

Ashburton, and Timaru. A transmission-line is also being erected between Timaru and Oamaru, and will be completed well before the end of the year. This new line between Hororata and Oamaru is being built so that it may at a later date be operated at 110,000 volts and serve as a main interconnecting-link between future possible power sites in Canterbury and Otago. In the meanwhile it will be operated at 66,000 volts, as in the case of the existing lines from Lake Coleridge.

HORAHORA.

The expenditure during the year has been £206,218. The work of extensions to the power-house and the installation of two additional 2,000-kilowatt units was completed during the year. The new concrete weir across the river above the head-gates has been almost completed, and the three regulating-gates to control the flow of the river have been installed. Construction work has been completed on the following transmission-lines: Hamilton-Penrose, 70 miles, being part of the main 110,000-volt line between Arapuni and Penrose; Waikino-Aongatete, 17 miles; Arapuni-Ngongotaha, 32 miles; Te Awamutu-Hangatiki, 19½ miles; Bombay-Pukekohe, 5 miles.

Construction work is in hand on the main double-circuit tower line between Arapuni and Auckland, and on a 50,000-volt line between Penrose and Takapuna.

Substations have been erected at Bombay and Ngongotaha, and are under construction at Hangatiki, Henderson, and Takapuna.

Practically the whole of this work on transmission and substations is really an advance part of the Arapuni scheme.

MANGAHAO.

The expenditure on this scheme has been £128,141 during the year. The main expenditure has been on completion of erection of the power-house machinery, and on preparation work and excavation for the upper Mangahao dam. The main transmission-lines have been completed as far as Wanganui, Ongaonga, and Masterton, and an extension to Napier is almost complete. Substations have been completed at Wanganui, Dannevirke, Mangamaire, Ongaonga, and Masterton, and the substation at Napier is under construction.

ARAPUNI.

The expenditure during the year has amounted to £329,624, mainly on the contract for headworks being carried on by Sir W. G. Armstrong, Whitworth, and Co. (Limited). Fair progress has been made during the year, though progress has been retarded somewhat by severe flooding in the Waikato River. The main diversion-tunnel for diverting the river during construction of the main dam has been completed, and a portion of the river has recently been turned into this tunnel. The quarry and ropeway for delivery of stone to the dam has been put into commission, and, as a good deal of the preparation work has now been completed on most of the sections, substantial progress should be noted during the present year. The excavation for the main power-house has been practically completed, and some of the power-house plant and machinery is beginning to arrive on the site. No unforeseen difficulties have been met with, and, although it does not appear that the contractors will be able to complete by the specified date—August, 1927—they should not be delayed very much beyond that date.

WAIKAREMOANA.

Consequent on the rapid growth of load on Mangahao system, a start has been made on construction work on the main scheme at Waikaremoana. Tenders have been invited for the main items of the plant, which will consist of two units each of 20,000 kv.a. capacity. Surveys of transmission-lines to connect with the Mangahao lines at Napier are almost complete, and are also in hand between Waikaremoana and Gisborne. A programme of work has been drawn up, by which it is hoped to have this scheme in operation by about the end of June, 1929. To augment the existing construction plant, which has been supplying power to the Wairoa Power Board, a second-hand unit of 1,000 kilowatts capacity has been purchased from the Dunedin City Corporation, and will be installed by the end of the year in an extension of the existing temporary power-house.