

to inspection before sailing from Canadian ports to ensure that they conform with the requirements of the Safety of Life at Sea Convention. Approximately 3,000 ships are inspected annually.

Analogous inspections of aircraft radio stations are carried out and about 350 aircraft radio stations were inspected in 1947.

Standards are provided specifying in detail the requirements to be met to ensure an airworthy installation. These requirements are contained in Radio Division Circular C.R. 1, copies of which can be obtained from any Departmental Radio Inspector.

A 'Type Certificate' of airworthiness is granted to manufacturers for each type (model) aircraft radio equipment which has been demonstrated to meet the requirements. These requirements are contained in Circular C.R. 2, "Requirements for Type Certificate of Airworthiness for Aircraft Radio Equipment". Only type-certificated equipment is accepted for use on scheduled airlines and, while other equipment may be acceptable in other aircraft upon inspection at the time of 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, certifying that the equipment is in good order, and conforms to the approved type.

Subsection 3.—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, which varies with the season, the sunspot cycle and other factors. This information is obtained from daily measurements of the ionosphere made at some 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 two Ionosphere Measurement Stations operated by the Radio Division at Clyde River and Baffin Island, and at St. John's, Newfoundland.

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 for instance are particularly essential in the case of ships and aircraft stations in the interests of