On 9th November a pole caught fire on the Winton–Gore section. The fire was apparently caused by the slipping of the U bolt holding the short cross-arm supporting the insulator, thus allowing the insulator to come in contact with the pole-top.

On 1st and 2nd December flashovers occurred on the airbreak switch on the outdoor structure at the Invercargill Substation. An insulator on the switch was found to be cracked, and was replaced.

Owing to the fact that no systematic clearing of gorse and scrub in the neighbourhood of the lines had been undertaken for some time, outages occurred owing to fires under the lines on 11th November on the Monowai–Winton section, on 5th December on the Winton–Gore section, during January on the Winton–Invercargill section, and on 6th February on the Monowai–Winton section. Owing to the dryness of the summer, additional men were engaged, and the work of clearing the growth from under the lines was expedited.

(d) Distribution-lines.

Three additional line gangs have been formed with the object of undertaking a systematic overhaul of these lines, but up to date this work has been hampered by the difficulty experienced in obtaining the necessary number of motor-trucks.

Records of interruptions show that by far the greatest number of these are caused by the breakdown of fuse bases, of which there are nearly five thousand throughout the system. Arrangements are in hand for the replacement of these by a more suitable type, and this work will be completed as expeditiously as possible.

Interruptions due to birds contacting with earth-guards are also being eliminated by erecting stranded wire at all Post and Telegraph crossings and eliminating the guard wherever possible.

(e) Consumers' Installations.

Owing to the number of applications which were being received for the supply of electrical energy, consumers were experiencing delay in getting their installations inspected and passed after the premises had been wired. This branch of the service was therefore increased in numbers and placed under the control of a Chief Inspector.

(f) General.

Assistance was given to the General Branch in erecting the 11 kV. transmission-line and repairing apparatus at the Homer Tunnel damaged by the avalanche.

During the year arrangements were made whereby consumers may make payment of their electricity accounts at any money-order post-office in the Southland Electric-power District. The arrangement means that there are now thirty-three receiving agencies in Southland at which consumers may pay their accounts. The facility is provided free to the consumers.

(g) Units generated and purchased.

Generated at Monowai	31,176,950
Generated by steam (Invercargill)	726,990
Total	31,903,940

Of these, 15,606,623 were sold to retail consumers, 7,950,861 to bulk consumers, while 256,971 were accounted for in departmental use. The balance, representing losses, totalled 8,089,485, or 26 per cent. of the units generated.

The number of active consumers on 31st March was 10,886.

DESIGN OFFICE.

A. Electrical Section.

During the year under review a large amount of design work was involved in connection with the various hydro-electric systems controlled by the Department.

With the continued growth of load in areas already served, and the extension of the Department's activities into new areas, the need for additional generating-capacity becomes apparent.

In the North Island the peak load for 1937 exceeded the installed generating-capacity then in operation by an amount equal to the output of one of the two new generating-units at Arapuni. Since then both of these units have gone into commercial operation, adding 43,333 kW. of generating-capacity, and there are indications that most, if not all, of this will be required to carry the peak load of the coming winter. With the installation of the third new generating-unit at the Waikaremoana Main Power-station, a further 20,000 kW. of generating-capacity will be made available. It should be noted, however, that this unit is being installed primarily as a much-needed standby to the two existing units at this station. In the absence of any control works at the lake outlet it is possible to utilize only the normal flow of the Waikaretaheke Stream, together with the limited storage at Lake Kaitawa. This is insufficient for the continuous operation of all three generating-units, though it may permit of their operation for peak loads of short duration. The decision to proceed with the lower development of the Waikaremoana Scheme will add a further 40,000 kW., approximately, to the installed generating-capacity.