REPORT.

INTRODUCTORY.

In accordance with the decision of Cabinet, I left Wellington on the 4th May, 1927, with the dual object of representing New Zealand at the International Radio-telegraph Conference at Washington on the 3rd October, and of investigating *en route*, in Europe and America, the latest engineering developments of telegraph and telephone communications.

Since the visit abroad of my predecessor in 1920 no engineering representative of the Post and Telegraph Department had been engaged on such a mission. That the time was ripe for an inquiry of this nature is fully demonstrated by the fact that since that date remarkable advances have been made in the communication art, which received great impetus and intensive development on account of the extraordinary demand for electrical-signalling systems during the Great War.

Prior to leaving New Zealand a visit was paid to its principal centres with a view to making a final survey of our own practice, and of conferring with departmental Engineers and others responsible for the operation and maintenance of the telephone, telegraph, and radio plants in the several engineering districts. As a result of this survey I was afforded a final review of the operating and maintenance features of both line plant and internal equipment, and was able to prepare a complete list of subjects calling for investigation or upon which fuller information was sought. These subjects were duly classified, and in a readily available form served a useful purpose in focusing attention upon matters of primary importance to our electrical systems of communication.

Arriving in England early in June, 1927, two months were available for investigation in Great Britain and Northern Europe prior to visiting the United States and Canada and acting as the New Zealand representative at the Radio-telegraphic Conference in Washington, D.C.

While in London every assistance was rendered by the High Commissioner for New Zealand, whose office organization proved invaluable in arranging appointments with manufacturers and in facilitating my work generally.

I cannot speak too highly of the assistance rendered to me both by Government and by privately-owned telegraph and telephone administrations and corporations, and by commercial firms interested in the manufacturing side of electrical engineering. In all places visited—Great Britain, United States of America, Canada, Belgium, and Holland—high administrative and executive officers cheerfully gave me much of their time, discussing important phases of present and prospective telegraph and telephone developments and organization. In addition I was invariably permitted to work down through these undertakings and gain contact with those responsible for practical production, operation, and maintenance. Everything possible was done to enable me, in the time at my disposal, to cover as wide a field as possible. The unfailing courtesy manifested by all sections of the telegraph and telephone services with which I came in contact in these countries has left me with a great admiration for the magnanimous spirit and wide international outlook of those chiefly responsible for the world-wide development and extension of electrical communications.

My plans had to be made with a view to covering as wide a field as possible before the commencement of the International Radio-telegraph Conference. While in London it was arranged that I should attend a conference of British Empire delegates at Ottawa on the 19th September, 1927. This left me only three months in which to carry out a programme of investigation which contemplated a survey of the whole range of telegraph and telephone engineering, and for conferring with the numerous manufacturers with whom the Department carries on a large purchasing business in telegraph and telephone plant and equipment. In addition to our important interests in Great Britain, it was necessary for me to pay a brief visit to Belgium and Holland, and to spend some time in the United States of America, the home of the telephone, prior to visiting Canada in September.

The head offices of over fifty manufacturers of telegraph and telephone and general electrical plant were visited, and New Zealand business and conditions freely discussed. In addition, calls were made at forty different works engaged upon various sections of telegraph and telephone manufacture. The inspection of the many processes involved was highly illuminating, and furnished valuable knowledge regarding subjects upon which only very meagre information had hitherto been available.

This programme involved a considerable amount of travelling, and could not be covered in the time at my disposal without leaving untouched a wealth of detail, the investigation of which would have afforded me a considerable degree of satisfaction, and which would have proved a valuable asset to the Department. Under the circumstances my visits to telegraph and telephone administrations and to manufacturers and works were necessarily of a limited duration. I therefore endeavoured primarily to gain as close an acquaintance as possible with matters of broad engineering policy likely to prove of value in shaping our line of action and development, and, as opportunity afforded, spent as much time as practicable in detailed investigation of matters that appeared to be of immediate interest, or capable of early application. Due to the courtesy and assistance extended to me, a wide range of information and literature was secured on all subjects of primary importance.