

## TIMARU.

The contract for the removal of the two staff cottages was let in February, and one of the cottages was re-erected in its new location in March. The first portion of the new steel structure and switch-gear for the auto transformers has arrived, and the transformers were erected in October. The overhead reticulation likely to interfere with the erection of the steel structure was deviated.

## OAMARU.

Owing to this station being overloaded, its capacity was increased from 1,050 kv.a. to 5,300 kv.a., by replacing two banks of transformers of 300 kv.a. and 750 kv.a. capacity respectively with a single bank which had been converted from an indoor water-cooled type to an outdoor air-cooled type. The above 5,300 kv.a. transformer-bank has been erected in its permanent position in relation to the steel structure, but a temporary line has been installed to connect it with the existing arrangement.

During the year alterations to the electrical layout in the switch-house were carried out.

## INTERRUPTIONS TO SUPPLY.

*(a) Power-house Supply.*

There was only one interruption of  $5\frac{1}{2}$  minutes, which involved an outage throughout the whole undertaking.

*(b) Addington, Point, and Hororata Supply.*

The total number of interruptions to supply exceeding one minute throughout the year was three, and the accumulative period was  $11\frac{1}{2}$  minutes, the longest interruption being  $5\frac{1}{2}$  minutes on the 24th July. None of the above interruptions was due to insulator-failure, the systematic testing, cleaning, and weeding-out of defective insulators under live-line methods probably being chiefly responsible for this satisfactory condition of transmission of supply.

*(c) Ashburton Supply.*

The total number of outages was four, excluding those that had been prearranged, and the total period was 16 minutes.

*(d) Timaru Supply.*

The total number of interruptions for the year was nine, and the total time  $55\frac{1}{2}$  minutes, as against twenty-one interruptions with a total time of 2 hours and 54 minutes for the previous year.

*(e) Oamaru Supply.*

Excluding all shutdowns that had been prearranged, the number of outages for the year was fifteen, and the total period 6 hours  $53\frac{1}{2}$  minutes.

## DISTRIBUTION.

Tenders for the tower-foundations for the Waimakariri River crossing were invited in December, and pile-driving was commenced in March. The telephone circuits on the north, south, and Lyttelton 11 kv. feeders were overhauled and the No. 8 galvanized-iron wire of which the circuits consisted were replaced with No. 10 cadmium copper. The 7/12 aluminium conductors on the 11 kv. Montreal 1 and 2 and tramway 1 and 2 feeders were replaced with 7/0-135" aluminium cables which had been previously removed from the 66 kv. lines.

## HANMER POWER-SUPPLY.

On behalf of the Health Department, alterations were made to the Hanmer Power-house. A new Diesel electric set was installed to replace the petrol electric set, thereby increasing the capacity of the station from 45 kw. to 55 kw.

## RELAY PROTECTION.

Preparations have been made for the installation of new relay panels at Lake Coleridge Power-house, Addington, Woolston, and Lyttelton Diesel stations.

## GENERAL.

A sectionalized type of drying-oven was designed and manufactured locally during the year. For some considerable period the Testing Department has been functioning at a great disadvantage. The small poillite outbuilding is quite inadequate for the staff, equipment for carrying out tests, and tests records. A design for a new building has been prepared to house the test laboratory, the distribution office and workshop, the E.H.T. testing equipment, transmission-line and distribution-line stores, and live-line-testing equipment. The present store at Addington is to be removed before the outdoor steel structures and switch-gear can be erected.

A design was prepared for a combined Public Works Department store to serve the requirements of the General and Hydro-electric Branches. A railway siding will be laid alongside this store, and will remove a serious handicap which has had to be contended with hitherto.

The railway sidings for the substation building, the test-room, the store, and the outdoor steel structure have been laid out as a single comprehensive scheme for efficient and economical transport of all equipment to and from the substation.

The line for the Hurunui Power Board will be surveyed and constructed in the near future, and the substation at Southbrook will be at the same time redesigned.