

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 lines.

#### RAILWAY CROSSINGS.

12. No work of any nature shall be erected or constructed upon, over, or under any part of the New Zealand 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).

#### PROTECTION OF POST AND TELEGRAPH LINES.

13. 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, and shall be at least 2 ft. distant. Where it is impracticable to cross above or below, the electric lines may be taken through; but when permitted to be taken through, the crossing shall be made at a pole in manner to be approved by the Minister of Telegraphs.

Where the electric lines intersect telegraph lines, 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 also be insulated.

Where high-pressure electric lines intersect telegraph lines the former shall be insulated with not less than 600-megohms grade of vulcanized rubber, and the low-pressure wires with weather-proofed insulation as prescribed in clause 9.

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 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 in all cases where the telegraph lines are erected before the electric lines. In other cases the Council, on receipt of notice from the local Telegraph Engineer 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 where led down poles shall be encased for a distance of 8 ft. from the ground, and a test shall be made of all earths once every three months, or oftener if required, to ensure that the earth-wire is intact and that the earth is effective.

The permission to place electric light and power wires on the Telegraph Department's poles shall be restricted as far as possible, and in no case shall such wires be attached to the Telegraph Department's poles without the approval of the Minister of Telegraphs being first obtained.

#### ELECTRIC LINES ON TELEGRAPH POLES.

14. Where electric lines are permitted to be supported on telegraph poles all details of the supports and of the insulation shall be approved by the Minister of Telegraphs, who may, on giving to the Council reasonable notice in that behalf, require the Council to remove such electric lines at any time from such telegraph poles, and without payment of any compensation to the Council.

#### LINES NOT IN COMMISSION.

15. An aerial line shall not be permitted to remain erected after it has ceased to be used for the supply of energy unless the Council intends within a reasonable time to again take it into use.

#### ANGLE OF CROSSING THOROUGHFARES.

16. 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 span shall be as short as possible.

#### LINES CROSSING METALLIC SUBSTANCES.

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

#### SERVICE CONNECTIONS FACILITIES.

18. Where electric lines are on one side of the road and electric telegraph lines on the other, and service is required to be given from either to the other side of the road, the Council and the Minister of Telegraphs shall give to each other reasonable facilities as far as possible to effect supply.

#### SERVICE CONNECTIONS FROM AERIAL LINES.

19. Service lines shall be taken direct from line-insulators to insulators supported and 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 service line which is outside a building and is within 7 ft. of any part of the building shall be rubber-insulated.

#### MAINTENANCE.

20. Every aerial line, including its supports, its conductors, and their insulating covering, and all 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.

#### TRANSFORMERS.

21. Where high-pressure transformers are attached to poles they shall be placed so as to be inaccessible except by the use of a ladder or other special appliance. Where high-pressure transformers are placed in sub-stations, all high-tension conductors shall be thoroughly insulated or protected from accidental contact; and the sub-station shall be entirely inaccessible to unauthorized persons. Where high-tension transformers are placed on consumers' premises, the whole of the apparatus shall be enclosed or rendered inaccessible except to authorized persons. The cases of all transformers shall be earthed by means of a copper conductor at least 0.022 square inch in section.

#### LIGHTNING-ARRESTERS.

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

#### UNDERGROUND CONDUCTORS.

23. 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 12 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.

24. 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.

25. 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.

26. 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 pressures 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 Resident Engineer of the Public Works Department at Christchurch.

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.

#### SERVICE CONNECTIONS.

27. The Council shall be responsible for all electric lines or wires, fittings, and apparatus belonging to it or under its control, which may be upon a consumer's premises, being maintained in a safe condition and in all respects fit for supplying energy.