

APPENDIX D.

ANNUAL REPORT ON ELECTRICAL WORK AND POWER-SUPPLY UNDERTAKINGS BY THE CHIEF ELECTRICAL ENGINEER.

The CHIEF ELECTRICAL ENGINEER to the MINISTER OF PUBLIC WORKS.

SIR,—

Public Works Department, Wellington, 31st May, 1916.

I have the honour to submit the following report respecting the development of water-power by the State, the issue of licenses for the utilization of water-power by other parties, and for the distribution of electricity:—

LAKE COLERIDGE WORKS.

This plant first started regular running on the 1st March, 1915, so that the period covered by this report is the first year of operation. In view of this, the results which have been attained are eminently satisfactory. Not only has the plant reached the stage of paying working-expenses within the first year, but the financial success of the undertaking has been fully assured.

The plant now installed at Lake Coleridge consists of three generators each of 2,000 horse-power capacity, but during the past year the maximum load has only reached 1,770 horse-power, and has thus been easily carried by one of the three generators. Nevertheless this one generator, running for the greater portion of the year only partially loaded, has earned £8,260—*i.e.*, £4 13s. 4d. per horse-power of maximum load. At the end of the year it was earning at the rate of £5 2s. 6d. per horse-power per annum. The existing plant has a working-capacity, with one unit in reserve, of 4,000 horse-power, and, at the same rates, an earning-capacity of £18,667 to £20,500 per annum.

The capital liability at the beginning of the year was £275,631. The additional liability incurred on capital during the year was £54,088, making the total capital liability at the end of the year £329,719.

Contracts already entered into but not yet in operation include commitments which will bring up the demand considerably in excess of the above 4,000 horse-power, and it has therefore been necessary at this early stage of operation to increase the plant capacity, and an order has been placed for a unit of 2,000 h.p. which, when installed, will increase the plant from 6,000 h.p. to 8,000 h.p., and will increase the working-capacity from 4,000 h.p. to 6,000 h.p., leaving one unit in reserve in each case. Moreover, orders have recently been placed for a fifth unit of 4,000 h.p., together with pipe-line and accessories, which will increase the working-capacity of the plant to 8,000 h.p. The following is a list of the contracts already entered into:—

	Horse-power.
Christchurch City Council	2,500
Christchurch Tramway Board	2,000
Christchurch Meat Company (meat-works)	700
Borthwick and Sons (meat-works)	300
North Canterbury Freezing Company (meat-works)	300
Lyttelton Harbour Board	250
Wood Bros. (flour-mill)	150
Riccarton Flour-mill	75
Woolston Tanneries	600
Walter Hill's Tanneries	75
G. L. Bowron and Co.	50
Central Dairy Company	75
Tai Tapu Dairy Company	50
Wright, Stephenson, and Co. (seed-cleaning)	50
Canterbury Seed Company (malt-house)	30
Sunnyside Hospital	50
Cashmere Sanatorium	25
Local authorities (for distribution)—	
Tai Tapu	120
Lincoln	50
Waimairi County	180
Heathcote County	100
Paparua County	80
Riccarton Borough	80
Spreydon Borough	60
Lyttelton Borough	100
Sumner Borough	50
New Brighton Borough	50
Kaiapoi Borough	50
Christchurch Brick Company	50
Other consumers (say)	150
	8,400