

## AIDS TO NAVIGATION

Captain W. Whiteford, Nautical Adviser, represented the Department at the Radio Aids to Navigation Conference in London early last year.

Through the courtesy of the High Commissioner in London, this officer presented letters of introduction to the Secretary of Trinity House, London, and the Northern Lights Commissioners in Edinburgh. At these interviews and subsequent talks with the Engineer-in-Chief, Trinity House, our officer found that lighthouse practice and lighthouse work in general in the United Kingdom are much the same as in New Zealand and that most of our present and proposed improvements compare favourably with those in Britain. The lights in the United Kingdom are generally on higher power than those in use here, owing to the lower coefficient of atmospheric transmission.

It is felt, however, that we lag behind in some cases where very old lenses of the fixed type have been changed to the flashing type with the result that the efficiency is much below that which would be obtained with a modern lense of the flashing type. Fixed lights such as Centre Island, and long-interval lights such as are installed at Farewell Spit, Cape Saunders, and Cape Campbell that flash every minute, are out of date, and consideration is now being given to the replacement of the fixed lenses at Baring Head, Godley Head, Nugget Point, and Centre Island with modern revolving lenses of the fourth order which would, using the same light power, increase the power of Baring Head from about 83,000 candle-power to over 2,500,000.

As a result of conferences with shipping experts, plans are in mind for the establishment of a further twenty-three lights around the coast at a suggested rate of about three each year, and during the present financial year it is proposed to commence with the establishment of lights on Slope Point, between Nugget and Waipapapa Points; Gibson Point, between Lyttelton and Kaikoura; and Motuara Island, at the entrance to Queen Charlotte Sound.

During the year the illuminant of Godley Head light was changed from incandescent gas to electricity, power being taken from the main reticulation, and a stand-by generator being installed for emergency use.

The erection of radio beacons at lighthouses had perforce to be discontinued at the outbreak of war. Up to that stage beacons had been established at Cape Reinga, Moko Hinau Island, Cuvier Island, Baring Head, Cape Campbell, Stephens Island, and Puysegur Point Lighthouses. These beacons operate continuously in weather of low visibility and at stated intervals during clear weather. At Tiri Tiri, Portland Island, and the coast stations of the Post and Telegraph Department at Auckland, Wellington, and Awarua, arrangements exist whereby ships fitted with direction-finders can obtain direction-finding signals on request.

At the close of the war the programme could not be resumed until it was known whether this type of beacon would be replaced by one of the radio direction-finding systems which have been developed during the war and which were for some time afterwards more or less secret. The British Government, with a view to the examination of pre-war radio aids to navigation and those developed by the Allied Governments during the war, convened the International Conference in London which, as before mentioned, was attended by the Nautical Adviser of this Department, Dr. E. Marsden, Director of the Department of Scientific and Industrial Research, and Dr. Bogle, of the same Department, who, at that stage, was attached to an Admiralty signalling establishment in England.

The Conference discussed all radio methods of position-finding used by air and surface craft, with particular attention to radar, which is the most valuable aid to navigation discovered up to the present. So far as medium-frequency beacons are concerned, which is the type in general use for shipping all over the world, the Conference decided that it could still be considered a valuable aid to navigation. The limitations attached to the use of the beacons by ships are generally recognized, but until a better medium-range aid to navigation is operationally proved and widely desired by the navigators there should be no change.