Mangamaire.—Three 11 kV. 100/5 C.T.s were removed from the condenser and reinsulated. The condenser was dried out and tested.

30/5 current-transformers on the north and south feeders were replaced by 100/5 and 50/5 C.T.s respectively.

Due to the condenser-pit flooding, the C.T.s had to be dried out and the cable-box remade.

Waipawa.—New meterings C.T.s were fitted, changing the ratio to 150/5.

During September two 110 kV. O.C.B.s were taken out of service and the oil drained from each tank. O.C.B.s were out of service until March.

Napier.—All trip contacts in Buchholz relays were adjusted to prevent operation during minor earthquakes.

A fault developed in the T.C.O.L. coupling relay and the equipment was adjusted.

(*b*) *50 kV.*

Wairoa.—Installation tests on all equipment were carried out prior to service at the new substation. The station was livened up on the 3rd July at 8 p.m. and the automatic earthing-switch tested. Load was then shared between the old and new stations. A transfer of total load was completed on the 15th December.

The local supply was transferred from the Power Board to the substation service transformer.

A breakdown in the cables leading to No. 2 incoming 11 kV. O.C.B. caused power failures on the 25th December and on the 3rd January.

A thermostat in one transformer tap changer operated to shut down the station. The changer was overheated, the cause being due to failure of the transformer switches to close properly and bypass the transformer resistance.

Gisborne.—The auto transformer supplying power to the top-position indicator burnt out.

During a shutdown, No. 1 incoming switch cables were reconnected to the outdoor 11 kV. bus.

Alterations were made to the metering circuit to provide for metering from either incoming switch.

The voltage regulator was made ready for transfer to Auckland.

Takapuna.—An 11 kV. switch failed to clear a fault and led to a minor fire. The O.C.B. itself was not severely damaged and no major damage resulted from the fire.

Maungatapere.—A booster and associated equipment was transferred from Maungatapere to Nelson district.

Hamilton.—No. 3 substation was cut out for dismantling on 26th March, 1947, and Rotoiti Substation on 31st March, 1947. A 50 kV. automatic earthing-switch was installed at Karapiro in May to protect the transformer bank. At Aongatete the outdoor import and export metering on the McLarens Falls 50 kV. line was moved into the substation building.

(*c*) *General*

Some thirty thousand insulators were tested (buzz stick) in the Auckland area, no defects being found.

3. Transmission and Distribution

(*a*) *110 kV. Lines*

Arapuni–Penrose.—In April, 1946, No. 5 line at Karapiro was changed over to two new steel towers built on concrete piers for the lake crossing. This completed the lake crossings on lines 3, 4, and 5. Five line outages were caused by lightning and one each by a tree, a haystacker, an overhead ropeway, and a youth climbing a tower.

Woodville–Greytown.—A line gang stationed at Mangamaire and later moved to Woodville overhauled the Woodville–Mangamaire and the Mangamaire–Mount Bruce sections of the line.