

meet all requirements. Each piece of type-certificated equipment is accompanied by an inspection release certificate, certifying that the equipment is in good order, and conforms to the approved type.

**Technical Control of Licensing — General.** — In all branches of radio, basic control is exercised over the following principal matters: the right to establish a station, assignment of frequencies, operator standards, operating procedure, and general regulations concerning the manner in which radio stations are used.

The efficient utilization, as well as the allocation of high frequencies requires reasonably accurate information on the transmission properties of the ionosphere, that vary with the season, the sunspot cycle and other factors. This information is obtained from daily measurements of the ionosphere made at about 50 points throughout the world. These data are combined, analyzed, and forecasts produced for the coming months. While aspects of special interest to Canada are treated by the Canadian Radio Wave Propagation Committee, the general frequency forecasts made by the United States Central Radio Propagation Laboratories are available to Canada. They are based on world-wide data, including those obtained from the five ionosphere measurement stations operated by the Radio Division at Clyde River, Baffin Island; St. John's, N'fld.; Resolute Bay, Cornwallis Island; Baker Lake, N.W.T. and Fort Chimo, Que.

Operator standards and related regulations are principally covered by international agreement, and arise partly from the uses of radio in connection with the safety of life, and also in the interests of reducing interference and making the most effective use of the radio spectrum.

In addition, operators of radio equipment are examined for certificates of proficiency in radio in accordance with the General Radiocommunications Regulations (Revision of Cairo, 1938).

The most important services call for operators holding first, second or other prescribed class of certificate of proficiency. Qualified operators are particularly essential in the case of ships and aircraft stations in the interests of safety of life. Operators for services of lesser importance, or services not likely to become a source of interference, are required to satisfy the Department of Transport that they are fully qualified to operate and maintain the equipment upon which they are employed.

At Mar. 31, 1949, the total number of certificates issued was 17,439, not all of which were still valid. In the commercial classes, certificates must be brought up to date from time to time by exchange or by re-examination, and in a number of cases operators allowed their certificates to lapse.

**Summary of Principal Licensed Services.**—*Commercial Trans-Oceanic Radiotelegraph and Radiotelephone Service.*—The Canadian Marconi Company is licensed to operate a long distance beam radiotelegraph service from its Montreal (Drummondville) Que., station to Great Britain, Australia, Bermuda and Jamaica, and a radiotelephone service from Montreal to Great Britain.

*Canada-Newfoundland Radiotelephone Service.*—The Canadian Marconi Company is licensed to operate a public commercial station with the transmitter at Drummondville and receiver at Yamachiche, Que., for the purpose of communicating with a similar station located at St. John's, N'fld., thus providing a direct radiotelephone circuit between Newfoundland and the mainland.