

built at pre-war costs, and were operating practically at full-load conditions. Supply was short in some areas, whilst capital was being spent building other plants. From then on the percentage drops for a few years whilst larger plants, such as Mangahao, came into operation. These were built at very high cost during and following the war period, and for a year or so they had spare capacity, particularly on the transmission and substation side. The year 1928 was one of exceptional drought which adversely affected the revenue at Mangahao through having to purchase power from outside sources. The demand for electrical energy for all purposes is continually on the increase, and there is no doubt that the Government schemes will show a satisfactory return to the Electric Supply Account.

ARAPUNI HYDRO-ELECTRIC WORKS.

As honourable members are aware, certain earth-movements took place at the Arapuni Hydro-electric Station on the morning of the 7th June of this year, resulting in the closing-down of the station until such time as the position could be fully investigated. Full details of what occurred are contained in the report I presented to the House on the 28th June, 1930, copy of which is appended to this Statement. The Government made arrangements for the engagement of an eminent Swedish engineer, Professor P. G. Hornell, to fully investigate the position of Arapuni and to report on remedial measures. Professor Hornell arrived on the 25th August. He has visited Arapuni and is now engaged in preparing his report. On his arrival I handed to him a copy of the above-mentioned detailed statement to the House concerning the earth-movement and the immediate steps taken to safeguard the position, a copy of the geological report obtained from the Department of Scientific and Industrial Research, a detailed statement on the financial and economic aspect of the Waikato supply system, and the proposals of the Public Works Department indicating from an engineering point of view the steps which the Government's engineers considered should be taken to repair the works. For the purpose of ensuring that the Investigating Engineer should comment and advise on certain particular points which had been prominently before the Government, I deemed it desirable to submit to Professor Hornell an order of reference covering these points. I wish to assure honourable members, however, that, in submitting this order of reference, I did not restrict the scope of the Professor's investigation, nor limit in any way the breadth of his report. The order of reference calls for comments on various specific points. Apart from those, Professor Hornell has an entirely free hand in the matter, and he has been requested to report fully and as his investigations and wide engineering experience indicate. Copies of all the above-mentioned papers will be found appended to this Statement. For the information of honourable members I may say that Professor Hornell's report on the Arapuni scheme will be tabled in the House as soon as it is received and has been considered by Cabinet. I would particularly refer honourable members to the financial report on the Waikato supply system above referred to, a perusal of which indicates that, although the cost of rehabilitating Arapuni may prove to be heavy, the scheme could from a financial point of view carry a considerable additional expenditure, and still show a good return on costs of generation. That calculation, I may say, is based on an installed capacity of four generating sets. When it is realized that the completed Arapuni scheme provides for an installed capacity of eight generators, totalling 120,000 kw., it will be seen that, even though the cost of repairing the present trouble may be considerable, the scheme would not necessarily be rendered unfinancial by such expenditure. This financial report also indicates what charge would be represented to the Consolidated Fund if Arapuni had to be abandoned. It is not anticipated that such a drastic step will be necessary, and it is confidently anticipated that as a result of Professor Hornell's investigations and report remedial measures will be practical.

The closing-down of the Arapuni Station resulted in only very slight disorganization in the power-supply to the Waikato and Auckland districts, for it was possible before Arapuni closed down to make arrangements for the country load to be taken over by Horahora Station and various smaller plants throughout the district, and