License authorizing the Christchurch Tramvay Board to erect Electric Lines along certain Routes in the City of Christchurch.

CHARLES FERGUSSON, Governor-General. ORDER IN COUNCIL.

At the Government House at Wellington, this 13th day of January, 1930.

Present :

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

I N pursuance and exercise of the powers conferred by the Public Works Act, 1928, and of all other powers in anywise enabling him in that behalf, His Excellency the Governor-General of the Dominion of New Zealand, acting Governor-General of the Dominion of New Zealand, acting by and with the advice and consent of the Executive Council of the said Dominion, doth—subject to the conditions set forth in the Schedule hereto, and to the regulations made under section two of the Public Works Amendment Act, 1911, and dated the eleventh day of July, one thousand nine hundred and twenty-seven, and published in the New Zealand Gazette of the twelfth day of the same month, or any regulations hereafter made in amendment thereof or in substitution therefor (and hereinafter collectively referred to as "the regulations"), and which regulations shall be deemed to be incorporated herein—hereby authorize the Christchurch Tramway Board (hereinafter referred to as "the licensee") to erect and maintain electric lines along the routes described in the Schedule hereto for the purpose of supplying power to trackless electric cars.

SCHEDULE.

1. ALL those routes shown by red and blue lines on the plans deposited in the office of the Minister of Public Works at Wellington and marked P.W.D. 76752 (sheets I to VIII), the said routes being generally described as follows :----A. Lines for one-way traffic commencing from the centre

the said routes being generally described as follows:— A. Lines for one-way traffic commencing from the centre of Cathedral Square and running southwards across the said Cathedral Square and along Colombo Street to High Street; thence via High Street to its junction with Man-chester Street; thence northerly along Manchester Street to Armagh Street; together with cross connecting lines from the intersection of Manchester Street and Cashel Street, westerly along Cashel Street to High Street; from the inter-section of Armagh and Manchester Streets, continuing by lines for two-way traffic along Manchester Street to Oxford Terrace; thence generally in a north-easterly direction along Oxford Terrace and Kilmore Street to Fitzgerald Avenue; thence northerly along Fitzgerald Avenue, Avalon Street, Hills Road, Warden Street, and Petrie Street to its junction with Shirley Road, a distance of 2 miles 60 chains, more or less, with a V-loop at that junction for turning purposes; as shown more particularly on sheets I, II, III, and VIII of plan above referred to. B. Lines for two-way traffic commencing from the junction of Petrie Street and Shirley Road, and proceeding thence easterly along that road and the New Brighton Road to its junction with Francis Street; thence via Francis Street, Bassett Street, Travis Road, Rockwood Avenue, and Bowhill Boad to the Explande. a distonce of 4 mise 17 okains. more

Bassett Street, Travis Road, Rockwood Avenue, and Bowhill Road to the Esplanade, a distance of 4 miles 17 chains, more or less, and terminating in a balloon loop as shown on sheets. III, IV, V, and VI of the plan above referred to. C. Lines for one-way traffic from the intersection of Man-

chester Street and Armagh Street and running westerly along Armagh Street to Colombo Street; thence southward via Colombo Street to the centre of Cathedral Square, the commencing-point of Route A hereinbefore described, a distance of $23\frac{1}{2}$ chains, more or less, as shown on sheet I of the plan

be 255 chains, more of ress, as shown on sheet 1 of the plan hereinbefore referred to. D. Lines for one-way traffic commencing from the junction of Colombo Street with Cathedral Square, and proceeding thence easterly through the said Cathedral Square along Worcester Street to its junction with the route in Manchester Street described in Route A hereinbefore described, being a distance of 13 chains, more or less, as shown on sheet I of the plan above referred to.

E. Lines for two-way traffic commencing from the inter-section of Hereford Street and Manchester Street, and prosection of Hereford Street and Manchester Street, and pro-ceeding thence in an easterly direction along Hereford Street to Madras Street; thence southerly along Madras Street to Moorhouse Avenue; thence easterly along Moorhouse Avenue, and terminating in a balloon loop through a depot in Moor-house Avenue adjoining the Tramway Repair Shops, a dis-tance of 79 chains, more or less, as shown more particularly, on Sheets I and VII of the plan above referred to. F. Lines for two-way traffic commencing from the inter-section of Lichfield Street and High Street for two-way traffic south-easterly along High Street and Lower High Street to its junction with Fitzgerald Avenue; thence

thence

southerly along that avenue and terminating in a loop passing through the depot at the corner of Fitzgerald Avenue and Moorhouse Avenue, a distance of 72 chains, more or less, as shown more particularly on sheet VIII of the plan herein-before referred to.

The trolly-wires shall not be less than No. 2/0 S.W.G. hard-drawn solid copper or cadmium copper wires, firmly attached to approved insulators, and erected on supports

attached to approved insulators, and erected on supports placed not more than 130 ft. apart. Trolly-wire feeder-cables, if carried overhead, shall be covered with weatherproof triple braiding: Provided that, where circumstances permit, the Minister may approve of bare conductors being used; and provided that where electric feeder-cables intersect the Post and Telegraph Department's lead-covered cables, vulcanized indiarubber insulation of not less than 600 megohm grade shall be substituted for weatherproof triple braiding. Double insulation shall be provided between the positive and negative trolly-wires and between the positive trolly-wire and earth. Single insulation shall be provided between the negative trolly-wire and earth on all span wires and pull-offs.

pull-offs.

The maximum difference of potential between the positive and negative trolly-wires, and between trolly-wire feeders and the ground shall not exceed 650 volts. The best means available shall be adopted for preventing the occurrence of undue sparking at the rubber or rolling

and occurrence of induc sparing at our furber of found contacts in any place. 3. The conductors shall be carried on substantial and durable supports, which shall be designed to have a factor of safety of four in the case of steel, iron, or ferro-concrete, and five in the case of wood, calculated upon the ultimate

and five in the case of wood, calculated upon the ultimate strength of the material, assuming the wind-pressure to be 30 lb. per square foot upon a plane surface and 18 lb. per square foot upon a diametral plane upon a cylindrical surface. 4. The trolly-wire shall not in any part thereof be at a less height than 18 ft. from the surface of the ground. 5. (1) Where telegraph, telephone, or electric-fire-alarm wires (hereinafter referred to as "the first-mentioned wires"), are carried along either overhead or underground on one side of the road to be used by the trackless electric car, the said electric lines (either overhead or underground) of the trackless electric-car system shall be carried along on the other side thereof unless otherwise approved by the Minister of Tele-graphs.

graphs. (2) At all points where it is necessary for the said electric lines to be carried across the first-mentioned wires, they shall be carried across and under the same at right angles it possible, and the first-mentioned wires shall be carefully insulated at and the first-mentioned wires shall be carefully insulated at the expense of the licensee over a sufficient length to prevent any contact in the event of accident to either line, and proper guard-wires effectively earthed shall be provided where neces-sary, at the like expense, to prevent the first-mentioned wires, or any other overhead wires, from getting into contact with the said electric lines. Where the first-mentioned wires run parallel to and higher than the said electric lines, and the poles supporting the pull-off or span wires are on the same side of the road as those supporting the first-mentioned wires, and supporting the pull-off or span wires are on the same side of the road as those supporting the first-mentioned wires, and wherever it is considered that by reason of accident or otherwise there is a danger of the first-mentioned wires falling across the said electric lines or their supports, guard-hooks and approved insulators, or other approved protective devices, shall be provided and erected by and at the expense of the licensee to the satisfaction of the Minister. (3) Where poles are erected on both sides of the road those on the one side of the road must comply with the require

those on the one side of the road must comply with the require-ments of the Minister of Telegraphs in order to provide reasonable facilities for their joint use.

6. The design of all poles, posts, standards, brackets, and other attachments used in connection with the said electric lines shall be subject to the approval of the Minister, and they shall be constructed in accordance with such approved design, and erected in such manner, as is approved in writing by the Minister.

design, and erected in such manner, as is approved in writing by the Minister. 7. The licensee shall take all reasonable precautions in constructing, placing, and maintaining the said electric lines and other works of all descriptions, and also in working the undertaking so as not to injuriously affect by fusion or electrolytic action any gas or water pipes, sewers, drains, or conduits, or other pipes, structures, or substances, or to injuriously interfere with the working of any telegraph, telephone, electric-lighting, or electric-fire-alarm lines or apparatus.

8. This license shall, unless sooner determined in accordance with the provisions hereinafter expressed, continue in force for a period of ten years from the date hereof. Upon expiry of the said term, or upon sooner determination of this license by revocation or otherwise, all rights hereby granted to the licensee shall cease and determine; but such expiration or determination shall not relieve the licensee of any liability theretofore incurred under this license.