terested organizations, associations and the general public, taking into account such technical factors as those which affect frequency spectrum utilization, reliability of apparatus, and compatibility under conditions of service. The Department of Communications maintains an engineering laboratory to develop standard specifications and to test apparatus to ensure compliance with the standards.

Licensing involves assigning specific frequencies to each station. Bands of frequencies are allocated for various types of services, often on a shared non-interference basis. Frequency selection, compatibility evaluation, domestic registration (computerized data base with a file size of more than 55 million characters), and notification with the International Frequency Registration Board (IFRB) of the International Telecommunications Union at Geneva are carried out to ensure efficient use of the spectrum. Assignments are made in keeping with international and domestic statutes and regulations, regional agreements and domestic policies. The IFRB is notified of frequency assignments for technical examination and for inclusion, with appropriate "in-service" dates, in the Master International Frequency Register so that Canadian assignments will receive international recognition and be given protection from interference by foreign stations. In-service dates are necessary when determining prior right to the use of particular frequencies.

The enforcement activities of the Department of Communications include the technical inspection of all radio stations including the monitoring and measurement of their radiated signals to ensure compliance with the regulations and conditions of licensing; the location and suppression of radio interference; the technical examination of candidates for the various classes of certificates of proficiency in radio which must be held by the operators of radio stations; and the direction of prosecutions in the courts. These functions are carried out through personnel located at five regional offices, 39 radio regulations inspection offices, 11 fixed monitoring stations (four of which have direction-finding facilities), eight mobile monitoring vehicles and 13 regional spectrum observation centres across Canada.

Radio aids to marine and aeronautical navigation. Federal services in aid of marine and aeronautical navigation are provided by the Ministry of Transport. Six regional offices, located at Vancouver, Edmonton, Winnipeg, Toronto, Montreal and Moncton, are responsible for the construction and operation of the facilities.

Radio aids to marine navigation are provided for radio-equipped Canadian vessels and foreign ships using Canadian waters. This safety and communications service for shipping covers the east and west coasts, the Great Lakes, the St. Lawrence River and Gulf, Hudson Bay and Hudson Strait and includes regularly broadcast weather reports, storm warnings and notices of danger to navigation. Ships at sea may obtain medical advice from any coast station. The stations carry out communications by radiotelegraph and/or radiotelephone and most of them provide connections to land telephone lines. Halifax and Vancouver stations provide long-range radiotelegraph and radiotelephone services to ships. Coast stations on Hudson Bay and Hudson Strait provide, in addition to their regular services, commercial communications for various prospecting and development organizations, make weather observations, handle administrative traffic and assist aircraft with information, landing conditions, etc.

Automatic radiobeacon stations are maintained on the east and west coasts, the St. Lawrence River and Gulf, the Great Lakes and Hudson Bay and Hudson Strait, giving navigational aid to mariners by transmitting signals on which bearings may be taken. There are five types of radiobeacons in operation: sequenced, continuously operating (marine and dual-purpose marine/air), marker, ship-calibrating and periodically operating. Sequenced radiobeacons are arranged, where possible, in groups up to a maximum of six stations transmitting in sequence on a common frequency, the sequence being repeated continually regardless of weather conditions. Continuously operating marine radiobeacons transmit a continuous carrier modulated by a tone which is keyed at fixed intervals to provide the identifying Morse characteristic. Continuously operating dual-purpose marine/air radiobeacons are provided for the use of both ships and aircraft. They transmit a continuous carrier modulated by a tone which is interrupted eight times a minute for the transmission of a one- or two-letter identifier. Marker radiobeacons, with a range of 10 nautical miles, do not have a characteristic Morse identifier, but can be identified only by the operating frequency. They operate continuously, transmitting half-second dashes for 13½ seconds then remaining silent for one and a half seconds. Ship-calibrating radiobeacons are available at certain locations to enable ships fitted with direction