APPENDIX D.

ANNUAL REPORT OF THE CHIEF ELECTRICAL ENGINEER.

THE CHIEF ELECTRICAL ENGINEER to the Hon. MINISTER OF PUBLIC WORKS.

Sir,—I beg to report on the position of the development of electric power in the Dominion for the past year as follows:—

GOVERNMENT SCHEMES IN OPERATION.

LAKE COLERIDGE ELECTRIC-POWER SUPPLY.

The year ending 31st March, 1931, represents the sixteenth year of operation of the Lake Coleridge undertaking, and the year's working again shows satisfactory results under exceptional conditions as outlined elsewhere in this report.

FINANCIAL.

The capital outlay at the end of the year was £1,712,555, as against £1,622,199 for the previous year, showing an increase of £90,356. The total revenue for the year was £217,632 as compared with £196,648 for the year ending 31st March, 1930, and after payment of all charges, including interest and depreciation, the net profit was £70,083, which has been allocated as follows: £17,126 to Sinking Fund, and £52,957 to General Reserve Fund.

Table I shows particulars of financial results and load records, while Table II gives an analysis of capital outlay for the years 1930 and 1931.

The total cost per unit generated and purchased was 0·29d., an increase of 0·04d. on that of the previous year, the increase being due to decreased unit output in conjunction with increased working-costs.

Operating-costs have increased by £20,225, due chiefly to a payment of £21,170 towards the purchase of power. The latter amount, however, does not include a total payment of £1,674 13s. 9d. by way of rebate to supply authorities. Details of operating-costs are shown in Table III.

CONNECTED LOAD.

The total connected load at the end of the year was 200,535 kw., being an increase of 10·2 per cent. over the previous year's figures of 181,310 kw.

RESTRICTED SUPPLY.

Owing to the shortage of water at Lake Coleridge, a general appeal was circulated on the 26th August, 1930, amongst the supply authorities to institute a campaign of economy in the use of electricity. The Tramway Board's stand-by plant was called in on the 26th August to render assistance. As the first appeal was apparently not taken seriously, a second circular was sent out on the 4th September, and immediate results were noticed in the power-house load and the level of the lake. I take this opportunity of placing on record the valuable assistance rendered by both private consumers and supply authorities, and desire to express my sincere thanks for and appreciation of their efforts to help the Department.

ACHERON DIVERSION.

Owing to lack of water in the lake, it was decided to divert the Acheron River, and this was successfully done in December, 1930.

POWER-HOUSE LOAD AND OPERATION.

The maximum half-hourly output from the power-house for the year was 30,800 kw. on 9th June, representing an increase of 11·8 per cent. over that of the previous year, the increase being of normal character.

The annual load-factor was 44·8 per cent., which is a decrease of 13·18 per cent. on that of the previous year.

The power-house plant was not overloaded as the installed capacity of the plant is 34,500 kw., and the maximum demand only 30,800 kw., the power-factor being 0·97.

During the period 1st April to 30th June, 1931, the maximum half-hourly load at the power-house was 30,340 kw. on Tuesday, 23rd June, between 4.30 p.m. and 5 p.m., the power-factor being 0·975. This load is 460 kw. less than the recorded load of 30,800 kw., which was observed on 9th June, 1930.

The maximum number of units generated in any one day was 453,710 on the 6th June, 1930, as against 419,420 units on 19th June, 1931.