

To an equal extent commercial and industrial building is affected and it is becoming increasingly difficult to hold back applications in this field. It is realized that this problem can only be solved by the progressive lessening of control, and I am aware that the Government has this continuously in mind. Materials—cement perhaps excepted—are becoming more freely available, and it is hoped that during the year further relaxation of control will be possible to permit increased activity in this direction.

HYDRO-ELECTRIC CONSTRUCTION

At the close of hostilities the Department's organization was not adequate to undertake the increased programme of work desired by the Government. With considerable difficulty, and assisted by the appointment of technical staff from abroad, this organization has been built up as quickly as possible within the Ministry of Works. The programme being undertaken by the Government at present in this respect is not only greater, but many times greater than has ever before been undertaken in this Dominion. Five large projects—viz., Maraetai, Upper Waikaremoana, Cobb River, Lake Pukaki, and Lake Tekapo—are under active construction, and within the next few months a commencement will be made on two more—viz., Whakamaru and Roxburgh. The latter scheme will be the largest undertaking yet attempted in this country.

In addition, investigations are in hand for work at Atiamuri, on the Waikato River, and Benmore, on the Waitaki River, and on the Gowan scheme, in the Nelson area. These are all major projects, and, in addition, a number of minor ones are being investigated.

Associated with the construction of the main projects there is a large amount of subsidiary work required in regard to substations, transmission lines, &c., and this is being undertaken currently by the Ministry of Works in co-operation with the State Hydro-electric Department.

Considering the position the Government found itself in at the end of the war, and of the continued difficulties in obtaining technical staff, construction man-power, and materials, the progress which has been made can be considered satisfactory. Unless, however, additional man-power is brought into the country, other methods of carrying out construction by enlistment of overseas contracting firms will have to be considered in order to enable the targets aimed at to be realized and embarrassing power restrictions avoided.

Whilst abroad I paid particular attention to hydro-electric development in the several countries visited. Much information was obtained in regard to design and construction techniques. No project visited, however, presented quite the same problems as confront our engineers in New Zealand and in particular the foundation conditions at the various schemes on the Waikato River are almost unique. At Roxburgh the same foundation problems do not exist, the main difficulty there being the diversion of the Clutha River, but the scheme itself is considerably larger than any so far built in New Zealand and is comparable in size with any being attempted abroad at the present time.

In nearly all projects which I visited overseas plans and specifications for works of this magnitude were prepared well in advance of the actual construction and generally from information acquired after long-term investigations. This, unfortunately, is not the case in New Zealand, where, due to the war and the scarcity of technical assistance, it has not been possible to keep design as far ahead of construction as we would like. To a large extent this difficulty is now being overcome, but it has placed a very onerous responsibility on this Department's Engineer-in-Chief and the General Manager, State Hydro-electric Department, and on both their design and construction staffs.