

(b) 50 kV. Lines

Bombay Kerepechi.—To prevent insulators from splitting they were removed from their pins and threads smeared with graphite. New cable was spliced in at twelve places where broken strands were found.

Hamilton Huntly.—The replacing of the original insulators fitted in 1929 was completed. Conductors were examined for vibration breaks and a large number of broken strands were found.

Horahora Matamata.—The steel towers in service since 1913 were overhauled, about five thousand corroded bolts and five hundred steel members being renewed.

Ngongotaha-Edgacumbe.—About four miles in the sulphur area at Tikitere were rewired with steel-cored aluminium conductors.

Edgacumbe-Waiotahi.—Some original insulators fitted in 1928 have started to crack, and forty-five in rough country were replaced.

(c) 11 kV. Lines

Waikino-Waihi.—Corroded steelwork was renewed on thirty-six towers.

(d) General

The 1,000 kVA., 11,000/415-volt substation at Frankton was sold to the New Zealand Co-operative Dairy Co., Ltd., Hamilton in March, 1949.

4. COMMUNICATIONS

All supervisory and communications equipment has worked satisfactorily. More modern telephone equipment has been installed especially in line huts. The overhaul of the North Auckland line was completed, and the exchange at Bunnythorpe was replaced by a fifty-line manual one. The power-line carrier system on the Bunnythorpe-Napier 110 kV. line has been in continuous service under test conditions.

As the Paekakariki-Khandallah section has deteriorated badly by reason of the blistering of the copperweld conductor, proposals were prepared to renew the line in a new location.

5. TEST DEPARTMENT

Installation tests were made on all major new equipment, including switchgear and transformers at substations, and the new stator on No. 6 generator at Arapuni. Routine maintenance tests were carried out on equipment and investigations were made into any faulty operation of equipment. Other work included tests for field time constants of generators at Arapuni and Karapiro, tests on high-speed field reducing on No. 3 generator and open-circuit and short-circuit tests on No. 1 generator at Karapiro, tests on A.C.S.R. compression joints for 220 kV. lines, and relay tests. Experimental contacts were made up and fitted to the tap-changers at Bunnythorpe.

6. PLANT AND MOTOR-VEHICLES

Plant.—The plant position is fairly satisfactory and good service has been given by tractors, cranes, motor mowers, &c. It was found necessary to hire a heavy dozer for roadmaking.

Vehicles.—The supply of new cars and trucks has improved, but new vehicles are still required as the age of the fleet necessitates heavy maintenance. Of some three-hundred vehicles, one hundred and thirty are over ten years old, and seventeen over fifteen years old. Three line maintenance trucks with cabs to accommodate five men were received.