

The locality in which the breaks occurred in the other two cables happened to be the most unfavourable part of Cook Strait from the point of view of cable-work, operations being greatly hindered as a general rule by the strong prevailing winds, rough seas, and tidal currents. It is for this reason that the time occupied in repairing each of these two cables was greatly in excess of that spent in restoring No. 6. For five days immediately following the completion of repairs to No. 6 the ship was unable to work on the other cables owing to unfavourable conditions. Operations were, however, resumed on the 15th April, and communication was finally restored over No. 1 cable on the 26th idem, while that over No. 2 cable was not restored until the 5th May.

The restoration of No. 1 cable necessitated the laying of 4·355 nautical miles of new cable to bridge over the original break, and a second one which had developed a few days prior to the commencement of the repair.

The work on No. 2 cable developed into one of the most extensive repairs undertaken in Cook Strait for many years past. Grappling operations proved the cable to be buried over a fairly considerable portion of its length and several breaks were discovered before communication was established with the terminals. Finally, to restore this cable to good working-order, it was found necessary to lay in a total length of 16·245 nautical miles of new cable between the Oterongu Bay cable hut and a point 13·74 nautical miles from White Bay.

Since these repairs were effected the whole of the Cook Strait telephone and telegraph cables have remained in good working-condition, except for some minor defects which developed in the trench sections of the Seddon-Wellington four-core continuously-loaded telephone cable, these faults being located and removed while in their incipient stages and before they affected the operation of the cable.

#### FOVEAUX STRAIT CABLE.

The Bluff-Stewart Island cable became faulty in April, but communication was not totally interrupted until July, when the cable parted in the locality near the Bluff landing where similar troubles have been experienced at various times in previous years. Owing to the urgent need for curtailing expenditure, the repairing of this cable was deferred for some months, telegraphic communication between Stewart Island and the mainland being provided in the interim by a short-wave radio link, the terminals of which were installed at Half-moon Bay and Awarua-Radio respectively. In December it was decided to restore the cable, and repairs, which involved the laying of a length of one mile and three-quarters of new cable, were completed on the 18th December. As interruptions to this cable have been somewhat frequent during recent years, it was decided on the occasion of this repair to remove the cable hut from its original position in Boat Harbour (Bluff) to a new site about a quarter of a mile to the westward of the old position. By this change it was found practicable to lay the new cable on a more favourable part of the sea-bed.

## RADIO TELEGRAPH AND TELEPHONE SERVICES.

### OVERSEAS RADIO-TELEPHONE SERVICE.

Following the successful completion of the tests referred to in last year's report, the overseas radio-telephone service was extended on the 23rd July to Great Britain, Northern Ireland, and the Irish Free State (Dublin only); on the 21st September to Belgium, Germany, and Holland, and on the 1st January to Austria, Czecho-Slovakia, Danzig, Denmark, Finland, France, Hungary, Latvia, Lithuania, Luxemburg City, Norway, Roumania, Sweden, and Switzerland.

The charge for calls to the United Kingdom (except Northern Ireland) is at the rate of £2 5s. a minute with a minimum payment of £6 15s., and to Northern Ireland and the Irish Free State £2 7s. and £7 1s. respectively. New Zealand shares in these charges at the rate of 6s. a minute, which payment covers also the service rendered on New Zealand toll lines.

For calls to continental countries the charges vary from £2 9s. a minute, with a minimum of £7 7s., in the case of Belgium and Luxemburg City, to £2 17s. a minute, with a minimum of £8 11s., in the case of Roumania.

In the existing difficult conditions, little use is being made of the overseas telephone service. This lull has afforded an excellent opportunity for experimentation by the Department's officers; and, when conditions improve and the service becomes popular, as it no doubt will, the knowledge gained from experience will assist in the smooth and efficient working of the service.

### ESTABLISHMENT OF EMERGENCY RADIO-STATIONS.

Brief reference was made in last year's report to the installation of a number of radio-transmitting sets at strategic points throughout New Zealand for emergency use in case of interruption to the normal communications system. The work was completed during the year, equipment consisting of a self-contained portable low-power short-wave radio-telegraph transmitter with receiver—power for the transmitter being obtained from dry batteries—having been supplied to Whangarei, Hamilton, Rotorua, Gisborne, Napier, New Plymouth, Wanganui, and Palmerston North in the North Island; Nelson, Blenheim, Westport, Greymouth, Karamca, Timaru, and Awarua-Radio (near Invercargill) in the South Island; and at Half-moon Bay in Stewart Island. Care has been taken to ensure that the buildings in which the emergency apparatus will normally be housed and operated are reasonably immune from destruction by earthquake or other forces.