

effected at a pole. In every case of a through crossing, no matter whose property the lines crossed through may be, the method of carrying the electric-light wires across the pole, of protecting them thereon, of preventing other wires from coming in contact with them, and of protecting persons working on the poles from danger of shock, shall be to the satisfaction of the Minister of Telegraphs. The electric-light wires shall be insulated with a triple covering of jute braiding thoroughly compounded where they pass through on the poles and over the whole length of the span on each side of the pole crossed through. Where the insulated wires cross through on the pole they shall be encased in some approved hard protecting substance for the entire length of the arms on such pole. If metal pipe is used to encase the wires it shall be effectively earthed.

Where electric lines and telegraph lines intersect, the latter shall be suitably insulated if deemed necessary, and when the crossing is above and near a pole the spans on each side of the pole may be insulated.

Where low-pressure lines and telegraph lines intersect, the former shall be insulated with weatherproofed insulation or rubber as prescribed in clause 8.

Where deemed necessary efficient guard-wires, effectively earthed, shall be erected in a manner to meet with the approval of the Minister of Telegraphs at all crossings or places where electric lines intersect telegraph lines, or at any place where such protection may be considered necessary.

The Council shall bear the expense of such guard-wires in all cases where an electric line intersects any telegraph line previously existing.

The cost of all necessary guard-wires and special provisions required to comply with this clause, or deemed to be necessary as a protection to telegraph or telephone wires generally, shall be borne by the Council when the telegraph lines are erected before the electric lines. In other cases the Council, on receipt of notice from the local officer of the Telegraph Department that it is proposed to run a telegraph line along the route, shall forthwith make the necessary changes required to comply with this clause at any points at which electric lines already cross such routes.

#### *Earth-wires.*

14. Earth-wires, where led down poles, shall be protected by a casing for a distance of 8 ft. from the ground. A test shall be made every three months, and oftener if required, of all earths, to ensure that the earth-wire is intact and that the earth is effective.

#### *Railway Crossings.*

15. No work of any nature shall be erected or constructed in pursuance of this license upon, over, or under any part of the Government railways until the Council has obtained the consent of the Minister of Railways thereto, as required by section 4 of the Government Railways Amendment Act, 1910 (No. 2).

#### *Service Connections.*

16. Service connections from aerial lines shall be taken direct from insulators, and shall not be tapped off between insulators. 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.

Every portion of any aerial line which is outside a building, and is within 7 ft. from any part of the building, shall be rubber-insulated.

#### *Arc Lamps.*

17. 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 in situations where there is any danger of the presence of explosive dust or gas.

Arc lamps used in any street for public lighting shall be so fixed as not to be in any part at a less height than 10 ft. from the ground.

Arc lamps used in any street for private lighting shall be so fixed as not to be in any part at a less height than 8 ft. from the ground, and shall be so screened as to prevent risk of contact with persons.

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 to earth. They may be run in series, and at any available voltage up to 460 volts. Resistances for the regulation of arc lamps, if exterior to the lamp, shall be mounted on incombustible bases, shall be so placed that they cannot by conduction or radiation set fire to any contiguous materials, and shall be of ample size to safely carry the maximum current that will normally flow through them. Each arc-lamp circuit shall be provided with a fuse on each pole. Interior arc lamps shall also be provided with a switch on each circuit.

#### *Maintenance.*

18. Every aerial line, including its supports, its conductors, and their insulating covering, and all structural parts and electric appliances and devices belonging to or connected with the line, shall be duly and efficiently maintained as regards both electrical and mechanical conditions.

#### *Lightning-arresters.*

19. Where any portion of any electric line or support for an electric line is exposed in such a position as to be liable to injury from lightning it shall be efficiently protected against such liability.

#### *Underground Conductors.*

20. Underground conductors shall be thoroughly insulated, and shall be protected from mechanical damage by steel armouring, or by wooden boxing, or earthenware, stoneware, concrete, iron, or fibre conduits or pipes. They shall be laid wherever possible under the footpaths, and with a cover of at least 9 in. from the surface of the pavement. Where laid under any other part of the street such cover shall be increased to 2 ft.

All conduits, pipes, casings, and street boxes used as receptacles for electric lines shall be constructed of durable material, and they shall be of ample strength to prevent damage from heavy traffic, and reasonable means shall be taken to prevent the accumulation of gas in such receptacles.

Where any underground line crosses or is in proximity to any metallic substance special precaution shall be taken against the possibility of any electrical charging of the metallic substance from the line or from any metallic conduit, pipe, or casing enclosing the line.

#### *Earthing Conduits.*

21. All metallic conduits, pipes, or casings containing an electric line shall be efficiently 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.

#### *Street Boxes.*

22. The covers of street cable-boxes shall be so secured that they cannot be opened except by means of a special appliance. Street boxes shall be either filled solid with cable compound or oil, or if not so filled shall be inspected from time to time for the presence of gas, and suitable action shall be taken to check its influx and accumulation.

#### *Insulation of Electric Mains.*

23. Every main, either overhead or underground, shall be tested for insulation after having been placed in position and before it is used for the purposes of supply, the testing pressure being at least 500 volts; and the Council shall duly record the results of the tests of each main or section of a main, and forthwith forward a report thereon to the Chief Electrical Engineer of the Public Works Department at Wellington.

The insulation of every complete circuit used for the supply of energy, including all machinery, apparatus, and devices forming part of or in 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. Every leakage shall be remedied without delay. Every such circuit shall be tested for insulation at least once in every month, and the Council shall duly record the results of the tests and forward a report thereof at the end of each month to the Chief Electrical Engineer of the Public Works Department at Wellington. Provided that where any part of any electric circuit is connected with earth, the provisions of this regulation shall not apply to that part of that circuit so long as the connection with earth exists.

#### *Continuity of Supply.*

24. From and after the time when the Council commences to supply energy in pursuance of this license it shall maintain continuously sufficient power for the use of all the consumers for the time being entitled to be supplied; provided also that, for any purposes connected with the efficient working of the undertaking, the Minister may give permission to the Council to discontinue the supply at such intervals of time and for such periods as he may think expedient. When the supply is so discontinued public notice shall be given, when practicable, of such discontinuance and of the probable duration thereof.

#### *Supply to Consumers.*

25. The owner or occupier of any premises within the area of supply included in the license shall be entitled to a supply of electrical energy on the following conditions:—

(a.) If such premises are situated within 60 ft. of the boundary of any street in which an electric distribution-line belonging to the Council exists, the service shall be made free of cost.