Circuit miles of transmission lines in operation at end of year: 11 kV., 28·62; 33 kV., Nil; 50 kV., 106·94; 66 kV., Nil; 110 kV., 581·66.

Number of substations in operation at end of year: 11 kV., 1; 33 kV., nil; 50 kV., 3; 66 kV., nil; 110 kV., 14.

(3) *General.*—The load during the winter months of the year under review was very heavy, calling for careful study of the position and close attention by the operating staffs of the power-stations, whose efforts are to be commended.

The severe floods which occurred in the Hawke's Bay Province just after the close of the financial year necessitated very considerable effort on the part of the staff in that area in the discharge of their duties, and they are to be congratulated on their performances.

SOUTH ISLAND ELECTRIC-POWER SYSTEM.

Introductory.

Hitherto the "South Island Electric-power System" referred to the Lake Coleridge and Waitaki plants which are now operating as an interconnected system. In October, 1936, the generating plant at Lake Monowai, together with the whole reticulation system of the Southland Electric-power Board, was acquired by the Government and placed under the control of this Department as an addition to the "South Island Electric-power System," although it is not yet interconnected with the Lake Coleridge-Waitaki section. On 1st February, the Arnold River Hydro-electric Station of the Grey Electric-power Board was acquired by the Government and will in the near future be interconnected with the Lake Coleridge system.

Consequential on these acquisitions the accounts have since been amalgamated, and in future the "South Island Electric-power System" will comprise the Lake Coleridge-Waitaki-Southland-Arnold River plants operating as an interconnected unit.

The capital in operation at 31st March, 1938, was £6,319,615, and included in this amount there is a sum of £337,508 representing assets not yet in operation. In Table II will be found an analysis of the capital outlay. The revenue for the year was £491,551, and working-costs £126,715, which resulted in a gross profit of £364,836, equal to a return of 6·07 per cent. on the capital in operation. After paying interest £220,112, depreciation and other capital charges £113,737, the net result was a profit of £30,987 for the year.

The accumulated Depreciation Reserve, General Reserve, and sinking funds as at 31st March, 1938, amounted to £930,322, and Table I gives full particulars of financial results as well as other relevant statistical information.

Pending completion of the 110 kV. transmission-line to connect up the Southland system, the report of operating results is this year presented under two individual headings—viz., (*a*) Christchurch District, and (*b*) Invercargill District.

A. CHRISTCHURCH DISTRICT.

The year ended 31st March, 1938, completed the twenty-third year of operation of the Lake Coleridge undertaking, and the third complete year of operation of the Waitaki Power Scheme.

These two generating-stations have been run in parallel for the period, and operating and financial statistics have been combined with those of Arnold River.

A further marked increase in system loading occurred during the year, and work on the supply and distribution of electric power in the West Coast districts has been proceeded with—the Diesel station being put into service at Dobson on 1st February last to work in conjunction with the Arnold River Power-house to give power supply.

1. Capital Outlay.

The capital outlay at 31st March was £4,798,907, of which assets to the value of £291,296 were not in operation.

2. Financial Results.

The total revenue for the year was £336,385, and working-expenses totalled £67,343, making a gross profit of £269,042, which equals a return of 5·92 per cent. on the average capital outlay in operation (£4,544,070).

The interest charge for the year was £160,483, which, together with depreciation (£82,885) and the cost of raising loans (£971), was met from revenue, leaving an amount of £24,703 available for the sinking fund this year.

The accumulated Depreciation Reserve and sinking funds at the 31st March, 1938, amounted to £790,482, and the General Reserve Fund £87,199.

Table I gives full particulars of the financial results and also statistical returns of operations for the year.

The detailed operating-costs show that the cost per unit generated for the year was 0·066d. (exclusive of capital charges), compared with 0·0823d. for the previous year, a decrease of 19 per cent. This decrease is due to increased load factor consequent on heavy loads.

In Table V are given the gross financial results of the distribution of power from the combined stations, and of the Local Supply Authorities, and other consumers connected to the Government Supply system.