

installation, the purchaser of type-certificated equipment is assured that it will meet all requirements. Each piece of type-certificated equipment is accompanied by an inspection release certificate, stating 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, these vary with the season, the sunspot cycle and other factors. This information is obtained from daily measurements of the ionosphere made at about 70 points throughout the world. These data are combined and analysed and forecasts produced for coming months. Aspects of special interest to Canada are treated by the Canadian Radio Wave Propagation Committee but general frequency forecasts made by the United States Central Radio Propagation Laboratories are available to Canada. These 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, Nfld.; Resolute Bay, Cornwallis Island; Baker Lake, N.W.T.; and Fort Chimo, Que.

Operator standards and related regulations are covered principally 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 Radio Regulations annexed to the International Telecommunication Convention (Atlantic City, 1947).

The most important services call for operators holding first, second or other prescribed class of certificate of proficiency. Qualified operators are essential particularly 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, 1950, the total number of certificates issued was 18,500, 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 had allowed their certificates to lapse.

**Summary of Principal Licensed Services.**—The Canadian Marconi Company is licensed to operate a public commercial station with the transmitter at Drummondville, Que., and receiver at Yamachiche, Que., for the purpose of communicating with a similar station located at St. John's, Nfld., thus providing a direct radiotelephone circuit between Newfoundland and the mainland.

*Commercial Transoceanic 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 the United Kingdom, Australia, Bermuda and Jamaica and a radiotelephone service from Montreal to Great Britain.