

CONNECTED LOAD.

The total connected load is shown in Table XX, and at the end of the year was £212,156 kw., being an increase of 5.67 per cent. over the previous year's figure of 200,535 kw.

RESTRICTED SUPPLY.

The restricted supply referred to in the annual report for the year ending 31st March, 1931, was continued during the present financial year until 2nd May, at which date the water-storage situation was such that the restrictions were removed and the assistance of the Christchurch Tramway Board's stand-by plant no longer made use of. The Board's plant supplied 282,736 units for the period 1st April to 2nd May, 1931, as against 1,729,441 units for the year ending 31st March, 1931.

SYSTEM LOAD AND OPERATION.

The power-house maximum half-hourly output for the year was 30,340 kw. on the 23rd June, a decrease of 460 kw. on that of the year previous. The units output, however, show an increase of 6.6 per cent., the respective figures being 122,416,818 and 130,562,543 for 1931 and 1932.

The annual load-factor for the system was 49 per cent., as against 44.8 per cent. for the previous year.

The maximum number of units supplied to the system in any one day was 447,870 on the 23rd June, 1931, as against 453,710 on the 6th June, 1930.

During the period 1st April to 30th June, 1932, the maximum half-hourly load at the power-house was 30,140 kw. on 13th June. This load is 200 kw. less than the maximum recorded for the year ending 31st March, 1932, and 660 kw. less than the record for the station which was observed on the 9th June, 1930.

LYTTELTON DIESEL STATION.

The first trial run of a completely assembled set was carried out on the 4th June, 1931, and the station was placed in commission from the 14th July to the 18th September to enable the plant to be thoroughly tried out.

All main and auxiliary sets are given a trial run each week, and the whole plant is maintained in such a condition that the plant can be brought into service in a minimum of time. Provision has been made for starting up the plant even if a total failure occurred of all electrical supply.

SURVEY AND EASEMENTS.

The following surveys were carried out during the year: Pegging and stub-setting was completed on the Waitaki-Glenavy steel-tower line. The survey and setting-out of the second Timaru-Oamaru 110 kv. line was completed from a point about two miles south of Timaru Substation. Glenavy, Oamaru, and Addington Substations were set out, and preliminary work was undertaken for Timaru Substation. Further work was carried out in the preparation of final plans and in the settlement of compensation claims.

TRANSMISSION AND DISTRIBUTION.

The period during which the annual overhaul is undertaken covers the latter portion of the year under review, and the beginning of the present financial year. Up to the 31st March all insulators throughout the system were tested under live-line conditions and the defectives observed were 354 on the 110 kv. and 66 kv. lines, 40 on the 33 kv., and 64 on the 11 kv., making a total of 458 insulators, of which the 40 on the 33 kv. line were replaced under live-line methods, while the 64 on the 11 kv. and 232 on the main lines were replaced during the overhaul up to the 31st March.

Besides the 354 defectives observed on the main lines during the buzz-stick inspection, 177 insulators were noted as cracked during the overhaul, making a total of 531 defectives on the main lines alone. The cracked insulators are of a make which is gradually being replaced.

In addition to the 232 defectives that were replaced on the main lines during the overhaul, the linesmen changed 153 pin-type and 453 strain-type units on the lines operating at 66 kv. The total number of insulators changed during the year ending 31st March throughout the Lake Coleridge system amounted to 943.

Three 33 kv. and four 11 kv. poles were replaced under live-line methods, and 40 main-line poles during the overhaul up to the 31st March, besides 269 crossarms.

Repairs to the telephone-lines have resulted in improved operating conditions.

Anti-vibration jumpers were fitted over a distance of 10 miles on the 110 kv. A.C.S.R. conductors up to the 31st March. This work is proceeding.

Two 90 ft. steel suspension towers with a span of 28 chains and wood terminal structures were erected for the 33 kv. crossing over the Waimakariri River.

The four Diesel electric sets, auxiliaries, and switch-board were erected satisfactorily, and new 11 kv. feeders of larger capacity were installed to cope with the load that the Lyttelton Diesel Station might be called upon to feed into the system.

The electrical installation at the Wigram Aerodrome was overhauled and brought into line with the wiring regulations.

Structural alterations were carried out at Hororata and Ashburton Substations, while preparations were made at Addington for the erection of an outdoor steel structure, and to date most of the concrete foundation and the traverser trackway has been laid, while seventeen out of thirty towers have been erected, as well as some of the girders.