

4. The main switchboard shall be made of and be mounted on material that is not inflammable. All outgoing feeders or distributors shall be provided with automatic circuit-breakers or fuses, set to open with 50 per cent. excess current over the rated full load, with a time limit not exceeding ten seconds.

5. Except where otherwise provided, the overhead conductors may be bare. If at any time it is found detrimental to the public safety to have these wires bare, the Minister may require the Council to have them insulated, and they shall thereupon be insulated accordingly. No electric-light wire shall come within 3 ft. of any other class of aerial wires or of cables, except where it may be permitted to pass the electric-light wires through such other wires or cables at a pole.

6. At telegraph crossings the electric lines shall pass over or under the telegraph wires or cables as may be decided by the Minister of Telegraphs. Where lead-covered telephone cables or any open telegraph or other aerial wires are crossed above or beneath by the electric-light wires, the latter wires shall be insulated with not less than 600-megohms-per-mile grade of vulcanized rubber throughout the crossing-span, and over every such span they shall be suitably suspended from effectively earthed steel bearer-wires if the Minister of Telegraphs shall so require.

7. In places where it may be required to cross with the electric-light wires through any other aerial wires or through cables, all such through crossings, if permitted, shall be 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, protecting them thereon, preventing other wires from coming into contact with them, and protecting persons working on the poles from danger of shock, shall be to the satisfaction of the Minister of Telegraphs, who may, on giving to the licensee reasonable notice in that behalf, require the licensee to remove such electric lines at any time from such poles without payment of any compensation. Where the insulated wires cross through on the pole they shall be encased in an approved protecting tube for the entire length of the arms on such pole. If metal pipe is used to encase the wires it shall be effectively earthed.

8. Efficient guard-wires, effectively earthed, shall, if so required by the Minister of Telegraphs, be erected in a manner to meet with his approval at all crossings and places where the electric-light wires intersect telegraph or other wires, or wherever such protection is deemed necessary by the Minister of Telegraphs. The Council shall bear the expense of such guard-wires in all cases where an electric-light wire intersects a telegraph or other wire previously existing.

9. In running the lines authorized by this license through streets where no telegraph lines exist, the Council shall keep to one side of the street, and in running service wires to the opposite side of the street the Council shall arrange so as to interfere as little as possible with the route of any future telegraph line.

10. Except by permission of the Minister all overhead electric-light pole lines shall be placed on the opposite side of the streets to that on which any telegraph-pole lines exist; and where the erection of the electric-light wires necessitates the alteration of any existing telegraph wires, and such alteration is approved by the Minister of Telegraphs, the expense of the alteration shall be borne by the Council.

11. Where the electric-light wires are on one side of a street and the telegraph wires are on the other, and service is required to be given from either to the other side of the street, the Council and the Minister of Telegraphs shall give to each other reasonable facilities as far as possible to effect supply.

12. Every main 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 thereof to the District Engineer of Public Works at Auckland.

13. The insulation of every complete aerial and underground 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 week, and the Council shall duly record the results of the tests, and forward a report thereof at the end of each week to the District Engineer of Public Works at Auckland.

14. The sectional area of the conductor in any electric line (other than service wires or connections to street lamps) laid or erected in any street shall not be less than 7/18 standard wire gauge. Service wires and connections to street

lamps shall not be less than No. 12 standard wire gauge if solid or 7/20 standard wire gauge if stranded.

15. All metal pipes or coverings containing any electric wire shall be efficiently connected with earth, and shall be so jointed as to make good electrical connection throughout their whole length.

16. 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.

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.

17. The pressure shall be maintained within 4 per cent. above or below the declared pressure at the consumers' terminals. The Council shall maintain a suitable recording voltmeter, and on complaint by any consumers that the variations in voltage exceed these limits, or on the instructions of the Inspecting Engineer, the Council shall connect a recording voltmeter to record the pressure between the lines at their entrance to the consumers' premises, and shall supply to the Inspecting Engineer a chart showing the variations in voltage between the lines at this point for a period of seven consecutive days. If the variations thus recorded exceed the above limits, the Council shall take immediate steps to comply with this regulation. If after thirty days a similar chart shows that the above limits of variation in voltage are not complied with, a breach of these regulations shall be deemed to have been committed. If the accuracy of the Council's recording voltmeter is questioned by the consumer, a standard instrument shall be supplied by the Inspecting Engineer, the readings of which shall be accepted as final.

18. Every support for an aerial line shall be of durable material and properly strengthened against forces due to wind-pressure, change of direction of line, and unequal length of span. The factor of safety of such supports if of iron, steel, or ferro-concrete shall be at least four, and if of wood shall be at least six, taking into consideration all possible stresses, including wind-pressure at 25 lb. per square foot on plane surfaces and 15 lb. per square foot of diametrical plane for cylindrical surfaces. The stress in the aerial conductors shall not exceed 25,000 lb. per square inch for copper and 12,500 lb. per square inch for aluminium in the extreme case of a temperature of 20° Fahr. and a wind-pressure of 18 lb. per square foot of diametrical plane occurring simultaneously.

19. Earth-wires, where led down poles, shall be protected by casing for a distance of 8 ft. from the ground.

20. All aerial wires shall be attached to suitable insulators carried on cross-arms of suitable material and cross-section, and they shall be so attached to the insulators or guarded that they cannot fall away from the support. Conductors covered with insulating material shall be so attached that their insulation will not be impaired where they are secured to the insulator.

21. Any aerial wire shall not in any part thereof be at a less height from the ground than 18 ft., or within 5 ft. measured horizontally or vertically from any part of any building or erection other than a support for the line, except where brought into a building for the purpose of supply. No work of any nature shall be erected or constructed 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).

22. Service lines from aerial lines shall be taken 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 consumers' premises which is not accessible to any person without the use of a ladder or other special appliance. Every portion of any service line which is outside a building, and is within 7 ft. from any part of the building, shall be rubber-insulated.

23. Where an aerial line crosses a street, the angle between the line and the direction of the street at the place of crossing shall not be less than 60 degrees, and the spans shall be as short as possible. The minimum height of the line shall be 20 ft. above the street level.

24. Where an aerial line crosses or is in proximity to any metallic substance, precautions shall be taken against the possibility of the line coming into contact with the metallic substance, or of the metallic substance coming into contact with the line by breakage or otherwise.

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

26. An aerial line shall not be permitted to remain erected after it has ceased to be used for the supply of energy, unless