

Special gangs were employed on the overhaul of lines in the Wairarapa and Taranaki areas. The hardwood poles in the Taranaki area had not been thoroughly examined since erection in 1930–32, and the stringent acceptance tests applied in those days are showing results in the relatively low percentage of replacements now required.

Telephone-lines.—Telephone-line maintenance gangs completed the overhaul of several lines, tests being progressively carried out by the telephone technician. Lightning, gales, fires, and opossums were again the chief causes of interruptions to the communication system.

Test Department.—In addition to routine tests and maintenance throughout the system, extensive tests were carried out on transformer switchgear relays, &c., at Piripaua. Turbine efficiency tests were also completed at this station. The commissioning of the New Central Park substation was effected and supply given to the Wellington City in May, 1945.

3. CONSTRUCTION

(a) *Power-stations*

Arapuni.—A new 24,000 kVA. generator was completed and put into service on 5th June, 1945. The erection of the eighth generating-unit is proceeding.

Karapiro.—Substantial progress has been made on the dam. The spillway and intake section have been carried to near completion. The main arch, which was commenced late in 1944, has made rapid progress and approaches completion.

The power-house building is structurally complete; painting and plastering will be done later. Plant erection is in hand. Progress has also been made with the outdoor station and buildings.

Drains are being laid in the valley of the Karapiro Stream to ensure that any seepage that comes through from the lake will not cause erosion.

Satisfactory progress has been made with road deviations, culverts, and bridges rendered necessary by the formation of the lake.

Contracts were let in New Zealand for intake and spillway gates. These require a high standard of workmanship. Every effort is being made to produce satisfactory equipment and have it ready in time for the station to operate in the winter of 1947.

Marae-tui.—Progress has been made with access roading, service buildings, and single men's accommodation. A road has also been made along the bottom of the gorge and the country opened up with a view to commencing the diversion tunnel.

Extensive boring has been done to define the bottom of the river-bed, and generally to check the quality and continuity of the rock structure.

Whakamaru.—Investigations were recommenced in October, and further test bores have been drilled, shafts excavated, and contour and geophysical surveys carried out.

Tuui (Waikaremoana Main Development): With the exception of alterations to a number of operating posts in Bay 1, all structures in the outdoor station are now complete. Four 110/50 kV. transformers were transferred from Auckland, reconditioned, dried out, and placed in service. The installation and adjustment of permanent switchgear is progressing steadily.

The Mangaone and two lesser streams were diverted to Whakamarino Lake. Metalling and preparation of roads and footpaths for sealing is continuing; the total area sealed being 2,510 square yards. The road between the Tuui Village and the Frasertown—Lake House Main Highway was improved in alignment by making use of recent excavation and filling in the vicinity.