

1908
NEW ZEALAND.

CHRISTCHURCH-LYTTTELTON RAILWAY

(REPORT ON PROPOSAL TO ELECTRIFY THE).

Return to an Order of the House of Representatives dated the 2nd July, 1908.

Ordered, "That there be laid before this House the report which has been prepared upon the proposal to electrify the Christchurch-Lyttelton Railway line."—(Mr. GRAY.)

The GENERAL MANAGER, Railways Department, to the Hon. the MINISTER FOR RAILWAYS.

Railways Department, Head Office, Wellington, 7th February, 1908.

Memorandum for the Hon. the Minister for Railways.

Proposed Electrification of Christchurch-Lyttelton Railway.

IN accordance with your instructions, I have had a report made regarding the electrification of railways, more particularly of the Christchurch-Lyttelton line. The electrification of this line is demanded chiefly on account of the smoke-nuisance in the tunnel. This can be dealt with by the use of oil fuel. The cost, however, would be heavy, although it would be very much less than the increased interest-charges that would have to be met if the line were electrified.

In the event of the Government deciding to electrify the line, we should, I consider, follow the example of Victoria, and employ a special expert to visit the Dominion and make himself acquainted with the physical characteristics of the line.

T. RONAYNE,
General Manager.

Wellington, 20th December, 1907.

General Manager, Wellington.

Proposed Electrification of Christchurch-Lyttelton Railway.

IN accordance with our instructions, we forward herewith report on the proposed electrification of the Christchurch-Lyttelton Railway.

In dealing with this subject we have thought it desirable to first describe the systems in use; we have then given examples of installations in various parts of the world, with costs and details of working, and have applied this information to the Christchurch-Lyttelton proposals.

Should, however, the Department decide on the electrification of this or any other section of the railways, we would respectfully suggest that an engineer of standing, with a technical knowledge of the subject, be engaged to report and advise on the methods of working to be adopted, and to give estimates of the cost.

JOHN COOM,
Chief Engineer.
A. L. BEATTIE,
Chief Mechanical Engineer.

PROPOSED ELECTRIFICATION OF THE CHRISTCHURCH-LYTTTELTON RAILWAY.

SYSTEMS.

The various systems of electric traction, or the different methods of establishing communication between the fixed power-station and the moving vehicles, are,—

- (1.) The overhead, or trolley system.
- (2.) The underground, or conduit system.
- (3.) The surface-contact system.
- (4.) The accumulator system.
- (5.) The third-rail system.
- (6.) Combination of either of the above systems.