

*Timaru.*—"A" and "B" transformer banks were paralleled and placed on automatic control on 2nd May. All units on bottom selector switch of south bank potential transformers were replaced.

*Oamaru.*—A new 5,000 kVA. on load tap-changing transformer bank was placed in service on 29th September. The existing bank of three transformers and the spare transformer were dismantled and railed to Milton for erection there.

The spare transformer was transferred from Temuka to Oamaru and will be used as a spare for the new bank.

(b) 66 kV.

*Addington.*—The maximum demand for the year was 68,280 kW. at 17.30 hours on 4th June. Air-break switches and isolators for the new fourth line between Addington and Hororata were installed.

*Otira.*—Though a severe storm on 12th August caused considerable damage to New Zealand Railways equipment, no perceptible damage was noticed on this apparatus.

*Arahura.*—New switchgear for Kumara and Arahura was received and stored.

(c) 33 kV.

*Smiths Road.*—A defective transformer was taken off duty for repairs and a replacement effected satisfactorily.

*Waipara.*—A defective transformer was replaced. Repairs to the station building were undertaken.

*Gore.*—The substation supply was interrupted seven times, the longest, of 2 hours 44 minutes, being due to a failure of a transformer bushing, two to failure of the 110 kV. supply, and four to 11 kV. trouble.

*Invercargill.*—Supply was interrupted on thirteen occasions, all due to external causes. All apparatus received schedule maintenance and operated satisfactorily. Two 4,500 kVA. 11 kV. regulating transformers returned to England in 1945 were received back and reinstalled.

*Ohai.*—Fifteen interruptions to supply occurred, two due to blowing of 66 kV. transformer fuses and the balance due to failures on the 66 kV. or 110 kV. system.

*Winton.*—Supply was interrupted eighteen times. On two of these 66 kV. fuses blew, and three others were due to 11 kV. trouble, but all faults were external to the substation. The balance were due to 110 kV. or 66 kV. failures.

The greater reliability of supply at Gore due to the 110 kV. supply is evidenced.

(d) General

Routine inspection and testing of all electrical and mechanical equipment, filtering and reconditioning of oil in transformers and switchgear, overhauls and repairs, replacements of defective bushings and insulators, &c., were carried out. Repairs to and maintenance of departmental cottages and non-residential buildings were undertaken. The workshops at some of the stations, principally at Addington, were engaged on repairs, reconditioning, and alterations to transformers, switchgear, condenser bushings, &c., for both the Department and several Supply Authorities.