

New Plymouth.—The 50,000 volt outdoor structure and transformer-bank have been erected close to the power-house of the New Plymouth Borough Council, and metering-apparatus has been installed in the power-house building. The substation has now been completed.

Masterton Substation.—A new 11,000 volt oil-circuit-breaker cubicle was erected to control supply from Kourarau Power-station.

Dannevirke Substation.—The new relay equipment has been installed, but not yet put into service.

Waipukurau Substation.—The new relay equipment has now been installed, but is not yet in service.

Napier Substation.—To meet the growing demand of the Power Board, an additional bank of transformers and the necessary switch-gear have been installed.

A new 11,000 volt cubicle has been installed to control the supply from the new transformer-bank.

Repairs to the synchronous condenser switch-gear, damaged by the earthquake, have been completed, but the condenser itself has not yet been repaired on account of the condition of the building.

The new battery has been installed and put into service.

Transmission-lines (110 kv.).

Wanganui-Stratford Line.—This line was erected during the year, and is now in service.

A new type of structure is being used on this line, and the result on operation is being looked forward to with interest.

Khandallah-Melling Line.—This line is carried on steel towers, and is the first section of the proposed Khandallah-Masterton line. The erection was completed early in the year, and the line is now in service.

Transmission-line (50 kv.).

Stratford-New Plymouth Line.—This line was completed and put into service during the year, and has since operated well.

IV. GENERAL.

During the past year the system has been extended considerably. A 110 kv. transmission-line has been built from Wanganui to Stratford, and a 50 kv. line completed from Stratford to New Plymouth. Substations have been built at Hawera and Stratford, and outdoor substation equipment erected at the New Plymouth Borough Council's power-house. Power supply in this area has been given to the South Taranaki Electric-power Board at Hawera, and to the New Plymouth Borough Council at the Borough's power-house. Stratford Substation will be the point at which the line from Arapuni (now under construction) will join the Mangahao-Waikaremoana system.

A 110 kv. transmission-line has been built from Khandallah to Melling, and a substation built at Melling for the purpose of giving the Hutt Valley Electric-power Board a point of supply close to the centre of their load.

A new relay system has also been installed during the year. This will enable faults on one section of line or substation to be cleared without affecting the remainder of the system.

The installation of a second bank of transformers at Napier has enabled paralleling between the two power-houses to be carried out without interrupting the supply to Napier Substation.

Throughout the year the two power-houses have operated satisfactorily in parallel.

The maximum load on the system was 45,980 kw., and the units output during the year 224,293,045, the corresponding figures for 1931 being 44,660 and 211,971,392 respectively. The annual load factor for the system was 55.8 per cent., as against 54.2 per cent. for 1931.

The result of the year's operation are analysed in Table IX, and the connected load in Table XII.

LAKE COLERIDGE ELECTRIC-POWER SUPPLY.

The Lake Coleridge undertaking has been in operation for seventeen years at the close of the year ending 31st March, 1932. Despite restricted conditions of supply and the general depression, the undertaking shows very satisfactory results financially.

FINANCIAL.

At the end of the year the capital outlay was £1,802,497, an increase of £89,942 on that of the previous year—viz., £1,712,555. The total revenue showed a slight increase from £217,632 to £218,196, and after deducting all charges, including interest and depreciation, the net profit was £94,966. This amount has been allocated as follows: £18,062 to sinking fund, and £76,904 to General Reserve Fund.

Table XVII shows particulars of financial results and load records, while Table XVIII gives an analysis of capital outlay for the years 1931 and 1932.

The total cost per unit generated and purchased was 0.227d., a decrease of 0.062d. on that of the previous year, the decrease being due to the increased output of units, combined with a decrease in the total cost of operation.

Operating costs have decreased by £19,788, due chiefly to a decrease in the amount of payment made towards the purchase of power from £21,170 for the previous year to £2,803 for the year under review.

Details of operating-costs are shown in Table XIX, while Table XXI shows the gross financial results of distribution of energy for the year ending 31st March, 1932, with particular reference to each of the supply authorities and other consumers connected to the Lake Coleridge system.