The plans required by this Rule shall be corrected every six months, and the dates of correction entered in them by the manager of the mine or wells or the owner of the wells, and they shall be produced to an Inspector or an Inspector of Mines at any time on his request.

99. Lighting, communications and fire precautions. (1) In a mine lighted by electricity, one or more safety lamps or other proper lights shall be kept continuously burning in all places where failure of the electric light at any time would be likely to cause danger.

(2) Efficient means shall be provided in every mine for communicating between the place in which the switch-gear provided under Sub-rule (1) of Rule 106 is erected and the shaft-bottom or mine distributing center in the mine.

(3) Appliances for extinguishing fire shall be kept ready for immediate use in every place in a mine containing apparatus, other than cables, telephones and signaling apparatus.

100. Isolation and fixing of transformer, switchgear, etc.--(1) Where necessary to prevent danger or mechanical damage, transformers and switchgear shall be placed in a separate room, compartment, or box.

(2) Unless the apparatus is so constructed, protected and worked as to obviate the risk of fire, no inflammable material shall be used in the construction of any room, compartment, or box containing apparatus, or in the construction of any of the fittings therein. Each such room, compartment or box shall be substantially constructed and shall be kept dry.

(3) Adequate working space and means of access clear of obstruction and free from danger shall, so far as circumstances permit, be provided for all apparatus, that has to be worked or attended to, and all handles intended to be operated shall be conveniently placed for that purpose.

101. Method of earthing. Where earthing is necessary it shall be carried out in a mine by connection to an earthing system at the surface of the mine, in a

manner approved by an Inspector.

102. Earth or fault detectors. (1) Earth or fault detectors or recorders shall be connected up in every system in a mine to show immediately any defect in the insulation of the system.

(2) The readings of these instruments shall be recorded daily in a book kept at the generating station, sub-station or switch-room.

103. Earthing metal, etc. (1) All metallic sheaths, coverings handles, joint boxes, switchgear frames, instrument covers, switch and fuse covers and boxes and all lamp holders, unless efficiently protected by an earthed or insulating covering made of fire-resisting material, and the frames and bed-plates of generators, transformers, and motors (including portable motors), shall be earthed by connection to an earthing system in the manner prescribed in Rule 101.

(2) Where the cables are provided with a metallic covering constructed and installed in accordance with clause (d) of Rule 107, such metallic covering may be used as a means of connection to the earthing system.

(3) All the conductors of an earthing system shall have a conductivity at all parts and at all joints at least equal to 50 percent, of that of the largest conductor used solely to supply the apparatus a part of which it is desired to earth:

Provided that no conductor of an earthing system shall have a cross sectional area of less than .022 of a square inch.

(4) All joints in earth conductors and all joints to the metallic covering of the cables shall be properly soldered or otherwise efficiently made.

(5) No switch, fuse, or circuit-breaker shall be placed in any earth conductor.

(6) This Rule shall not apply (except in the case of portable apparatus) to any system in a mine in which the pressure does not exceed low pressure direct current or 125 volts alternating current.

104. Motors and their transformers. (1) Where energy is distributed at a pressure higher than medium pressure:-

(i) it shall not be used without transformation to medium or low pressure except in fixed machines in which the high pressure parts are stationary ; and

(ii) motors under 20 H.P. shall be supplied through a transformer stepping down to medium or low pressure.

(2) where energy is transformed, suitable provision shall be made to guard against danger by reason of the lower pressure apparatus becoming accidentally charged above its normal pressure by leakage or from contact with, the higher pressure apparatus.

105. Switchgear and terminals. Switchgear and all terminals, cable-ends, cable-joints and connection of apparatus shall be totally enclosed, and shall be so constructed and installed as to comply with the following requirements :-

(i) all parts shall be of mechanical strength sufficient to resist rough usage ;

(ii) all conductors and contact areas shall be of ample current carrying capacity and all joints in conductors shall be properly soldered or otherwise efficiently made ;

(iii) the lodgment of any matter likely to diminish the insulation effect or the working of any switchgear shall be prevented:

(iv) all live parts shall be so protected or enclosed as to prevent from arcs, short-circuits, fire, water, gas or oil;

(v) where there may be risk of igniting gas, coal-dust, oil or other inflammable material, all parts shall be so protected as to prevent open sparking ; and

(vi) every switch or circuit-breaker shall be capable of opening the circuit it controls, without danger, on any short circuit with which it may have to deal.

106. Cutting of supply. Properly constructed switchgear for cutting off the supply of energy to the mine or oil field shall be provided at the surface of the mine or oil-field at a point approved by an Inspector, or in the case of the Burma Oil-field, by the Warden of the Oil-fields, and, during the time any cable is live, a person authorized to operate the said switchgear shall be available within early reach thereof.

(2) Efficient means, suitably placed, shall be provided for cutting off all pressure from every part of a system, when necessary to prevent danger.

(3) Such efficient means shall be provided for cutting off all pressure automatically from the part or parts of a system affected in the event of a fault as may, in the opinion of an Inspector, be necessary to prevent danger.

(4) Every motor shall be controlled by switchgear for starting and stopping, so arranged as to cut off all pressure automatically from the part or parts of the system affected in the event of a fault as may, in the opinion of an Inspector, be necessary to prevent danger.

(5) Every motor shall be controlled by switchgear for starting and stopping, so arranged as to cut off all pressure from the motor and from all apparatus in connection therewith, and so placed as to be easily worked by the person appointed to work the motor.

107. Cables. All cables, other than flexible cables for portable apparatus, shall comply with the following requirements:-

(a) they shall be covered with insulating material (except that the outer conductor of a concentric system may be bare). There shall be efficiently frequent intervals and in such a manner as adequately to prevent damage to the cables or conductor;

(b) (i) except as provided in clause (c), no cables other than concentric cables, or two -core cables or multi-core cables protected by a metallic covering, or single core cables which contain all the conductors of the circuit, shall be used ;

(1) where the pressure exceeds low pressure direct current or 125 volts alternating current, or

(2) when an Inspector considers that there is risk of igniting coal-dust or other inflammable material, and so directs , and

(ii) the lead-sheath of lead sheathed cables and the iron or steel armoured cables respectively shall be of a thickness not less than that recommended from time to time by the British Standards Institution ;

(c) where the medium pressure direct current system is used, two single- core cables may be used for any circuit, if their metallic coverings are blended together by earth conductors so placed that the distance between any two consecutive bonds is not greater than 100 feet measured along either cable ;

(d) the metallic covering of every cable shall be :-

(i) electrically continuous throughout;

(ii) earthed, if it is required by Sub-rule (1) of Rule 103 to be earthed, by a connection to the earthing system of not less conductivity than the same length of the said metallic covering;

(iii) efficiently protected against corrosion where necessary;

(iv) of a conductivity at all parts and at all joints at least equal to 50 percent conductivity of the largest conductor enclosed by the said metallic covering; and

(v) where there may be risk of igniting gas, coal-dust or other inflammable material, so constructed as to prevent, as far as is practicable, the occurrence of open sparking as the result of any fault or leakage from live conductors:

Provided that, where two single-core cable protected by metallic covering bonded together in accordance with clause (c) of this Rule are used for a circuit,

the conductivity of each of the said metallic covering at all parts and at all joints shall be at least equal to 25 percent of the conductivity of the conductor enclosed thereby;

(e) cables and conductors where jointed up to motors, transformers, switchgear, and other apparatus, shall be installed so that :-

(i) they are mechanically protected by securely attaching the metallic covering to the apparatus ; and

(ii) the insulating material at each cable end is sufficiently sealed so as to prevent the diminution of its insulating properties.

Where necessary to prevent abrasion or to secure gas-tightness there shall be properly constructed glands or bridges ; and

(f) unarmoured cables or conductors shall be either conveyed in pipes or casings or suspended from efficient insulators by means of some non-conducting material which will not cut the covering and which will prevent contact with any timbering or metal work. If separate uncaused wires are used, they shall be kept at least one and a half inches apart and shall not be brought together except at lamps, switches and fittings.

108. Flexible cables. (1) Flexible cables for portable apparatus shall be two-core or multi-core unless they are required for electric welding, and shall be covered with insulating material which shall be efficiently protected from mechanical damage. If a flexible metallic covering is used either as the outer conductor of a concentric system or as a means from an earth conductor for the portable apparatus, but it may be used for that purpose in conjunction with an earthing core.

(2) Every flexible cable for portable apparatus shall be connected to the system and to the portable apparatus by a properly constructed conductor.

(3) At every point where flexible cables are joined to main cables a switch shall be provided which is capable of entirely cutting off the pressure from the flexible cables.

(4) Every flexible cable attached to a portable machine shall be examined periodically by the person authorised to work the machine, and, if such cable is used underground, he shall examine it at least once in each shift. If such cable is found to be damaged or defective, it shall forthwith be replaced by a spare cable in good condition, and shall not again be used until it has been properly repaired.

109. Portable machines. The person authorised to work an electrically driven coal-cutter or other portable machine shall not leave the place while it is working and shall, before leaving the place where such machine is working, ensure that the pressure is cut off from the flexible trailing-cable which supplies such machine. Trailing-cables shall not be dragged along by the machine when working.

110. Sundry precautions. All apparatus shall be kept clear of obstruction and free from dust, dirt and moisture.

(2) Inflammable or explosive material shall not be stored in any room, compartment, or box containing apparatus, or in the vicinity of apparatus.

(3) Should there be a fault in any circuit, the part affected shall be made dead without delay, and shall remain so until the fault has been remedied.

(4) While the lamps are being changed the pressure shall be cut off.

(5) No lamp-holder shall be in metallic connection with the guard or other metal work of a portable lamp.

111. Precaution where gas exists. (1) In any part of a mine or oil-field in which inflammable gas or vapour, whether normally present or not, is likely to

occur in quantity sufficient to be indicative of danger, and in any working approaching such part, two following additional requirements shall be satisfied as regards all apparatus :

(a) all cables, apparatus, signaling wires and signaling instruments shall be so constructed, installed, protected, worked and maintained, that in the normal working thereof there shall be no risk of open sparking;

(b) All motors shall be so constructed that, when any part is live, all rubbing contacts (such as commutators and slips) are so arranged or enclosed as to prevent open sparking;

(c) the pressure shall be cut off the apparatus immediately if open sparking occurs, and during the whole time the examination of adjustment disclosing parts liable to open sparking is being made. The pressure shall not be switched on again until the apparatus has been examined by the electrician or one of his duly appointed assistants and the defect, if any, has been remedied or the adjustment made;

(d) every electric lamp shall be enclosed in an air-tight fitting, and the lamp globe shall be hermetically sealed; and

(e) a safety lamp shall be provided and kept continually burning near each motor when working and, should the appearance of the flame of such safety lamp indicate the presence of inflammable gas, the pressure shall be cut off immediately from all apparatus in the vicinity and the matter shall be reported forthwith to an official of the mine.

(2) If any time in any place the percentage of inflammable gas in the general body of the air is found to exceed one and a quarter, the supply of energy shall be cut off immediately from all cables and apparatus in that place and shall not be recommenced so long as the percentage of inflammable gas exceeds that amount.

112. Shot-firing. (1) When shot-firing is being carried on adequate precaution shall be taken to protect conductors and apparatus from injury.

(2) Current from lighting or power circuits shall not be used for firing shots.

(3) Shot-firing cables shall be covered and protected as provided by Rule 108 for flexible cables. Adequate precautions shall be taken to prevent them from touching other cables and apparatus.

113. Signaling. Where electrical signaling is used :-

(a) adequate precautions shall be taken to prevent signal and telephone wires from touching cables and other apparatus;

(b) the pressure used in any one circuit shall not exceed 25 volts ; and

(c) contact makers shall be so constructed as to prevent the accidental closing of the circuit.

114. Haulage. Haulage by electric locomotives on the overhead trolley-wire system, at pressures not exceeding medium, and haulage by storage battery locomotives, may be used with the prior consent in writing of an Inspector, and subject to such conditions affecting safety as he may impose.

115. Supervisions. (1) An electrician shall be appointed in writing by the owner, agent or manager, of the mine or by the agent or owner of one or more oil-wells in an oil-field to supervise the apparatus. If necessary for the proper fulfillment of the duties detailed in this Rule, one or more assistants to the electrician shall be appointed by the aforesaid authority.

(2) Every person appointed to work, supervise, examine, or adjust any apparatus shall be competent for the work that he is set to do. No person except the electrician, or a competent person acting under his supervision, shall undertake any work where, in order adequately to avoid danger, technical

knowledge or experience is required.

(3) The electrician shall be responsible for the proper performance by himself or by an assistant appointed under Sub-rule (1) of the following duties, namely :-

(i) thorough examination of all apparatus (including the testing of earth conductors and metallic coverings for continuity) as often as may be necessary to prevent danger; and

(ii) the examination and testing of all new apparatus, and all apparatus re-erected in the mine, before it is put into service in new position.

(4) In the absence of the electrician for more than three days the owner, agent or manager of the mine or the agent or owner of one or more oil-wells in an oil-field shall appoint in writing an efficient substitute.

(5) The electrician or the substitute appointed for him under Sub-rule (4) shall keep at the mine or oil-field a log-book made up of daily log-sheets kept in the form set out in Annexure X. The log-book shall be produced at any time on request to an Inspector or mines or an Inspector.

116. Exemptions. The provisions of Rules 96 to 113, both inclusive, and 115, shall not apply in any case in which exemption is obtained, on such conditions as he may prescribe, from an Inspector, or, in the case of the Burma oil-fields, from the Warden of the Oil-fields, on the ground either of emergency or special circumstances.

CHAPTER XI MISCELLANEOUS

117. Relaxation by Government. (1) The Provincial Government or, where mines, oil-fields or railways are affected, the Central Government may, by order in writing, direct that any of the provisions of Rules 38 to 45 and of Chapters VI, VII, VIII and IX of these Rules shall be relaxed in any particular case to such extent and subject to such condition as it or he may think fit.

(2) The Central Government may be order in writing direct that any of the provisions of Chapter X of these Rules shall be relaxed in any particular case to such extent and subject to such conditions as it may think fit.

118. Relaxation by Inspector. (1) An Inspector may, by order in writing, direct that any of the provisions of Rules 46, 57, 61, 62 (2), 62 (3), 63, 66, 67, 68, 69 (1) (a), 73, 74, 75, and 76 shall be relaxed in any particular case to such extent and subject to such conditions as he may think fit.

(2) Where the pressure on any system does not exceed 125 volts an Inspector may, by order in writing, direct that any of the provisions of Rules 38 to 45, both inclusive, 49, 55, 56, to 70, 72, to 111, and 115, shall be relaxed as regards such system to such extent and subject to such conditions as he may think fit.

(3) Every relaxation so directed shall be reported forthwith to, and shall be subject to disallowance or revision by, the Provincial Government, or where the relaxation affects mines, oil-fields or railways, the Central Government.

[119. Supply and use of energy by non-licensees and others. Where any person other than the non-licensee is supplied with energy by a non-licensee or other person or has his premises for the time being connected to the conductors or plant of a non-licensee or other person, or himself generates energy and uses such energy or part thereof in or upon premises or land to which the public have access, such person shall be deemed to be a consumer for the purposes of Rules 38 to 40, 60 and 62 and the non-licensee or other person shall be subject to all

the liabilities imposed on a licensee by those rules.]

[Supply and use of energy by non-licensees and others.- Where any person other than the non-licensee is supplied with energy by a non-licensee or other person or has his premises for the time being connected to the conductors or plant of a non-licensee or other person, or himself generates energy and uses such energy or part thereof on or upon premises or land to which the public have access, such person shall be deemed to be a consumer for the purposes of Rules 38 to 40 inclusive and 48, 60 and 62 and the non-licensee or other person shall be subject to all the liabilities imposed on a licensee by those Rules].

[120. Responsibility of Agents and Managers. Where any person is responsible for the observance of any of these Rules, every agent and manager of such person shall also be responsible for such observance in respect of matters under their respective controls.]

121. Mode of entry. All persons entering, in pursuance of the Act or these rules, any building which is used as a human dwelling or a place of worship shall, in making such entry, have due regard, as far as may be compatible with the exigencies of the purpose for which such entry is made, to the social and religious usages of the occupant of the building entered.

122. Penalty for breaking seal. Where, in contravention of Rule 31 any seal referred to in that Rule is broken:-

(a) the person breaking the seal shall be punishable with fine, which may extend to two hundred rupees ; and

(b) the consumer when he has not himself broken the seal shall be punishable with fine, which may extend to fifty rupees, unless he used all reasonable means in his power to ensure that the seal should not be broken.

123. Penalty for breach of Rule 48. Where any electrical installation work of the nature specified in the Rule and has been carried out otherwise than:-

(a) under the direct supervision of a person holding a certificate of competency issued by the Provincial Government under that Rule : and

(b) in the absence of any applicable exemption under the proviso to Sub-rule (1) of that Rule, by an electrical contractor licensed by the Provincial Government in this behalf;

the consumer or owner or the contractor (if any) through whom the work was carried out, and the person under whose immediate supervision it was carried out shall each be punishable with fine which may extend to three hundred rupees.

[124. Penalty for breach of Rules. Any person other than an Inspector who, being responsible for the observance of these Rules, commits a breach thereof, shall be punishable for every such breach with fine which may extend to three-hundred rupees, and in the case of a continuing breach with a further fine which may extend to fifty rupees for every day after the first during which the breach has continued.]

125. Application of rules. -Subject to the provision of subsection (2) of section 58, these Rules shall be binding on all persons, companies, and undertakings to whom licences have been granted or with whom agreements have been made by or with the sanction of Government for the supply of use of electricity before the commencement of the Act.

[See Rule 2 (1) (b)]

SPECIFICATION RELATING TO THE DEPOSIT OF SILVER

The electrolyte shall consist of a solution of from 15 to 20 parts by weight of silver nitrate in 100 parts of distilled water. The solution must only be used once, and only for so long that not more than 30 per cent of the silver in the solution is deposited.

The anode shall be of silver, and the cathode of platinum. The current density at the anode shall not exceed $1/5$ ampere per square centimeter and at the cathode $1/50$ ampere per square centimeter.

Not less than 100 cubic centimeters of electrolyte shall be used in a voltmeter.

Care must be taken that no particles which may become mechanically detached from the anode shall reach cathode.

Before weighing, any traces of solution adhering to the cathode, must be removed and the cathode dried.