

## PART VII.—WIRELESS COMMUNICATIONS.\*

Under the Radiotelegraph Act (c. 195, R.S.C. 1927) the administration of radio within the Dominion is vested in the Minister of Transport.

### Section 1.—Radio-telegraphy.

**The Coast Station Radio-telegraph System.**—The present coast station system of 81 stations consists of three chains—one extending from Vancouver to Prince Rupert on the Pacific, another from Port Arthur to the Atlantic ocean in the East, and the third from Port Churchill to Resolution island at the entrance to Hudson strait. The Great Lakes coast stations connect with those of the east coast, which, in turn, connect with the Hudson Bay route chain. There is no direct radio connection between the Great Lakes and the Pacific Coast chain.

Of the above stations, 14 on the east coast and Great Lakes are operated by the Canadian Marconi Co. under contract with the Department, and the remaining 67 on the east coast, west coast, and Hudson bay and strait are operated directly by the Department. Twice daily, at advertised hours, a number of these stations broadcast messages to shipping containing such important information as weather forecasts, storm warnings, reports in connection with floating derelicts, ice, and other dangers to navigation. In the interests of navigators, to whom accurate time is essential in computing observations on celestial bodies, one Canadian coast station transmits time signals at advertised hours daily.

Some years ago the discrimination of underwriters in the matter of insurance rates charged on ships plying to Canadian ports led the Department to feel that any reasonable expenditure which would tend to reduce these charges would be a sound investment. To this end 13 direction-finding stations have been established at specially selected sites with respect to navigational routes—7 on the east coast, 5 on Hudson bay and strait, and 1 on the west coast. These stations are fitted with special apparatus which enables the direction of the incoming radio signal transmitted by a ship to be accurately determined.

A network of 28 radio beacon stations (including one combined direction-finding and beacon station and one combined coast and beacon station) is maintained on the Atlantic and Pacific coasts and on the Great Lakes to enable a ship or aircraft equipped with its own direction-finding apparatus to determine its bearing or direction in relation to the radio beacon station. The operation of these radio beacons is automatic, the transmissions being made in clear weather hourly or half-hourly as advertised, and continuously during foggy weather. At Point Atkinson, B.C., the signals of the radio beacon are synchronized with the emissions of the fog alarm at that place during foggy weather for distance finding. To insure the safety of life at sea, all passenger steamers and freighters plying to and from Canadian ports must carry radio equipment manned by competent operators in possession of a certificate of proficiency in radio. The Department maintains a complete radio inspection service to enforce this regulation. Inspectors located at various ports throughout the Dominion are responsible for checking the efficiency of the radio equipment on ships of all nationalities, and seeing that only competent operators are carried. Ships are also surveyed with a view to the issuance of the necessary certificates prescribed under the Safety of Life at Sea and Load Line Conventions Act, 1931. Examinations for certificates of proficiency in radio are conducted by the Radio Division, and 7,006 certificates had been issued up to Mar. 31, 1937.

\*Section 1 and Subsection 1 of Section 2 have been revised by Commander C. P. Edwards, O.B.E., Chief of Air Services, Department of Transport, Ottawa. A fuller treatment of the historical and descriptive background of radio communication was published at pp. 607-610 of the 1932 Year Book.