HISTORICAL HIGHLIGHTS
IN THE
EARLY REGULATION OF RADIO IN CANADA

W. J. Wilson, 15 November 2006

The first practical use of radio (initially called wireless) communications was between ship and shore and followed Marconi's first patent on wireless telegraphy in 1896. It proved its usefulness in Britain following a report in 1898 of a ship in distress when lifeboats were sent to its aid. Under direction of the Canadian Department of Public Works, Marconi wireless telegraph stations were established at Chateau Bay and Belle Isle in 1901 to provide alternative communications in the event of failure of the newly laid cable across the Strait of Belle Isle.

In 1904 control of wireless telegraphy was made a responsibility of the Department of Marine and Fisheries, and six Marconi stations were erected in the Saint Lawrence and Atlantic coastal areas to provide communications with shipping. Three Government ships, the "Canada", "Minto" and "Stanley" were fitted with Marconi radio apparatus.

By 1905 thirteen wireless telegraph stations were in operation for navigational and commercial purposes. That year Canada enacted the first Canadian legislation to regulate radio. The "Wireless Telegraphy Act" of 1905 provided for the Minister of Marine and Fisheries to issue licences, including licences authorizing experiments in wireless telegraphy. In the periodic consolidation of statutes that took place in 1906 this Act was made Part IV of the Telegraphs Act.

Meanwhile, by 1906 the usefulness of radio telegraphy in protecting life and property at sea had become so apparent that a preliminary international wireless conference was held in Berlin to consider a common distress call for ships and to provide for wireless communication between ships and between ships and shore. The result was the first "International Radiotelegraph Convention" which was signed in Berlin November 3, 1906, and became effective July 1, 1908. Among other things, it applied certain provisions of the International Telegraph Convention of St. Petersburg, 1875, to wireless communications.

A Canadian, Reginald Fessenden, discovered how to transmit voices by radio in 1906 and so is considered the inventor of broadcasting.

The Department of Marine and Fisheries issued seven licences in 1907 to the Marconi Company which refused to accept them, claiming that the form of licence adopted infringed their contract rights. A licence was also granted to the Dominion DeForest Wireless Telegraph Company for the establishment of an experimental station on Grindstone Island in the Gulf of St. Lawrence. Also in 1907, Canada inaugurated the first trans-Atlantic service when communication

was established with England. This was the result of a contract given in 1902 for the construction of a station at Glace Bay for that purpose. In 1908 five Coast stations were established on the Pacific coast.

In 1910 the Wireless Telegraphy Branch of the Department of Marine and Fisheries was incorporated into the newly formed Department of Naval Service.

In 1911 the following stations were in operation: twenty-two on the East Coast, four on the Great Lakes and nine on the West Coast, all coast stations with a range of between 100 and 400 miles; one long distance coast station at Glace Bay owned and operated by Marconi with a range of 3000 miles; three private land stations; eleven amateur and experimental stations; and twenty-six ship stations. Licences were issued to the above with the exception of the medium-range coast stations.

The second International Radiotelegraph Convention was signed in London on July 5, 1912, coming into force on July 1, 1913. The word "radio" was adopted by this Convention along with a requirement that the word be transmitted in preambles to distinguish a message by wireless from an ordinary telegraph message.

Part IV of the Telegraphs Act, R.S. 1906, was repealed and replaced by the Radiotelegraph Act of 1913. It introduced most of the provisions under which radio was regulated in its early days and it reflected the burgeoning growth and general acceptance this revolutionary communications medium was experiencing. It provided for the Governor-in-Council to prescribe fees, accede to international conventions and make regulations for censorship and the controlling of signals and messages in emergencies, leaving the Minister the making of other regulations relating to administrative details necessary for the effective carrying out of the provisions of the Act. Subsequently the first set of radio regulations, made under the Act, were issued on May 29, 1914. Thus it became compulsory for certain classes of ships to carry radio equipment for safety purposes. It is worthy of note that the regulations provided for the issuance of Amateur Experimental Certificates as well as Experimental Certificates of Proficiency in Telegraphy in addition to those required to be held by ship and coast station operators.

Radio amateurs were active using buzzers and auto engine ignition coils as transmitters and crystal sets as receivers. When World War I broke out in August of 1914, all 108 amateur radio stations licensed at the time were closed down. Twenty government stations were also closed until the situation modified itself permitting 17 of them to be reopened for commercial service or naval work. Pre-war regulations with regard to the licensing of radiotelegraph stations were only resumed in April 15, 1919.

In 1919 the Marconi Company began experimental broadcasting from their station XWA in Montreal, which became CFCF in 1922. Broadcasting seized the imagination of North Americans. A report states that at March 31, 1924 there were only 46 broadcasting stations in Canada while in the United States there were approximately 600 stations. The growth of broadcasting in the States was made possible by American stations being allowed to sell commercials.

The Convention of London, 1912, had specified only that the call signs for ships must each consist of groups of three letters. The radio regulations issued by the Minister of the Naval Service on May 29, 1914, had prescribed distinctive call signs for radio stations beginning with the letter "X", as in XAA, XAB, etc. A Minister's regulation effective January 10, 1920 revoked that provision and substituted one requiring a distinctive call sign consisting of a figure followed by two letters, as 3AA, etc. This started our present system using numbers to identify the region of Canada wherein a station, such as an amateur station, is situated. The use of the figure 9 to identify experimental stations first appeared in the section dealing with special regulations for experimental stations contained in the Radiotelegraph Regulations which became effective September 1, 1922. The use of the "V" and "C" prefixes to identify Canadian stations was officially approved by the International Radiotelegraph Convention of Washington, 1927.

It soon became obvious to those working with radio that the effects of technology, geography and physics would have to be taken into account in planning any form of radio communications and regulation, if such regulations were to be effective in ensuring the orderly growth of radio anywhere in the world. Consequently in 1926 the members of the International Telecommunications Union (ITU) formed the International Consultative Committee on Radio (CCIR) to recommend to future ITU World Radio Conferences how international radio regulations could best take into account the effects mentioned above so that they would ensure the orderly growth of radio anywhere in the world. The first assembly of the CCIR was held in The Hague in 1929 and they have been held periodically in major centres ever since.

The CCIR's work is organized into Study Groups each with an agenda of mostly technical questions regarding radio. Each Group's answers are referred to the CCIR Assembly for approval and transmittal to the World Radio Conference. Canada has always taken part in the work of the CCIR especially since about 1961.

In 1922 the responsibility for the regulation of radio in Canada was transferred from the Navy to the Department of Marine and Fisheries. The Radio Regulations were extensively revised, providing for broadcasting and private receiving station licences and fees. However, by 1923 Canadian broadcasting stations were frequently closing down because they could not collect payment for the services they were providing. In May 1923 a recommendation was made that broadcasting licences be amended to permit the Minister to give written

authorization for broadcasting stations to collect fees for their services. Private receiving station licences were required until April 1, 1953.

A regulation was made whereby a portion of the fees collected for receiving station licences could be paid to broadcasting stations. It authorized a subsidy of 50 cents to be paid to the Government of Manitoba in respect of its broadcasting station CKY in Winnipeg for each private receiving station licence issued in the province of Manitoba. This arrangement with Manitoba was continued until April 1, 1932.

The International Radiotelegraph Convention in Washington mentioned above was signed November 25, 1927. The World Radio Conferences of the International Telecommunications Union held since the Washington 1927 Convention were: Madrid 1932, Cairo 1938, Atlantic City 1947, Buenos Aires 1952, and Geneva 1959. Perhaps the most notable of the above was the Atlantic City 1947 Conference which undertook the orderly revision of the World Radio Frequency Allocation Table and the International Radio Regulations for world-wide use thereby supplanting numerous bi-lateral and regional agreements which had proliferated in the years prior to World War 2. Many of the latter agreements continued to exist but they related to special circumstances that were not specifically covered in the ITU Radio Regulations.

In Canada, the matter of jurisdiction over radio was questioned from time to time by certain of the provinces. However, on February 9, 1932, the Judicial Committee of the U.K. Privy Council ruled that the control and regulation of radio is exclusively within the jurisdiction of the Federal Parliament.

In 1932, shortly after broadcasting got started in Canada, the Canadian Radio Broadcasting Act was passed and under its terms control of all radio broadcasting was vested in the Canadian Radio Broadcasting Commission. However, the Government soon became concerned about broadcasting's commercial, economic, cultural and social effects and so in 1936 the above act was replaced by the Canadian Broadcasting Act and under it technical (station location, power, coverage and frequency) control reverted to the Department of Transport while the regulation of programs was placed in the hands of the Canadian Broadcasting Corporation. The Minister of Transport was also empowered to make regulations for the control of any equipment liable to cause interference with radio reception.

Before 1929 the international regulation of radio on ships and radio communications generally had been lumped together under the Convention of Berlin, 1906 and London, 1912. The Washington Convention of 1927 dealt with radio communications generally, leaving the safety aspect of radio on ships for the first International Convention for the Safety of Life at Sea which was signed at London on May 31, 1929. Further SOLAS Conventions were signed at London in 1948 and 1960.

Provisions of SOLAS were effected in Canada by the "Safety of Life at Sea and Load Line Conventions Act of 1931" which became fully effective January 1, 1934. However, it was repealed July 3, 1934 and replaced by the "Canada Shipping Act" of 1934. Since then, provisions relating to radio on Canadian ships have been contained in the Canada Shipping Act and regulations made thereunder. The Department of Transport was formed in 1936 taking over the functions of the Department of Railways and Canals, the Department of Marine (which had dropped Fisheries in 1930) and the Civil Aviation Branch of the Department of National Defence.

In 1938, the Radiotelegraph Act was repealed and replaced by the Radio Act, 1938. This Act was updated following an extensive review during 1952. The latest major amendments to the Radio Act were made in 1968 when the new Broadcasting Act, establishing a national policy for broadcasting and the Canadian Radio-Television Commission were created, effective April 1, 1968.

As AM broadcasting was growing and as knowledge about MF propagation, ground conductivity and the design of directional antennas became known it became evident that some form of international agreement was necessary to ensure reasonable sharing of AM broadcast frequencies among the countries of North America. After much preparatory work over many years the North-American Regional Broadcast Agreement was signed in Washington in 1950 by Canada, United States, Cuba, Dominican Republic and the U.K. on behalf of the Bahamas and Jamaica.

Amateur Radio Stations were closed down for the Second World War from 1939 to 1945. During this period the control and regulation of radio went as follows: July 8, 1940 to October 21, 1944 ï Minister of Munitions and Supply, October 21, 1944 to May 4, 1948 ï Minister of Reconstruction and Supply; then on May 4, 1948 back to the Minister of Transport.

Radio does not recognize borders of any kind and so from the very beginning of radio our very long borders with the United States makes it necessary for both countries to coordinate the use of those frequencies whose use impinges on the adjacent country's use of radio. The result was that, from the early days of radio until about 1969, Canada and the United States had concluded 16 different bilateral frequency coordination agreements to ensure problem-free radio communications in both countries. Such agreements were and future agreements are in accord with present-day ITU Radio Regulations. These agreements confirm that Canada and the United States have very good relations when it comes to solving problems regarding the use of radio along our common borders.

Television broadcasting began in Canada in September 1952. When the first stations came on the air in Montreal and Toronto, Montreal already had a cable

distribution system serving 60,000 homes with closed circuit programming pending the availability of off-air reception. From that beginning CATV has developed until, in 1965-66, there were some 300 systems serving 310,000 subscribers.

Because of public interest in and the controversial nature of broadcast programming, as well as concern over the economic, commercial, cultural and social aspects of broadcasting in all its forms, two organizations in government were made responsible for the licensing of all broadcasting stations. The technical aspects of all applications were dealt with by the Broadcast Engineering Section of the Dept. of Transport. The non-technical aspects during the period 1932-1936 were considered by the Canadian Radio Broadcasting Commission, during the period 1938-1958 by the Canadian Broadcasting Corporation and during the period 1958-1968 by the Board of Broadcast Governors (BBG). Recommendations from both groups based on their evaluation of an application were considered by Cabinet and, if approved, the proposed station would be licensed by the Department of Transport. However, Cabinet eventually felt that it did want to be involved any more with this work and decided in 1968 to replace the BBG with the Canadian Radioï Television Commission to deal with the licensing of broadcast radio stations provided each application received a Broadcast Construction and Operating Certificate from the newly-named Broadcast Engineering and Certification Branch of the Department of Transport. In this way the suitability for licensing of each station from technical, operational and coverage points of view, was ensured.

On July 12, 1968, the control and regulation of all forms or radio except the social, cultural, economic and commercial aspects of broadcasting, in other words the Radio Spectrum Management Branch of Transport, was transferred to the new Department of Communications. The non-technical aspects of broadcast station licensing remained with the CRTC.

The rapid development of radio communication over the first 75 years has brought tremendous problems for the people charged with its regulation and control. Their concern has always been that controls should always be minimal and avoid inhibiting technical advancement while at the same time being sufficiently far-sighted to steer a clear and smooth forward course and ensure the future growth of radio of all kinds and uses in Canada.