

2. SUBSTATIONS

(a) 110 kV.

Penrose.—During a starting-up operation of No. 2 condenser a transition resistance exploded, but the equipment was restored to service with a minimum of delay. Further trouble was experienced with overheating of contacts in 22 kV. switchgear, and a very complete report was forwarded to the manufacturers. As a consequence new contacts are being supplied.

The new system of distance impedance relay protection functioned satisfactorily, with the exception of a few troubles with contacts, which has been taken up with the manufacturers.

Roskill.—This substation is now supervisory controlled from Penrose, and the new equipment has operated satisfactorily. In view of past experience of damage to transformer-banks by lightning, co-ordination gaps were fitted to the bushings of the associated line O.C.B.s to prevent a recurrence of the trouble.

Henderson.—All 11 kV. O.C.B. moving contact assembly bolt-heads were insulated to prevent flashover. Co-ordination gaps were fitted to line O.C.B. bushes.

Bombay.—Short circuits occurred between the tapping leads in two transformers in a 110/50 kV. bank in May.

Waihou.—Two outages of the 110/50 kV. bank were caused in October and November by birds carrying nesting-material on to the 50 kV. structure.

Greytown.—The dismantling of old buses and metering-equipment was completed.

Dannevirke.—The dismantling of the condenser was commenced. On the 2nd October there was an interruption to supply of five minutes duration, due to a flashover on the transformer terminals.

Napier.—The overhaul of the east bank lightning-arrester was completed.

Stratford.—Long-standing condensation trouble in the switch-room has been cured by use of more internal heat with a fan to direct warm air from the ceiling to the floor.

Hawera.—Reports and estimates for provision of water-supply, sewerage, and site-drainage were obtained. The Power Board's comprehensive rearrangement of its terminal supports greatly improved the site. The rapid deterioration of post-insulators led to the decision to reinsulate the structures.

Wanganui.—The 10 MVA. transformer-bank was restored to service.

Bunnythorpe.—The longitudinal buses on the structure were duplicated in readiness for the coming of the Tuai direct transmission-line.

Ohakune.—The three-phase transformer unit suffered breakdown by overheating due to defective iron insulation, and is still under repair. It was replaced by a similar unit.

Central Park.—The tap changing on load gear for No. 1 transformer-bank was put into operation. The operator's residence was completed and occupied.

(b) 50 kV.

Takapuna.—The telephone surge-tube arrester has been fitted external to the switch-room as a precautionary measure against fire.

Horahora.—A 50/11 kV. transformer giving temporary supply to some houses broke down in May.

Huntly.—No. 1, 11 kV. O.C.B. was damaged by lightning in October.

Mamaku.—All load on this 150 kVA. substation was transferred to Ngongotaha in December, and the substation was dismantled.

Matamata.—Two 11 kV. C.T.s were damaged by lightning in May.

Rotiti.—All load was transferred to Ngongotaha, and the 200 kVA. substation was shut down for dismantling on 1st April, 1947.

Te Awamutu.—A bird caused a flashover on a 50 kV. lightning-arrester in December.