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 the electric power in the Dominion for the past year as follows:—

GOVERNMENT SCHEMES IN OPERATION.

HORAHORA-ARAPUNI ELECTRIC-POWER SUPPLY.

1. CAPITAL OUTLAY.

The total capital outlay at the end of the year, as shown in Table II herewith, was £4,496,087, an increase during the year of £552,250. The main items of increase were £296,000 on remedial works at Arapuni, and £152,673 on interest during construction. Assets in operation at the end of the year totalled £1,322,190. Assets not in operation totalled £3,231,114, which is almost entirely accounted for by the cost of Arapuni, and the 110 kv. lines and substation equipment rendered idle by the shut-down of Arapuni, and interest charges on those assets.

2. FINANCIAL RESULTS OF OPERATION AND FUTURE PROSPECTS.

The gross profit for the year—*i.e.*, total revenue, £161,884, less working-costs £115,003—was £46,881, or 3·59 per cent. of the capital outlay on the average value of assets in operation, as compared with £82,704 last year.

Working-costs include an amount of £25,973 "stand-by provision" paid to the Auckland Power Board as a contribution to their costs of running King's Wharf station, so that the true gross profit earned by sale of power was £72,854, or 5·59 per cent. on capital outlay, as compared with £103,441 or 5·99 per cent. last year.

The net loss for the year, after provision for interest and depreciation, was £40,554, as compared with £35,694 the previous year, or after allowing for the payments to be Auck and Power Board already mentioned, the true net loss was £14,581 compared with £14,957.

The results of operation for the past four years are shown in Table I herewith, and show the following points:—

Reduction in total revenue by £22,709, as compared with the previous year, due to the fact that the previous year included seventy-two days in which supply was given from Arapuni to the Auckland Power Board. The returns from all Power Boards, with the exception of Auckland and Thames Valley, show an increase in revenue in each case.

Reduction in capital charges (interest and depreciation) by £30,963, due to the fact that this year's figures do not include capital charges on Arapuni.

Increase in working-costs by £13,114, which is practically equivalent to the increase of £13,243 in the cost of power purchased.

Working-costs, as analysed in Table III herewith, show a total of 0·240d. per unit sold, as compared with 0·187d. and 0·087d. for the two previous years, the increase being caused by the greater proportion of units produced from fuel plants and purchased units, and the smaller number of units sold. The Department's fuel plants, Grand Junction Steam Plant, Penrose Diesel plant, and Huntly steam plant generated a total of 14,932,070 units for working-costs of £27,671, as compared with 13,893,220 units for £33,512, the improvement being due to the low operating-costs of the Huntly plant. The Junction and Diesel plants both generated less units than in the previous year, and this is the principal reason for their higher operating-costs per unit.

Power purchased (from Auckland and Tauranga, with a small amount from the large dairy factories) increased from 8,164,437 units for £9,271 to 15,994,315 units for £22,514, due to the larger amount purchased from Auckland.

The increased loss this year, and the losses of the past four years, result inevitably from the fact that, to supply the increasing needs of our consumers, we have been forced to generate or purchase power from steam or other fuel plants, at costs which are greater than the revenue we receive from the sale of the power so purchased.

The units output during the past year totalled 123,521,284 as against 143,093,777 for 1931, the decrease being principally due to Auckland Electric-power Board supplying its own load whilst Arapuni was out of commission.

The annual load factor for the system was 75·36 per cent. as against 32·9 per cent. for 1931.

The gross financial results of distribution of energy are summarized in Table VIII.

3. EXTENSIONS DURING THE YEAR AND FUTURE EXTENSIONS.

(*a*) *General, Additional Consumers, and Connected Load.*

There were no additional consumers during the year. The connected load increased from 99,341 kw. to 106,868 kw., not including Auckland figures, and from 281,410 kw. to 296,225 kw., including Auckland (Table IV).