

the said Dominion, doth, subject to the conditions set forth in the Schedule hereto, hereby authorize the licensee to erect, construct, lay down, and maintain electric lines for lighting, heating, and power purposes within the Township of Waipiro, along the routes shown by means of full red lines on the plan marked P.W.D. 34915, deposited in the office of the Minister of Public Works, at Wellington, in the Wellington Provincial District.

#### TERMS AND CONDITIONS OF LICENSE.

##### 1. In this license—

- “Consumer’s wires” means any electric lines on the consumer’s premises which are connected with the licensee’s electric lines.
- “Distribution line or lines” means the portion of any line from which service wires are connected for the purpose of supplying consumers.
- “Earthed” applied to any conductor means that such conductor shall be so connected to the general mass of earth as to ensure at all times an immediate and safe discharge to earth of electric energy.
- “Electric line” means any wire, wires, conductor, or other means used for conveying, transmitting, or distributing electricity for power, lighting, or heating purposes, and includes any instrument, insulator, casing, tubing, pipe, covering, or post enclosing or supporting an electric line or anything connected therewith.
- “Electric telegraph line” means any wire, wires, or cables belonging to the Post and Telegraph Department, or erected under authority granted by the Minister of Telegraphs.
- “Inspecting Engineer” means and includes an Inspecting Engineer appointed by the Minister to inspect works to be constructed or maintained by virtue of any electric-line licenses, or any water-power licenses, or any combined water-power and electric-line licenses issued under the Public Works Act, 1908, and any or all of its amendments, or under any one or more of such amendments only, or any Act or Acts passed in amendment thereof or substitution therefor.
- “Minister” means the Minister of Public Works.
- “Pressure” means difference of electric potential between any two conductors through which supply of energy is given, or between any part of either conductor and the earth.
- “Street” includes road.
- “Telegraph” includes telephone.

##### 2. SYSTEM OF SUPPLY.

The system of supply shall be a two-wire direct-current system, and the potential difference between the two wires or between either wire and the earth shall not exceed 100 volts.

##### 3. REGULATION OF PRESSURE.

The pressure shall be maintained within 4 per cent. above or below the declared pressure at the consumers’ terminals. The licensee shall maintain a suitable recording voltmeter, and on complaint by any consumer that the variations in voltage exceeds these limits, or on the instructions of the Inspecting Engineer, the licensee 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 licensee 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 licensee’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.

##### 4. SWITCHBOARD.

All switchboards shall be made of and mounted on material that is not inflammable, and no switchboard conductor shall carry electric current at a density exceeding one thousand amperes per square inch.

##### 5. CIRCUIT-BREAKERS.

All outgoing feeders and distributors from any power-house or sub-station shall be provided with automatic circuit-breakers or fuses set to open circuit at 50 per cent. excess current over the rated full load of such feeder or distributor, with a time-limit not exceeding ten seconds.

##### 6. DISTRIBUTION.

The distribution may be carried out either by underground or overhead conductors, provided that if at any time it is deemed by the Minister to be detrimental to the public safety for the conductors or any particular class of conductors to be overhead they shall, on receipt of notification to that effect from the Minister, and within ten months of such notification, be laid underground, and all consequent and necessary alterations made by and at the cost of the licensee.

##### 7. OVERHEAD ELECTRIC LINES.

Overhead electric lines shall be of stranded hard-drawn copper, aluminium, or other material of not less than .0129 square inches in section, provided that service wires of short span may be not less than .0072 square inches. The lines shall be covered throughout with triple braiding thoroughly impregnated with weather proofing compound, provided that where circumstances permit the lines may, with the consent of the Minister, be bare.

The stress in overhead conductors shall not exceed 25,000 lb. per square inch for copper and 12,000 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 diametral plane occurring simultaneously. The span between supports and the sag shall be determined to conform with the above limiting stresses, provided that the span shall not exceed 200 ft.

No overhead electric lines shall come within 2 ft. of any other aerial wires or cables except where it may be permitted to pass either set of wires between the other wires at a pole or support.

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.

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

##### 8. SUPPORTS FOR OVERHEAD ELECTRIC LINES.

All overhead electric lines shall be carried at a minimum height of 18 ft. above the ground.

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 shall not be impaired where they are secured to the insulator.

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 shall be at least 4 (four) if of iron, steel, or reinforced concrete, and 6 (six) if of wood, taking into consideration all possible stresses, including wind-pressure at 30 lb. per square foot on plane surfaces and 18 lb. per square foot of diametrical plane for cylindrical surfaces.

##### 9. LOCATION OF OVERHEAD LINES.

Except by permission of the Minister of Telegraphs, or subject to an agreement between the Post and Telegraph Department and the licensee, all overhead electric-light pole 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 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 licensee.

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

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

##### 10. TELEGRAPH AND TELEPHONE.

Where electric lines are permitted to be supported on telegraph poles all details of the support and of the insulation shall be approved by the Minister of Telegraphs, who may require such electric lines at any time to be removed from such telegraph poles on reasonable notice and without compensation of any description.