

Radio Aids to Marine Navigation.—Radio aids to marine navigation are provided for about 4,000 radio-equipped Canadian vessels and almost as many foreign ships using Canadian waters. A safety and communications service for shipping is provided covering the East and West Coasts, the Great Lakes, the St. Lawrence River and Gulf, and Hudson Bay and Strait. Details of these services, outlined below, may be obtained on request from the Department of Transport, Ottawa.

Coast Radio Stations.—Coast stations provide a safety watch and communications service for ships at sea and provide, as well, regularly broadcast weather reports, storm warnings and notices of dangers to navigation. The stations carry out communications by radiotelegraph or radiotelephone, or both, and many of them provide connections to land telephone lines so that ships may communicate directly with any telephone subscriber. At Halifax (CFH) and Vancouver (CKN), shortwave facilities are furnished for worldwide communications. These stations participate in the British Commonwealth scheme.

The coast stations on Hudson Bay and Strait, in addition to the regular services, provide commercial communications for posts of the Hudson's Bay Company and various prospecting and development organizations, make weather observations, handle administrative traffic and assist aircraft with information, landing conditions and direction finding bearings.

Direction Finding Service.—Coast radio direction finding stations are operated on the Atlantic and Pacific Coasts and on the Hudson Bay and Strait, which enable ships to obtain a line of bearing from the station. No charge is made for this service.

A chain of automatic radiobeacon stations is also maintained to provide a navigational aid to mariners by transmitting signals on which bearings may be taken by ships. These stations are arranged, where possible, in groups of three, transmitting on a common frequency but in proper time sequence so as to avoid interfering with each other. A navigator may thus obtain three bearings within three consecutive minutes and fix his location. A number of radiobeacons are synchronized with fog alarms at the same point, for distance finding in foggy weather. Ships may also request the transmission of signals from the coast stations for direction finding purposes.

Loran Stations.—Loran is a long-range radio aid to marine and air navigation which provides accurate fixes at distances up to 600 miles by day and 1,500 miles by night. Two loran stations operate in Nova Scotia, three in Newfoundland and one on the West Coast. These stations, in conjunction with loran stations of the United States Coast Guard, give service to ships and aircraft plying the North Atlantic and Pacific Oceans.

Radar.—It has become general practice to equip merchant ships with radar, a valuable aid to marine navigation, and many important buoys are fitted with radar reflectors to increase their radar visibility. Two shore-based radar installations are in operation—one at Camperdown near the mouth of Halifax Harbour and the other on the Lion's Gate Bridge across the entrance to Vancouver Harbour.

Miscellaneous Services.—Lighthouses, particularly at locations where they would otherwise be completely cut off from summoning help in case of illness, are provided with low-power transceivers for use in emergencies. Lighthouse radiophone stations are organized into groups working into a control station.

Ships at sea may obtain medical advice from any coast station. The messages are delivered to the port medical officer of the Department of National Health and Welfare and replies are transmitted to the ship free of charge.

Radio and radar equipment used aboard vessels of the federal marine, pilotage and canal services, vessels operated by the Department of Fisheries and the Department of Mines and Technical Surveys and Canadian National Railway ferries is maintained by the Telecommunications Division of the Department of Transport.