

THE ELECTRICITY RULES

(Section 84)

G.Ns. Nos.
103 of 1932
205 of 1937
107 of 1938
73 of 1942
324 of 1943
17 of 1945
80 of 1947
64 of 1954
60 of 1960
156 of 1990
9 of 1999

1. Citation

These Rules may be cited as the Electricity Rules.

2. Interpretation

In these Rules, unless the context otherwise requires—

"conductor" means any wire or cable used for the transmission of electricity;

"consumer's wire" means any electric line on the consumer's premises which is electrically connected with the licensee's distribution mains by means of a service line;

"Electricity Board" means the Board constituted under, the provisions of the Electricity (Delegation of Powers) Order *(1);

"Managing Director" includes the Regional Director appointed under the Tanzania Telephone Company Limited;

"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 read by a hot wire or electrostatic voltmeter and, is said to be—

- (a) "extra high" when under ordinary working conditions, it exceeds 6,600 volts;
- (b) "high" when under ordinary working conditions, it exceeds 650 volts but does not exceed 6,600 volts at the point at which supply is delivered;
- (c) "medium" when under ordinary working conditions, it exceeds 250 volts but does not

exceed 650 volts at the point at which supply is delivered;

- (d) "low" when under ordinary working conditions it exceeds 30 volts in the case of alternating current and 100 volts in the case of direct current, but does not exceed 250 volts in either case, at the point at which the supply is delivered;
- (e) "extra low" when under ordinary working conditions, it does not exceed 30 volts in the case of alternating current and 100 volts in the case of direct current at the point at which supply is delivered;

"sub-station" means any building, structure or enclosure either above or below ground, and containing, transforming or converting apparatus for the supply of electricity.

3. Duties of Electricity Board

(1) The Electricity Board shall be responsible for the administration of these Rules.

(2) The Electricity Board may from time to time give general or specific instructions to the licensing board, licensing officers and electric inspectors as to the performance of their duties and may direct any questions of doubt and difficulty to be referred to it for decision.

4. Frequency and systems of supply

(1) The frequency of alternating current systems shall be 50 complete cycles per second.

(2) The supply of electricity shall be given on one or more of the following systems—

(a) two wire system at a nominal pressure of 230 volts measured at the consumer's terminals—

(i) direct current;

(ii) single-phase alternating current;

(b) three-wire systems at a nominal pressure of 440 volts between the outer conductors and 220 volts between each outer and intermediate conductor, measured at the consumer's terminals—

(i) direct current;

(ii) single-phase alternating current;

(c) three-phase four-wire systems, at a nominal pressure of 400 volts between phases and 230 volts between each phase and neutral conductor, measured at the consumer's terminals;

(d) high or extra high pressure alternating single-phase two-wire supply to motors, motor generators, pole transformers, transformers placed in street boxes or in substations,

together with a supply from the pole transformers or substations to a low pressure system or systems as defined in paragraphs (a) and (b) of this rule;

- (e) high or extra high pressure alternating current three-phase supply to motors, motor generators, rotary convertors, pole transformers, or transformers placed in substations, together with a supply from the pole transformers or substations to a low pressure system or systems as defined in paragraphs (a), (b) and (c) of this rule;
- (f) high or extra high pressure, two-wire direct current supply to motors and motor generators;
- (g) series street lighting for any pressure not exceeding 3,300 volts;
- (h) such other systems as may be authorised by the Electricity Board.

5. Voltage of supply

(1) For purposes of domestic supply not exceeding 3 kilowatts the nominal pressure shall not exceed 230 volts at the consumer's terminals and for domestic supply exceeding 3 kilowatts the nominal pressure shall not exceed 440 volts at the terminals of a direct current or single-phase alternating current system and 400 volts at the terminals of a three-phase system.

(2) Supply of power for industrial purposes may be given at any voltage provided that the transforming station is so enclosed as to be inaccessible except to authorised persons.

(3) Supply for series street lighting may be given for pressures up to but not exceeding 3,300 volts.

6. Regulation of pressure and frequency

(1) The pressure shall be maintained within 5 percent above or below the nominal pressure at the consumer's terminals.

(2) Any consumer who has reason to suspect that the variation in voltage exceeds the limits specified may make a formal complaint to the electric inspector who shall if he deems it necessary after investigation, cause the licensee to connect a portable recording voltmeter, to be provided and maintained by the licensee, to record the pressure between the service lines.

(3) Where the variations recorded exceed the specified limits, the licensee shall take immediate steps to comply with this regulation.

(4) The frequency shall be maintained within two and a half percent above or below the standard of 50 cycles per second.

(5) A meter referred to in the Act or in these Rules shall be deemed to be "correct" when its limits of error as certified by an electric inspector do not exceed those laid down in the "British Standard Specification" for electricity meters and when it cannot register at no load and, any

meter, maximum demand indicator or other apparatus for which there is for the time being no "British Standard Specification", shall be deemed to be "correct" when its limit of error, as certified by an electric inspector, does not exceed three percent above or below absolute accuracy at all loads in excess of one-tenth of full load and up to full load and when it cannot register at no load.

7. Location of overhead lines

(1) One side of every street shall be left free by the licensee for telegraph lines.

(2) Except with the permission of the Electricity Board, or subject to an agreement between the Postmaster-General and the licensee, all overhead electric lines shall be placed on the opposite side of the street to that on which any telegraph lines exist and where the erection of the overhead electric lines necessitates an alteration of any existing telegraph lines and such alteration is approved by the Postmaster-General, the expense of the alteration shall be borne by the licensee:

Provided that where existing telegraph lines occupy both sides of a street at the same place, the Postmaster-General shall bear the cost of putting all telegraph lines on the one side of the street, or consent to an arrangement for the joint use of poles on both sides of the street.

(3) In running the electric lines along a street where no telegraph line exists the licensee shall keep to one side of the street, and in running electric service lines to the opposite side of the street, such lines shall be erected in accordance with the provisions of rule 42.

8. Facility for service connections

Where distributing mains are on one side of the street and telegraph lines are on the other, and service is required to be given from either to the other, the licensee and the Postmaster-General shall give to each other reasonable facilities as far as possible to effect supply and where possible, the licensee's service lines shall pass over telegraph lines, and telegraph service lines shall pass under electric lines.

9. Notice of completion

The licensee shall, prior to the completion of the whole or of any separate portion of the work to which the licensee refers, give to the Director of Public Works at least one month's notice in writing of the estimated date of each completion and the licensee shall not use the works or any portion of the works thereof until the Director of Public Works has given notice in writing that he has received from the electric inspector a certificate that such works or such portion of the works have been satisfactorily carried out.

10. Extensions

(1) Before commencing the extension or alteration of any line already erected, other than a service line the licensee shall give at least seven days' notice in writing to the Director of Public

Works of intention to carry out the work and, in the case of an extension such notices shall be accompanied by a plan showing location, size, number and pressure of wires and cables proposed to be extended including the height of the poles, if any, with calculations of the stresses and sag in the longest span of each line.

(2) Notwithstanding the provisions of rule 9, the licensee may use such extensions and service lines, provided that the work has been carried out in strict conformity with the requirements of these rules; and for the purpose of ascertaining whether or not the extensions and service lines comply with such conditions the electric inspector may from time to time inspect the work and, if the electric inspector finds that any portion of the work does not comply with the requirements of these rules the Director of Public Works call upon the licensee to discontinue the use of such part of the work until the rules are complied with.

(3) The maps and plans required under section 13 of the Act shall be brought up to date within twenty-eight days of the completion of any extension, shall show the date of erection of each electric line and be available at any time for examination by the electric inspector.

(4) Within twenty-eight days after the end of each month the licensee shall furnish to the Director of Public Works a list of all service lines erected or altered during the previous month, and on the 31st March of each year shall furnish to the Director of Public Works a summarised list of all extensions to the mains made during the previous twelve months, giving the date, location or route and the lengths of the mains.

11. Connection of circuits with earth

The connection of circuits with earth shall be made in accordance with the following conditions—

- (a) the intermediate conductor of a low or medium pressure three-wire single-phase system and the neutral conductor of a low or medium pressure three-phase four-wire system shall be effectively earthed at the point of supply, that is, at the generating station, sub-station or transformer and at such other points along the electric distribution line as are necessary to give a resistance not exceeding 10 ohms between any point in such conductor and the general mass of earth;
- (b) in a three-wire direct current system, the intermediate conductor shall be earthed at the generating station only and the current from the intermediate conductor to earth shall be continuously recorded by means of a recording ammeter and, if at any time the current exceeds one-thousandth part of the maximum supply current, steps shall be immediately taken to improve the insulation of the system;
- (c) in high and extra high pressure three-phase star-connected systems the neutral point may be earthed at the point of supply and at the neutral point of each star-connected transformer in the circuit or alternatively if the neutral conductor is not earthed or if the system be delta-connected, the approved means shall be provided in each circuit for indicating faulty insulation in any part of the circuit and if the insulation of any circuit is

faulty, immediate steps shall be taken to make good the insulation before being placed in service;

- (d) in the case of a star-connected system of any voltage the neutral conductor of which is connected to earth, the resistance between that conductor and earth shall be sufficiently low to ensure that the fuse or automatic circuit breaker or trip coil in any phase shall disconnect the circuit from the source of supply in the event of an accidental earth occurring on that phase or, in the case of high pressure or extra high pressure lines, upon accidental contact with a low or medium pressure line and in the case of automatic circuit breakers, each phase must be equipped with a trip coil;
- (e) where any part of a circuit is normally connected with earth, no switch, fuse or circuit breaker shall be inserted in the earthed conductor or in any conductor connected to an earthed conductor thereto, and the connection with earth shall be efficiently maintained, except when it is interrupted by means of a link for the purpose of periodical tests.

12. Earth connections to water mains

Subject to the provisions of rule 37, earth connections may be made to the water supply pipes in townships where a public main supply of water is conveyed in underground pipes and where the system of electricity supply is of alternating current, subject to the following conditions—

- (a) an earth wire connecting an electrical installation to a water main or water pipe is to be used only—
 - (i) as a measure of safety for the purpose of returning to the source of supply, such leakage current as may flow, or result from a failure of insulation;
 - (ii) for radio frequency currents and currency from radio interference suppression devices;
- (b) a water main or water pipe shall not be cut, drilled or broken, for purposes of paragraph (a) and, all reasonable and proper care shall be exercised in making any earth connection, to prevent injury or damage to a water main or water pipe;
- (c) every earth connecting device to a water main or water pipe, shall be of such an approved design as to ensure an efficient electrical connection and, other than as provided for in paragraph (d) shall be attached in a position convenient for and ease of access;
- (d) an earth connection to a buried water main or water pipe shall only be made after notice to the water supply authority concerned;
- (e) where an earth connection is made to a water main or water pipe or any premises in

which a water-meter is installed, a proper, sufficient and suitable bond shall in all cases be placed across such water-meter by the user of the meter is installed, free of expense to the water supply authority;

- (f) where the water supply authority has reason to believe that damage to water mains or water pipes is being caused by an excessive flow of current from an earth connection made to a water pipe or water main the water supply authority shall in general, request the licensee to test the installation, in the presence of a representative of the water supply authority and if for any reason the water supply authority should desire to test for electrical leakage from an installation to water mains or water pipes, the water supply authority may make such test after advising the licensee of the intention, giving such notice to any consumer as may be necessary and in the presence of a representative of the licensee.

13. Testing earth connections

(1) A test shall be made by the licensee every twelve months, to ensure that all earth wires used in connection with electric lines other than the neutral conductor of a three-phase four-wire system with multiple earth connection or a continuous earth wire with multiple earth connection are intact and the earth connections are effective:

Provided that—

- (a) tests required under rule 14(3) must be made at least three times per annum;
- (b) all earths on guards erected over or under telegraph wires shall be tested every twelve months, and copies of tests forwarded to the Director of Public Works;
- (c) between the electric supply-line or electrical apparatus or other devices to be earthed and the general mass of earth the electrical resistance of each separate earth connection shall not exceed 10 ohms and shall be as much less than 10 ohms as is required to ensure at all times and immediate and safe discharge to earth of electrical.

(2) Records shall be kept of all tests made.

14. Switchboards in power houses and substations

(1) All power house and sub-station switchboards, including the frames to which they are attached, shall be made of fireproof material and the maximum permissible current and temperature in any conductor mounted on or leading to such switchboard shall not exceed the values permitted under the rules made from time to time by the Institute of Electrical Engineers of Great Britain.

(2) No conductor at a pressure above 650 volts shall be exposed on the front of any switchboard and the back of any switchboard with conductors at a pressure of 150 volts and over or above, shall be screened and made inaccessible except to authorised persons.

(3) All power house and sub-station switchboards controlling high pressure and extra high pressure circuits, shall be provided with two efficient and independent earth connections, connected in parallel, to which all frames, instrument cases and other non-current carrying metal parts shall be connected and means shall be provided for testing the resistance between these two connections through the earth, such tests being made at least three times per annum and to be recorded.

(4) Every power house and sub-station switch intended to be used for breaking a circuit and every circuit breaker, shall be so constructed or arranged that it cannot with proper care be left in partial contact or accidentally fall or move into contact when left out of contact and all enclosed switches shall have an external attachment to indicate clearly whether the switch is open or closed.

(5) All power house and sub-station switchboard circuits shall be so arranged that the course of any main conductor may be readily identified.

(6) Passage ways around power house or sub-station switchboards other than those of a totally enclosed type shall be such as to provide the clearance specified as follows—

- (a) low or medium pressure switchboards; an overhead clearance of at least seven feet from the floor to any bare conductor, and a passage way with at least the feet and three inches horizontal clearance from either front or back of the switchboard or any bare conductor affixed to the switchboard;
- (b) high pressure and extra high pressure switchboards other than operating desks or panels working solely at low pressure, an overhead clearance of not less than eight feet from the floor to any bare conductor and a passage way with a horizontal width of not less than three feet and six inches from either front or back of the switchboard and all conductors must be so screened or guarded that they cannot be touched accidentally and the prescribed passage way at the back of the board must be measured from this screening.

15. Safety appliances in power stations and substations

(1) Fire buckets of suitable capacity, filled with clean dry sand and ready for immediate use in extinguishing fire or suitable fire extinguishers filled with a non-conducting fluid, shall be kept in a convenient place adjacent to the electrical apparatus.

(2) Rubber gloves, mats, rubber soled boots, galoshes and insulated platforms or stools shall be provided for use when necessary.

(3) A notice containing directions in English, Gujarati and Kiswahili as to resuscitation of persons suffering from the effects of electric shock shall be exhibited in a conspicuous place.

16. Circuit breakers

(1) All outgoing feeders and distributors from any power station or sub-station shall be provided with fuses or inverse time limit automatic circuit breakers, set to open within three seconds at a current not exceeding one hundred percent over the normal rated load of such feeder or distributor:

Provided that in transformer substations of fifty kilowatt capacity or less only the high pressure or primary side of the transformer need be fused, and special precautions shall be taken in the adjustment of such high pressure fuses to the capacity of the transformer.

(2) Where a circuit breaker is used it shall be located in accessible position and shall be of the loose handle type and capable of breaking the overload referred to in subsection (1) current by hand, without undue formation of an arc and with no risk of injury to the operator.

(3) Automatic trip coils shall be provided on each phase of star-connected systems with earthed neutral.

17. Fuses

Every fuse shall be either of such construction or so protected by a switch that the fusible metal may be readily renewed without danger.

18. Minimum size of conductor

The diameter of any conductor in any low or medium pressure electric supply-line laid or erected for the supply of electricity shall be not less than 0.104 inch except as provided in paragraph (e) of rule 28, for high or extra high pressure supply line, the diameter shall not be less than 0.128 inch.

19. Material and quality of overhead line conductors

(1) Overhead electric supply-line conductors, shall be of copper, aluminium, mild steel or iron or, of a combination of aluminium conductors with a steel core or, of any other material or combination of materials, as may be approved by the Director of Public Works.

(2) All overhead electric supply-line conductors at the time of erection, shall comply as regards elongation, ultimate strength and elasticity, with the specifications of the British Engineering Standards Association in force in the material time.

20. Stresses in overhead line conductors

(1) The stresses in overhead electric supply-line conductors, shall not exceed the limits specified under this rule, when subject to the forces resulting from the weight of the conductor combined with a wind pressure of 9lb per square foot of diametral plane if situated within and, 12lb per square foot if situated outside, municipal or township areas coincident with a temperature of 500F or such other temperature as may be specified in the licence.

(2) The limiting stress shall be 27,000lb per square inch for hard drawn copper conductors,

13,000lb per square inch for aluminium conductors calculated upon the area of the equivalent solid conductor. The limiting stress for a composite steel aluminium conductor shall be 30,000lb per square inch for a seven strand cable, 27,000lb per square inch for a 37 strand cable calculated upon the combined areas of the steel and aluminium. The limiting stress for mild steel cable shall be 34,000lb per square inch and for iron conductors 22,500lb per square inch. Where other materials are used the limiting stress under the conditions specified above shall be one-half the ultimate breaking stress of the wire or cable whether composite or non-composite.

21. Clearances

(1) Overhead electric supply-lines at low or medium pressure shall not in any part thereof be at a less height than 18 feet from the ground except as provided in rule 42 and that the height may be reduced to 15 feet over ground which is entirely inaccessible to vehicular traffic.

(2) Overhead electric supply-lines at high pressure shall not in any part thereof be at a less height than 18 feet from the ground and 20 feet from the ground in municipal or township areas and the minimum height of an earthed wire or of a neutral conductor or three-phase four-wire system shall conform to the conditions of paragraph (1).

(3) Overhead electric supply-lines at extra high pressure up to 66,000 volts between phases shall not in any part thereof be at a less height than 20 feet from the ground and electric supply-lines at 66,000 volts and over shall have a minimum clearance of 22 feet.

(4) Where low or medium and high pressure or low or medium and extra high pressure electric supply-lines are carried on the same poles, a minimum height of 18 feet below the low or medium pressure lines shall be provided to allow telegraph crossings to pass underneath and when such electric supply-lines are erected along tramway routes the low or medium pressure lines shall be at such height as to permit the telegraph circuits that cross the street to pass above the trolley wire and below the low or medium pressure lines.

(5) Overhead electric supply-lines crossing electric tramway lines shall have a minimum clearance of four feet above the trolley wire.

(6) Overhead electric supply lines shall not come within 2 feet of any other aerial lines or cables, except at a pole and then only by arrangement between the respective owners of the wires.

(7) Overhead electric supply-lines shall be so erected as to be inaccessible to any person either from the ground or from any building or structure whether permanent or temporary without the use of a ladder or other special appliance.

(8)(a) If, at any time subsequent to the erection of an electric supply-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 render the aerial line accessible otherwise than by the aid of a ladder or other special appliance, give notice in writing of his intention to the

licensee or owner, as the case may be, and to the electric inspector and shall furnish therewith a scale drawing showing the proposed building, structure, addition or alteration and the scaffolding required during its construction, and shall not commence work upon the building, structure, addition or alteration until the electric inspector has certified that neither during nor after the execution of the work will the electric supply-line be so accessible.

(b) On receipt of such notice the licensee or owner, as the case may be, shall, without undue delay, so alter the electric supply-line as to ensure that it will not be accessible in such a manner as to contravene the provisions of subrule (7), either during or after the execution of the work, and may recover the reasonable cost of such alteration from the person from whom the notice was received:

Provided that the licensee or owner as the case may be, may, before so altering the electric supply-line, require the person from whom the notice was received to deposit the estimated cost of such alteration:

Provided further that an electric inspector, may, if he is satisfied that the electric supply-line has been so guarded as 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 electric supply-line.

(9) The maximum sag shall be computed on the assumption that the conductor is subjected to a temperature of 140°F or to such temperature as may be specified in the licence.

(10) Where necessary for a linesman to climb between live conductors of separate circuits on the same pole the following minimum climbing spaces shall be provided between conductors—

- (a) low or medium pressure covered wires 36 inches;
- (b) low or medium pressure bare wires 42 inches;
- (c) high pressure covered wires 42 inches;
- (d) high pressure bare wires 48 inches.

(11) Where overhead wires cross navigable waterways, special clearance shall be provided as directed by the Electricity Board.

(12) If the Electric Inspector shall be of the opinion that as a result of a failure to comply with the provisions of subrule (8) a danger to the public or to any person exists, then he may direct by notice in writing that the person erecting such new building or structure or making such addition or alteration to a building or structure shall immediately upon receipt of such direction discontinue or cause to be discontinued work on the building or structure until the Electric Inspector advises in writing that work may be resumed:

Provided that any person may within seven days of the receipt by him of such a direction

and, provided that he shall have complied with it, appeal to a court presided over by a Resident Magistrate who shall have power, if he considers that a danger does not exist to the public or any person, to revoke the said direction.

22. Support for overhead line

(1) Every support for overhead electric supply-lines shall be so located as to avoid unduly obstructing pedestrian or vehicular traffic.

(2) Every support for overhead electric supply-lines shall be of durable material, and of sufficient strength to withstand forces due to wind pressure, change of direction of line, and unequal length of span and the factor of safety of each support shall be two in the case of iron, steel or ferroconcrete, and four in the case of wood, calculated on the crippling load of the structure. In computing the applied moments, a wind pressure of 20lb. per square foot of diametrical plane surface and 12lb. per square foot of diametrical plane of a cylindrical surface shall be assumed and where high or extra high pressure lines cross a road approved earthing bars shall be erected at each side of such road crossing:

Provided that the Electricity Board may, after considering the advice of the Electrical Engineer, permit a variation of the requirements imposed by this subrule to such extent as the said Board may specify in any particular case.

(3) The conductors shall be attached to suitable insulators carried on cross arms or brackets of suitable material and cross section in a manner approved by an electric inspector duly appointed under section 10.

Guard hooks erected at angles shall be effectively earthed and where electric lines are covered with insulating material they shall be so attached to the insulators that their insulation shall not be impaired thereby, and no joint in an insulated conductor shall be made within four feet of an insulator and pins for pole top insulators shall not be screwed into the pole top, but attached to the side of the pole.

(4) At terminal poles or pull-offs the cross arm shall always be fixed on the opposite side of the pole to the pull-off.

(5) Overhead electric distributing mains at low or medium pressure may be carried on brackets attached to buildings, provided they are inaccessible from any portion of the building without the use of a ladder or other special appliance or that they are so screened as to prevent the possibility of accidental contact by any person, and provided also that they are secured in such a manner that they cannot fall away from the insulator support or make contact with the building.

(6) Where guys or stays are used they shall be securely anchored and earthen.

(7) Each pole shall be clearly and permanently marked with a number.

23. Earthing of poles and ironwork

(1) Metal cross arms on wooden or concrete poles shall be earthed either at each pole or by means of a continuous earth wire carried from pole to pole and earthed at intervals of not more than five spans.

(2) Iron or steel poles shall be effectively earthen.

24. Quality of galvanized iron, etc.

Galvanized iron wire used for stays, cradles or other mechanical purposes; galvanized iron binding wire; arm bolts, nuts and washers; stay swivels, truss and brace rods and truss tie and brace bolts; stay rod tighteners and test pieces shall conform with the British Standard Specifications for each material so far as those specifications are applicable.

25. Maximum length of span

(1) The distance between supports carrying electric supply-lines within Municipal or Township areas, or within such other limits as may be specified in the licence, shall, notwithstanding the provisions of rules 20 and 28 hereof, not exceed 180 feet.

(2) The distance between supports carrying electric supply-lines outside such limits shall be determined by the provisions of rules 20, 21 and 28(e).

26. Angle of crossing thorough-fares

Where an overhead electric supply-lines is transferred from one side of a street to the other the angle formed by the original alignment and the portion of the line crossing the street shall approximate be as closely as practicable to a right angle, and shall not exceed 135 degrees and the crossing span shall be as short as possible.

27. Bare overhead electric lines

(1) Every pole or support carrying extra high pressure supply-lines or high pressure supply-lines, the conductors of which are bare, shall have attached to it a durable and conspicuous plate of reasonable dimensions marked with such warning or danger notice as shall be approved by the Director of Public Works.

(2) The electric supply-lines upon which workmen are engaged shall be disconnected from the source of supply.

(3) Where telegraph lines are affected the bare electric supply-lines shall also be subject to the conditions prescribed in rule 30.

28. Conditions governing low or medium pressure, high pressure and extra high pressure on same pole

Where various systems are carried on the same poles and supports the following conditions shall apply—

- (a) the extra high pressure shall not exceed 66,000, volts between phases;
- (b) the neutral point of each system shall be effectively earthed at its sources of supply, and in accordance with rule 11 and each extra connection shall consist of two independent wires to separate sets of earth plates or pipes connected in parallel;
- (c) the high and extra high pressure distributing mains shall be protected on each phase by fuses, circuit breakers, or trip coils accurately adjusted to open circuit within three seconds on an overload not exceeding 100 percent in excess of the normal full load current;
- (d) the primary side of each pole transformer shall be suitably fused to open circuit with a current of 100 percent above normal full load current but special precautions must be taken in fusing for 15,000 volts transformers under 10 kVA capacity;
- (e) electric supply-lines of different pressures shall be separated by the distances mentioned in the following table, measured horizontally or vertically at the pole.

<i>Between</i>	<i>Minimum separation distance 1(2)</i>
(a) 400 volts and 6,600 or 3,300 volts	2 feet if both sets are insulated
(b) 400 volts and 6,600 or 3,300 volts	4 feet if one or more sets are bare
(c) 400 volts and 15,000 volts	4 feet
(d) 3,300 volts and 15,000 volts	4 feet
(e) 15,000 volts and 35,000 volts	4 feet
(f) 15,000 volts and 66,000 volts	4 feet

Under the extremes of wind pressure, and temperature rise, as defined in rule 20, the separation between wires at the centre of the span shall not be less than one-half of the above distances.

The pole spacing in "1", "2" and "3" cases shall not exceed 264 feet.

Notwithstanding the provision of rule 18 the minimum size of conductor to be used in the above construction shall not be less than No. 10 S.W.G.;

- (f) no low or medium pressure wires shall be above the level of any high pressure or extra

- high pressure wires, or on same level as any extra high pressure wires;
- (g) where overhead electric supply-lines are being worked on and are in proximity to live high or extra high pressure supply-lines, care must be taken effectively to earth the lines after disconnection and before work commences, in order to discharge electrostatic induction.

29. Telephone lines on electric line poles

(1) Telephone lines belonging to the licensee supported on electric line poles shall be of hard drawn copper or other suitable material and shall not be less than No. 12 S.W.G. and the minimum clearance between the lowest point of the span and the ground shall be 16 feet.

(2) The lines shall be suitably guarded against lightning and shall be fused.

(3) If telephone lines carried on poles also carrying high or extra high pressure supply-lines such arrangements shall be made where the telephone is placed as will prevent the possibility of injury resulting to any person using the telephone as the result of a conductor coming into contact with the telephone lines, or as the result of leakage or of induction.

30. Protection of telegraph wires, etc.

(1) The licensee shall take all reasonable precautions in construction, laying down, placing and using the electric supply-lines so as not to injuriously affect, whether by induction or otherwise, any telegraph line in existence at the time of the construction, laying down, or placing of the electric supply-lines.

(2) All generators shall be designed with a wave form as nearly as possible to the sine wave in order to minimise interference with telephone circuits.

(3) Where extra high pressure circuits run parallel with telegraph lines the wires of both circuits shall be transposed or revolved so as to reduce inductive interference to a minimum, and where two adjacent high pressure circuits are operated in parallel they shall be so connected as to reduce inductive interference to a minimum.

(4) Where electric supply-lines intersect or menace telegraph lines the following conditions shall apply—

- (a) high pressure electric supply-lines shall be insulated with vulcanised rubber of not less than 600 megaohm grade, unless the electric supply-lines are bare as provided in rule 27, in which case the special conditions of paragraphs (l), (m), (n) and (o) of this rule shall apply;
- (b) low or medium pressure supply-lines shall be covered with triple braiding thoroughly impregnated with weather proof compound, unless the electric supply-lines are bare as provided in rule 27, in which case the special conditions of paragraphs (i), (m), (n) and

- (o) of this rule shall apply;
- (c) where lead-covered telegraph cables and high medium or low pressure electric supply-lines intersect, the electric supply-lines shall be insulated with vulcanised rubber of not less than 600 megaohm grade in the case of high pressure lines proof compound in the case of low or medium pressure lines;
 - (d) the distance between high pressure electric supply-lines and telegraph lines at any point shall not be less than four feet and between low or medium pressure supply-lines and telegraph lines shall not be less than two feet;
 - (e) where high medium or low pressure electric supply-lines and telegraph lines intersect, the electric supply-lines shall cross above or below the telegraph lines as may be agreed upon between the Managing Director and the licensee;
 - (f) where high medium or low pressure electric supply-lines and telegraph lines intersect, the electric supply-lines shall, wherever practicable, cross at the telegraph pole; but where crossing at a pole is not practicable the crossing may, subject to agreement between the Managing Director and the licensee be made in the span;
 - (g) where high medium or low pressure electric supply-lines and telegraph lines intersect, whether at a pole or in the span, such electric supply-line shall be erected and maintained in such manner and subject to such conditions as may from time to time be agreed upon between the Managing Director and the licensee;
 - (h) where electric supply-lines at extra high pressure intersect or menace telegraph lines the electric supply-lines shall be subject to such special conditions as may be agreed upon between the Managing Director and the licensee;
 - (i) where electric supply-lines and telegraph lines intersect, the maximum tension in any conductor in every crossing span shall not exceed one-half of the elastic limit of the conductor under the conditions of wind pressure and temperature specified in rule 20;
 - (j) in cases where electric supply-lines are erected before the telegraph lines, the licensee on receipt of notice from the Managing Director that it is proposed to run a telegraph line along or across the route, shall forthwith make all alterations to the electric supply-lines for the protection of telegraph lines as may be agreed upon between the Managing Director and the licensee and the cost of such alterations in so far as they are not necessitated by any breach of these rules, shall be borne by the Managing Director;
 - (k) where electric supply-lines, braided or rubber covered, are erected along a route in accordance with the provisions of these rules, and it is proposed to intersect such electric supply-lines by telegraph lines erected subsequent to the electric supply-lines, the cost of any guard wires or other special insulation or protection or of any alterations to the electric supply-lines required by the Managing Director will be borne

by the Managing Director;

- (l) where bare electric supply-lines, as provided in rule 27, intersect or menace telegraph lines the special additional conditions in the following paragraphs of this rule shall also apply;
- (m) where telegraph lines intersect or are menaced by the licensee's bare electric supply-lines at low or medium high or extra high pressure, the licensee shall bear the cost of insulating, protecting and maintaining the insulation and protection of all telegraph lines, erected before the bare electric supply-lines, and also the cost of all special work and the maintenance thereof, which the Managing Director deems it necessary to carry out in consequence of the licensee's electric supply-lines being bare;
- (n) when in the opinion of the Managing Director it is considered necessary that the bare electric supply-lines at any intersection should be replaced by braided or rubber-covered electric supply-lines the licensee shall, at his own expense, replace such bare electric supply-lines when requested to do so by the Managing Director;
- (o) when work on telegraph lines is being done by the Managing Director in the proximity of bare electric supply-lines, such electric supply-lines shall be temporarily disconnected from the source of supply during the progress of such work as may be agreed upon between the Managing Director and the licensee.

31. Interference with public telegraphs, etc.

(1) Where any person is maintaining or operating any installation, electric supply line, apparatus, or other works which, in the opinion of the Managing Director, interferes with the efficient working of any public telegraph, telephone or radio communication circuit, or which interferes with the reception of broadcast radio transmissions, the Managing Director may, by notice in writing, require the person who is maintaining or operating such installation, electric supply line, apparatus or other works, to use it subject to such conditions as may be specified in the notice, and may require such conditions to be complied with immediately or within a stated period of time and the Managing Director may further more prohibit the use of such installation, electricity line, apparatus or other works, until such time as the conditions specified in the notice shall have been complied with.

(2) Any person, upon whom a notice has been served under the provisions of this rule, who makes default in complying with such notice or with any conditions specified therein shall be liable to a fine of twenty shillings for each day that such default continues.

32. Electric supply lines not in operation to be removed

An overhead electric supply-line shall not be permitted to remain erected after it has ceased to be used for the supply of electricity unless the licensee intends within a reasonable time

again to use such line.

33. Railway crossings

(1) No work of any nature shall be erected or constructed upon, over or under any railway relevant railway authority.

(2) Where overhead electric supply-lines cross the railway the span between the supports shall not exceed 100 feet in length where practicable.

(3) The minimum clearance above rail level shall be 24 feet for all electric supply-lines working at low medium or high pressure and 27 feet for all electric supply-lines working at extra high pressure and the dip or sag shall be calculated on the assumption of a maximum temperature of 140°F and that the supports of the line shall have a factor of safety of four under conditions of wind pressure herein before specified.

(4) For any pressure not exceeding 6,600 volts the conductors in the crossing span may be bare or may be insulated and for or extra high pressure the conductors shall be bare.

(5) Where bare conductors are carried through the crossing span provision shall be made for the reaction of approved earthing devices, which shall be so fixed under each conductor that, in the event of a conductor breaking, contact with the earthing device shall be made by such conductor before coming in contact with a passing train.

(6) Telephone wires of the licensee may be run with a minimum clearance above the rails of 24 feet and shall be of galvanised iron or hard drawn copper of not less than No. 12 S.W.G. where they cross the railway, and for a clear span on either side.

(7) If the Director of Public Works requires it, an electric supply-line erected across a railway shall be provided with—

- (a) duplicate insulator for supporting the line conductor and a device to ensure that in the event of a line conductor falling it shall be put to earth; or
- (b) duplicate insulators, supporting duplicate conductors tied at intervals not exceeding 5 feet or other means agreed upon between the Director of Public Works and the licensee.

34. Earth wires on pole

Earth wires, where led down wood or concrete poles, shall be protected by a metal casing for a distance of 8 feet from the ground.

35. Lightning arresters

(1) Where any portion of any electric supply-line is exposed in such a position as to be liable to injury from lightning, it shall be effectively protected against injury by suitable lightning

arresters or other approved means.

(2) Earth wires for circuits or equipment shall not be utilised also for earthing lightning arresters for which a separate earth connection must be provided.

36. Transformers

Where transformers are placed on poles they shall be fitted with watertight cases, and either thoroughly protected against interference or attached to the poles at such a height as to make them inaccessible except by means of a ladder or other special appliance and where pole platform type of construction is adopted a substantial railing shall be built around the platform. Each pole transformer shall be equipped with primary fuses. Where transformers other than low tension transformers of 10 kVA capacity or less are placed within a building or enclosure, the same shall be inaccessible except to authorised persons and all medium high or extra high pressure conductors therein shall be screened and protected against accidental contact and in the case of all transformers, whether within or without a sub-station, shall be effectively earthed by a copper conductor. Pole steps shall not be placed less than eight feet above the ground level.

37. Motor generator and electric cooking range installations

(1) The frames of fixed motors, generators and electric cooking ranges shall be earthed in accordance with the regulations of the Institute of Electrical Engineers of Great Britain for earthing. All metal casings of switches, resistances, fuses, cable and wires shall be earthed also in accordance with such regulations and the earth wire shall be of sufficient current carrying capacity for the protection of the apparatus to which it is connected.

(2) The minimum sectional area shall be 0.0032 square inch and the maximum insisted on by this rule shall be 0.0289 square inch. Reliance on partial or variable insulators (such as concrete foundations) between the frame and the adjacent grounded parts does not offer suitable protection either for equipment or attendants.

(3) Every motor must be controlled by a quick break protected switch conveniently placed so that the person in charge of the motor can cut off the supply from the motor and from all auxiliary devices connected therewith.

(4) Fuses or other automatic cut-outs must be provided to protect effectively the conductors in each circuit from excess of current.

(5) Terminals of motor generators, and electric cooking ranges must be so guarded that they cannot be accidentally touched or short circuited.

(6) A notice shall be fixed in a conspicuous position at every motor and switchboard supplied at a pressure above low pressure forbidding unauthorised persons to touch the motors or apparatus.

(7) Where is to be supplied or used at medium or high pressure, notice shall be given to the electrical inspector.

(8) The insulation resistance to earth of each motor, generator and electric cooking range circuit, including all auxiliary devices, shall not be less than one megaohm.

38. Arc lamps

(1) All arc lamps shall be so guarded as to prevent pieces of ignited carbon or broken glass falling from them, and shall not be used where there is any danger arising out of the presence of explosive dust or gas.

(2) Arc lamps or any part thereof used in any street for public lighting shall be at least 10 feet from the ground.

(3) Arc lamps used in any street for private lighting shall be at least eight feet from the ground, and shall be so screened as to prevent risk of contact with persons.

(4) Arc lamps must be insulated from earth, and be fixed so that they cannot swing into contact with any substance, metallic or otherwise, that might connect them with the earth.

(5) Every precaution must be taken against the danger of shock during the trimming of arc lamps.

(6) Resistance for the regulation of arc lamps, if exterior to lamp, shall be mounted on incombustible bases, shall be so placed that they cannot by induction or radiation set fire to any contiguous material, and shall be of ample size to carry with safety the maximum current that normally flows through them.

(7) Each arc lamp circuit, if wholly insulated, shall be provided with a fuse on each pole, but if one terminal is connected to an earthed neutral or intermediate conductor a fuse shall not be inserted in the connection to the neutral or intermediate conductor.

39. Underground conductors

(1) Underground conductors shall be thoroughly insulated and shall be protected from mechanical damage by steel armouring, wooden boxing, earthenware, stoneware, concrete, iron or fibre conduits or pipes and they shall be laid, wherever possible, under the footpaths, and with a cover of at least nine inches from the surface of the pavement and where laid under the roadway this cover shall not be less than two feet except where the soil is of a rocky nature when depth may be not less than one foot.

(2) Except by permission of the Director of Public Works all underground electric supply-lines must be placed on the same side of the street as overhead electric supply-lines, and on the opposite side of the street to that on which underground or overhead telegraph lines exist.

(3) All conduits, pipes, casings and street boxes used as receptacles for electric supply-lines

shall be constructed of durable material, and shall be of ample strength to prevent damage from heavy traffic and reasonable precaution shall be taken to prevent the accumulation of gas in such receptacles.

(4) Where any underground electric supply-line is brought through the surface of the ground to connect with overhead electric supply-lines it shall be completely enclosed in an effectively earthen metal pipe for a height of at least eight feet above the ground.

(5) Electric supply-lines placed in a tunnel or subway not in the sole occupation of the licensee must be insulated and protected by a metallic sheath or enclosed in a metal pipe, both being effectively earthed.

(6) When any high or extra high pressure electric supply-line is laid beneath the surface of the ground, efficient means shall be employed to render it impossible that the surface of the ground or any other electric supply-line or conductor shall become dangerously charged by leakage from the high or extra high pressure electric supply-line.

40. Earthing conduits and sheathing

All metal conduits, pipes or casings containing high or extra high pressure electric supply-lines shall be effectively earthed, and shall be so jointed and connected across all street boxes and other openings as to make good electrical contact throughout their whole length and steel armouring or any other metallic sheathing shall be made continuous throughout the entire length of the cable.

41. Insulation of electric lines

(1) Every low or medium pressure electric supply-line, after having been placed in position and before it is used for the purposes of supply, shall be tested for insulation at a pressure of at least 400 volts, and the licensee shall keep a record of the results of such tests.

(2) A high or extra high pressure electric supply-line shall not be brought into use until it has withstood the continuous application for half an hour of—

- (a) double the working pressure between phases in the case of an electric supply-line which is not to be earthed at any point;
- (b) the working pressure between phases in the case of an electric supply-line in which the neutral point of the star winding is to be earthed; and
- (c) 1,000 volts in the case of an outer conductor of a concentric main which is to be earthed.

(3) The insulation of every complete circuit used for the supply of electricity, including all machinery, apparatus and devices forming part of or in any connection with such circuit, shall be so maintained that the leakage current shall not under any conditions exceed one thousandth part of the maximum supply current provided that suitable steps shall be taken

promptly to locate such leakage, and every such leakage shall be remedied without delay.

42. Electric service lines

(1) Service connections from overhead distributing mains shall be taken direct from insulators and shall not be tapped off the lines between supports. They shall be led as directly as possible to insulators firmly attached to some portion of the consumer's premises which is not accessible to any person without the use of a ladder or other special appliance. Service leads must not be brought out through the roof or attached to insulators fixed on the roof of a building. The portion of any low or medium tension electric service line passing over a street shall not be less than 18 feet above the crown of the road. Within the boundary of the consumer's property the height of the low or medium tension electric service lines shall not be less than 14 feet above the ground level:

Provided that if the conductors other than earthed conductors are bare such height shall be not less than 15 feet and high pressure or extra high pressure service lines shall be of a height not less than those specified in rule 21.

(2) Every portion of any electric service line, except an earthed neutral or intermediate conductor, which is outside a building shall be effectively protected by triple braiding or rubber insulation in the span between the pole and the building.

43. Service connections

(1) The licensee shall be responsible for all electric lines, wires, fittings and apparatus belonging to him which may be upon a consumer's premises, being erected and maintained in a safe condition and in all respects fit for supplying.

(2) A suitable safety fuse or other automatic circuit breaker shall be inserted in each electric service wire (other than an earthed conductor) within or without a consumer's premises, and if within it shall be placed as close as possible to the point of entry, and contained within a suitably locked or sealed receptacle of fireproof construction. If fuses are of outdoor type they must be moisture-proof. In case of 400 volts or 440 volts supply the phase or outer wire fuses shall be separated by an insulating partition, and shall be so arranged that any two conductors cannot be touched simultaneously. In ovens and other apparatus taking 3 kW or more a switch shall be located in each phase or outer wire adjacent to and within easy reach of such apparatus and such switch shall be enclosed in a metal casing.

(3) The point at which the supply of electricity by a licensee to a consumer shall be deemed to commence shall—

- (a) where the amount electricity of 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 is nearest the meter;

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

44. Installation on consumer's premises

(1) All electric wires, fittings and apparatus on a consumer's premises, except such parts as require to be earthed, shall be highly insulated and suitable for the voltage at which the supply is given. They shall be thoroughly protected against injury to the installation or access of moisture and such wires and apparatus shall conform to the regulations for the Electrical Equipment of Buildings of the Institution of Electrical Engineers of Great Britain in force for the time being. In all portable electric inspection lamps the lamp-holder shall be so completely enclosed by insulating material that it shall be impossible for contact to be made with it by the handle, metal guard or user without dismantling the lamp. All electric wires shall be so fixed and protected as to prevent the possibility of electrical discharge to any adjacent metallic substance.

(2) The licensee shall not connect the wires, fittings and apparatus on a consumer's premises with his electric supply-lines, or in the case of premises already connected, continue to supply from his electric supply-lines, unless the requirements of these rules are complied with, and the wiring, fittings and apparatus are suitable for the voltage of supply and in accordance with the regulations for the Electrical Equipment of Buildings of the Institution of Electrical Engineers of Great Britain in force for the time being.

(3) For the purpose of satisfying himself that the requirements of these rules are being complied with the licensee shall require that notice shall be served upon him of the consumer's intention to install wires, fittings and other apparatus on any such premises and the consumer shall render the licensee every reasonable facility for inspecting and testing such wires, fittings and apparatus during the progress of the work and after its completion.

45. Appeal

If any consumer is dissatisfied with the action of the licensee in refusing to give, or in not recommencing the supply of energy to his premises, the wires and fittings of that consumer may, on his application to and on payment of the prescribed fee, be inspected and tested by the electric inspector and if the electric inspector is satisfied that such wires, fittings and apparatus may be safely used, the licensee shall upon receipt of notice to that effect from the electric inspector, forthwith supply the consumer with electrical energy, provided that the consumer has otherwise complied with the provisions of the Act and these rules.

46. Leakage

For the purpose of any test for leakage from the consumer's conductors, leakage shall be deemed to exist only if the electric inspector is satisfied that such leakage is in excess of one

five thousandth part of the maximum supply demanded on the premises.

47. Precautions by owners

When an owner generates or uses energy—

- (a) where bare conductors are used in a building, they shall be inaccessible without the aid of a ladder or other special appliance and shall have switches provided for rendering them, dead whenever necessary;
- (b) no repair of any part of any electrical apparatus shall be effected while the part is charged to a pressure exceeding low or medium pressure, except by an authorised person;
- (c) the supply of energy to every vehicle, travelling crane or the like shall be efficiently controlled by a suitable switch so that by its means all pressure can be cut off from all apparatus concerned and from any device in connection therewith;
- (d) trailing cables for portable motors shall be specially flexible, heavily insulated and protected from mechanical injury but where the protection is by means of metallic covering, this covering shall be in metallic connection with the frame of the motor.

48. Precautions by consumers and owners, electrical contractors and electrical workmen

(1) No electrical installation 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 alters the capacity and character of the installation, shall be carried out upon the premises or on behalf of any consumer for the purposes of the supply of to such consumer, except by a duly licensed wireman or operator and under the direct supervision of a person holding an installation contractor's licence issued by the Licensing Board.

(2) Subject to the approval of the Electricity Board the Licensing Board may prescribe conditions relating to the examination and testing of electrical installation contractors, wiremen and other operators and the licensing and registration of such persons; and subject to the payment of the prescribed fees, may issue licences in that behalf in such form as the Licensing Board may approve.

49. Observance of rules

The licensee, his manager and agents shall at all times take active steps to secure compliance with the Act on the part of his employees.

50. Penalty on unlicensed persons

Where any electrical installation work of the nature specified in rule 48 has been carried out

otherwise than by a duly licensed wireman or operator and under the direct supervision of a person holding an installation contractor's licence granted by the Licensing Board, the contractor (if any) through whom the work was carried out, the wireman or operator or other person (as the case may be) who carried out the work, shall each be liable to a fine not exceeding five hundred shillings.

51. Mode of entry

All persons entering, in pursuance of the Act any building which is used as a human dwelling or a place of worship shall, in making such entry, have due regard, so 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.

52. Relaxation of rules

(1) Director of Public Works may, by order in writing, direct that any of the provisions of rules 7 to 48, other than rule 22, be relaxed in any particular case to such extent and subject to such conditions (if any) as he may think reasonable and proper in the circumstances.

(2) Electric inspector may by order in writing direct that rules 14, 15, 18, 20, 21, 23(2), 25, 26, 33, 37, 41 and 42 be relaxed in any particular case to such extent and subject to such conditions (if any) as he may think reasonable and proper in the circumstances.

(3) Every relaxation directed under subparagraph (2) shall be reported forthwith to, and shall be subject to disallowance or revision by the Director of Public Works.

53. Qualifications of electric inspector

No person may be appointed an electric 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 not less than five years in the practice of electrical engineering:

Provided that the Minister may appoint any person not so qualified if in his opinion such person is otherwise fully qualified to exercise the powers and perform the functions of an electric inspector.

54. Notification of breach of rules

An electric inspector may serve an order in the form set out in Form A of Schedule I to these Rules, upon any licensee or owner, 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.

55. Fees

(1) The fees specified in Schedule III hereto shall be paid in respect of the several matters to which they are applicable.

(2) Subject to determination on appeal to the Director of Public Works an electrical inspector may, having due regard to the time and work involved, allocate his charge for inspection or test according to any one of the several classes mentioned in Part B of Schedule III.

56. Liability to pay fees

Where an electrical inspector is called in to decide any difference or dispute, and where a fee for such service is recoverable, the electric inspector shall decide by whom such fee shall be payable.

57. Submission of records

An electrical inspector may require a licensee and a licensee may require an electrical 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.

58. List of consumers

An electrical inspector may require a licensee to submit to him a list of all consumers supplied with electricity by him at a pressure exceeding low pressure and of the addresses at which such electricity is supplied and the licensee shall comply with such requisition.

59. Registry of licences

A central registry of all licences issued to installation contractors, wiremen or other operators shall be kept at the office of the Director of Public Works.

60. Preparation and submission of accounts

Every licensee shall prepare and render the annual statement of his accounts, as far as circumstances permit, in the prescribed forms set out in Schedule 11 to these Rules.

61. Penalty

Any person who fails without reasonable excuse to comply with or acts in contravention of the provisions of these Rules shall be liable to a fine not exceeding two thousand five hundred shillings and, in the case of a continuing breach, with a further daily penalty not exceeding two hundred and fifty shillings.

SCHEDULE I

Electricity Rules

Statement of Loan Capital appropriated for the purposes of the undertaking authorised by the above-mentioned licence at the end of the year.

No. II

<i>Description of loan</i>	<i>Amounts borrowed</i>				<i>Remaining borrowing powers</i>	<i>Total amount of borrowing powers</i>
	<i>At percent</i>	<i>At percent</i>	<i>At percent</i>	<i>Total</i>		

Total Loan Capital borrowed - See No. II.
 Total Share Capital paid up - See No. I.
 Total Capital Received.

No. III - CAPITAL ACCOUNT

For the year ending 31st December, 20.....
31st March, 20.....

DR.

	<i>Expenditure up to end of previous year</i>	<i>Expended during the year</i>	<i>Total Expenditure to</i>		<i>Receipts up to end of previous year</i>	<i>R d. t</i>

1. To preliminary expenses (to be specified)				By ordinary shares of	
2. To lands including law charges incidental to acquisition				By ordinary shares of	
3. To buildings ...				By preference shares of	
4. To plant				By debenture stock	
5. To mains				By mortgages and bonds	
6. To serve connection ...				By amounts received in anticipation of calls	
7. To transformers, etc.				By other receipts (to be specified)	
8. To meters, and fees for certifying under the Act					
9. To general stores					
10. To special items (to be specified)					
Total expenditure					
To balance of Capital Account					

No. IV - REVENUE ACCOUNT

For the year ending 31st December, 20.....
31st March, 20.....

DR

<p>A. - GENERATION</p> <p>1. To fuel</p> <p>2. To oil, waste, water and engine room stores</p> <p>3. To proportion of salaries of engineers, superintendents and officers</p> <p>4. To wages and gratuities</p> <p>5. To repairs and maintenance of follows— Buildings</p> <p>Plant</p> <p>6. To special items (to be specified)</p>				<p>1. By sale of energy for lighting purposes</p> <p>2. By sale of energy for power purposes</p> <p>3. By sale of energy under special contracts</p> <p>4. By public lighting</p> <p>5. By rental of meters and other apparatus on consumer's premises ...</p> <p>6. By rents receivable</p> <p>7. By transfer fees</p> <p>8. By service connections</p> <p>9. By miscellaneous receipts from consumers</p> <p>10. By other items (to be specified)</p>	
<p>Carried forward</p>				<p>Carried forward</p>	

DR.

CR.

<p><i>Brought forward</i></p> <p>B. - DISTRIBUTION</p> <p>1. To proportion of salaries of engineers, superintendents and officers</p>					
--	--	--	--	--	--

3. To depreciation on plant				
4. To depreciation on mains				
5. To depreciation on general stores				
6. To depreciation on meters				
7. To depreciation on meters				
8. To depreciation in respect of any other items (to be specified)				
H. - SPECIAL CHARGES				
To special items (to be specified)				
Total expenditure				
Balance carried to net revenue				

No. V - NET REVENUE ACCOUNT

DR.	CR.
To interest on debentures accrued due to date	1. By balance from last account
To interest on mortgages and bonds accrued due to date	Less dividend paid
To interest on temporary loans accrued due to date	By amount carried to Reserve Fund
To dividend on preference stock	2. By balance brought from Revenue Account (No. IV)
To Income-tax paid	3. By interest on money at deposit

To balance applicable to dividend on ordinary stock or shares

No. VI - RESERVE FUND ACCOUNT

DR.

CR.

1. Amount paid out (items to be specified)		1. By balance brought from last account	
2. Amount of balance to next account		2. By amount brought from Net Revenue Account	
		3. By interest on amount invested (Description of investments to be specified)	

No. VII - DEPRECIATION FUND ACCOUNT

DR.

CR.

To balance		1. By balance from last account	
		2. By interest on investments	

	3. By amount brought from Revenue Account (see No. IV. G) (Description of investments to be specified)	
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No. VIII - GENERAL BALANCE SHEET

DR.		CR.
1. To Capital Account: amount received as per Account No. III		1. By Capital Account: amount expended for works as per Account No. III
2. To sundry creditors due on construction of plant and machinery, fuel, stores, etc.		2. By stores on hand
3. To sundry creditors on open accounts		3. By sundry debtors
4. To Net Revenue Account balance at credit thereof		4. By preliminary expenses awaiting adjustment
5. To Reserve Fund Account: balance at credit thereof		5. By securities as held (cost price)
6. To Depreciation Fund Account		6. By special items (to be specified)
7. To special items (to be specified)		7. By cash at bankers
		8. By cash on hand
Total		Total

No. IX - STATEMENT OF ENERGY GENERATED, SOLD, ETC.

	<i>Kilowatt-hours sold</i>	
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<i>Total energy generated in Kilowatt-hours</i>	<i>Public lamps</i>	<i>By special Contract</i>	<i>Consumers by meter for lighting purposes</i>	<i>Consumers by meter for power purposes</i>	<i>Total</i>	<i>Kilowatt-hours used on works</i>	<i>t t ε f</i>
1	2	3	4	5	6	7	

Where the undertaking supplies power to tramway the units sold to the tramway should be treated as sold by the tramway should first be ascertained; then the kilowatts connected to the tramway system should be assumed to bear to their consumption.

SCHEDULE III FEES

(Rule 55)

A. - FEES TO BE PAID IN RESPECT OF LICENCES

Licence for Contractors:

Contractor Class A, per annum	100,000/=
Contractor Class B, per annum	80,000/=
Contractor Class C, per annum	60,000/=
Contractor Class D, per annum	30,000/=
Licence for Wireman or Operator per annum	15,000/=
Licence for Cinema Operator, per annum	15,000/=

Fees for Electrical Installation Contractor's Examination	3,000/=
Fees for application/upgrading forms	2,000/=
Fees for a licence to operate generators of:	
(a) 5 – 12 kW, per annum	5,000/=
(b) more than 12 kW, per annum	10,000/=

B. - FEES TO BE PAID IN RESPECT OF SERVICES OF AN ELECTRICAL INSPECTOR

Inspection and test of installations—

	<i>Shs.</i>	<i>cts.</i>
Class I	100	00
Class II	75	00
Class III	50	00
Class VI	25	00
Class V	10	00
Arbitration in disputes involving tests	40	00
Arbitration not involving tests	20	00
For comparison of instruments with Government standards	100	00

In tests requiring the expenditure of a considerable amount of power, a charge to cover the actual cost of the used may be made.

Instruments referred to above to be delivered at and removed from the Labour Office, Dar es Salaam, free of cost to the Government.