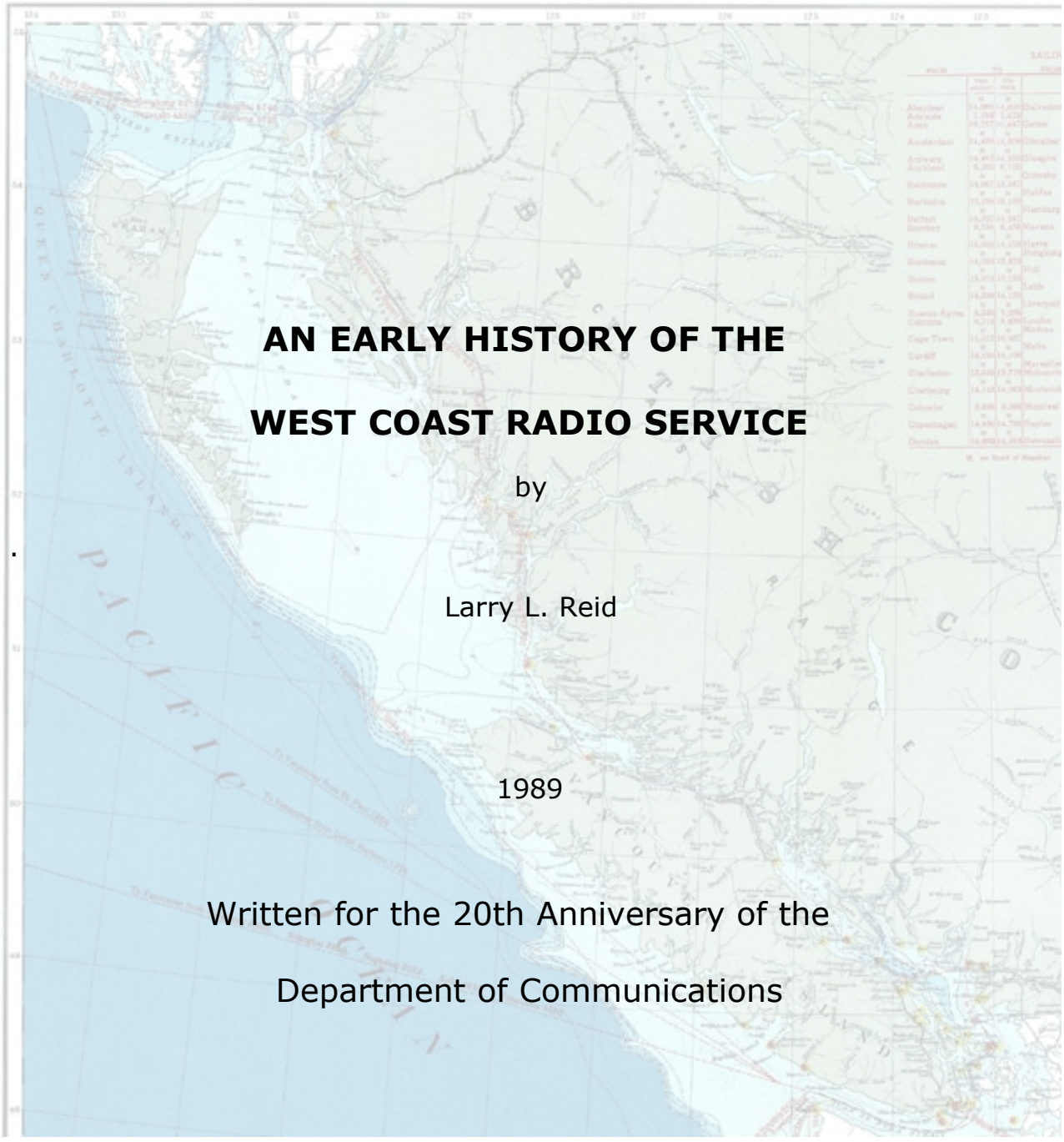

AN EARLY HISTORY OF THE

WEST COAST RADIO SERVICE

by

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Written for the 20th Anniversary of the

Department of Communications

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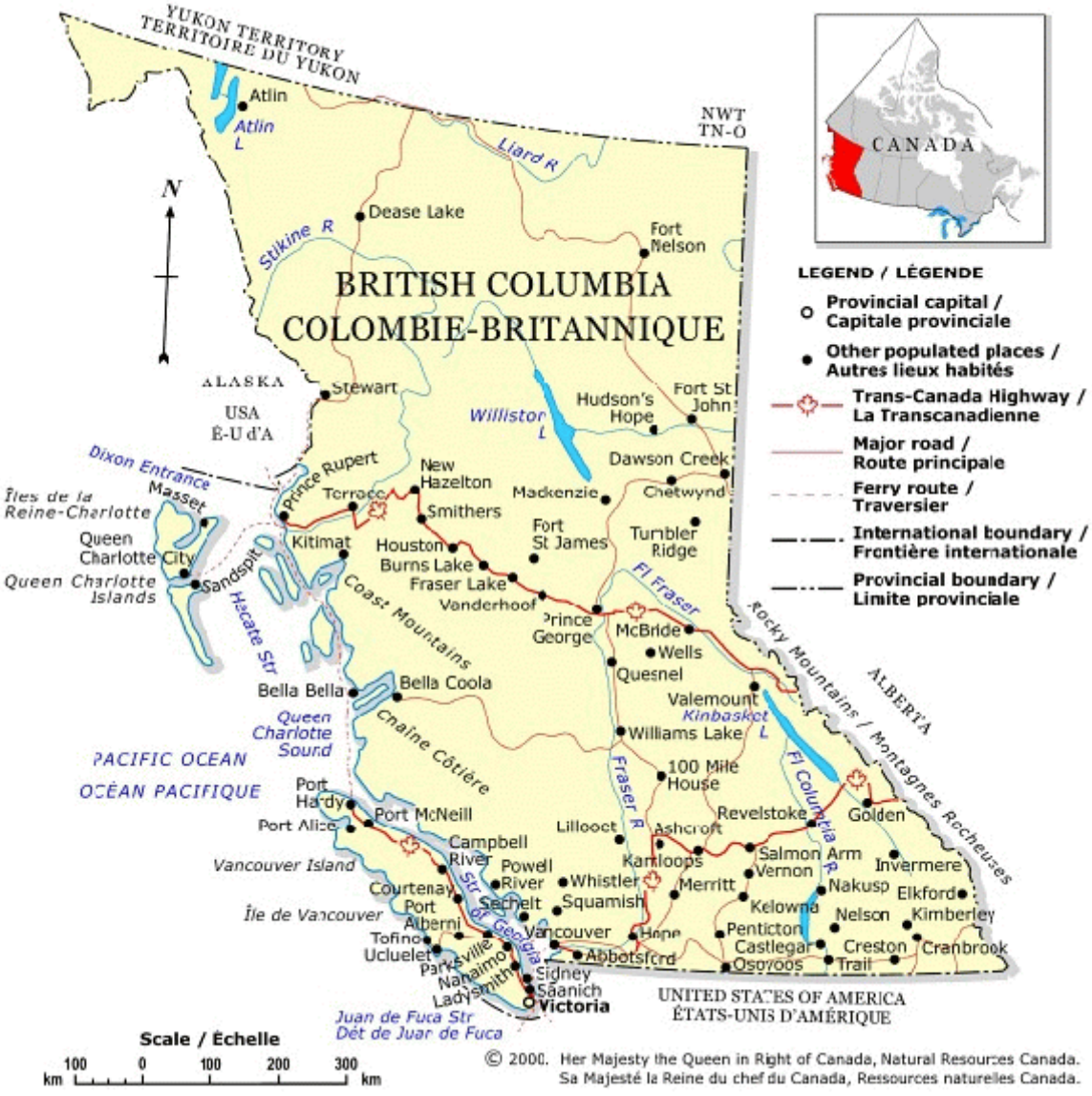
The views and opinions expressed herein are those of the author and do not necessarily represent those of the Department of Communications.

Mr. Reid voluntarily recalled his early days with the West Coast Radio Service in celebration of the 20th Anniversary of the Department of Communications.

n.b. Any reader who has additional information, old documents or photos relating to the early days of the West Coast Radio Service is invited to forward them to the Vancouver Regional Office, Public Affairs Branch. They will be held in trust until an historian accepts the challenge to document the complete history of these very first steps of our radio service past.



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AN EARLY HISTORY OF THE WEST COAST RADIO SERVICE

Wireless came early to Canada when, in 1901, the government issued a contract for two Marconi stations to be built on the Straits of Belle Isle. Later that same year, Marconi made his famous first trans-Atlantic test transmissions between Poldhu, Cornwall and St. John's, Newfoundland. In December the following year the Governor General, the Earl of Minto, opened the new Marconi trans-Atlantic wireless station on Cape Breton by sending its first message to King Edward VII.

In August 1903, an Act to incorporate the Marconi Wireless Telegraph Co. was given assent. This was followed in 1904 by issuance of a contract to the new Marconi Co. of Canada to build a chain of 23 wireless stations from Port Arthur east to the Atlantic coast. This chain was later expanded to 27 stations and an additional contract was issued for them to operate the chain for a period of 20 years. The latter contract was extended several times until 1957 when it was taken over by the Department of Transport.

In 1905, the first Wireless Telegraph Act was given assent. That same year an Act to incorporate the Fessenden Wireless Telegraph Company was given assent. Also this year, Cecil Doutre, the Dominion Superintendent of Wireless Stations for the Department of Marine and Fisheries, obtained approval to establish a similar chain of stations between Vancouver and Prince Rupert on the Pacific coast. It is a matter of some speculation why this second chain of stations had not been contracted out, however, for some reason it was made a Departmental project and Mr. E. Hughes was appointed as project engineer at a salary of $100 per month plus a living allowance of $40 per month.

At that time a wireless station, call sign "PW", had already been established in Victoria sometime between 1902 and 1904 by the United Wireless Co. of America and was part of a chain of stations extending south to San Diego. It is believed this station was located on present day University of Victoria property just off Cedar Hill Cross Road. The 1909 call book also listed United Wireless stations at Victoria North .and at North Vancouver, however, no evidence has been found. that they were ever built.

In 1906, Doutre and Hughes, accompanied by Capt. Gaudin, the Departmental Agent for the west coast who would be responsible for this new chain of stations, made a site selection tour of the west coast aboard the CGS Quadra. Sites were selected at Point Grey (near Vancouver), Gonzales Hill (Victoria), Pachena Point (Vancouver Island entrance to Juan de Fuca), Estevan Point (halfway up the coast of Vancouver Island), Triangle Island (25 miles NW of the northern tip of Vancouver Island), Ikeda Head (near the south end of the Queen Charlotte Islands), Digby Island (Prince Rupert) and Cape Lazo (Comox) at the northern end of the Gulf of Georgia.

That year the Telegraph Act was amended to include wireless by adding a Part IV.

Shortly after this tour, Hughes established his construction headquarters in the Department's marine yard located in Esquimalt Harbour. This yard was later moved to the Victoria inner harbour near the west end of the Johnston St. bridge. Late in 1906, the first station was opened for service at Gonzales Hill, call sign VSD, with E.J. Haughton as operator-in-charge at a salary of $70 per month plus free accommodation.

One of the first things Haughton had to do was to learn the American Morse telegraph code in addition to the Continental code in order to deal with the telegraph line tie-in to the station.

As other stations were connected to local telegraph systems, their operators also had to learn this second code. In later years, it became a requirement for all the operators in the service to be proficient in both codes.

One of the labourers who helped in the building of the Gonzales station was Walter Howard. Howard had been a telegraph operator in Britain in the early 1890's but apparently found the life too tame, so he joined the Royal Engineers. Around 1900 he was sent out to work on improving the defences of the Royal Naval base at Esquimalt. When the Esquimalt project was completed, he returned to Britain and shortly after took his discharge from the army. In 1906 he returned to Victoria where he met Hughes who hired him to help on the Gonzales project, but Howard turned down an offer of permanent employment as an operator and instead went north to the Yukon to make his fortune. He struck out there and after a couple of years working as a fireman on a river boat out of Dawson, he returned to Victoria, joined the Wireless Service in late 1909 and got married in 1910.

In an effort to get the chain of stations operational as soon as possible, the first consideration was construction of the operational building, installation of the equipment and erection of the masts and aerials. Dwellings could follow later. These early station buildings comprised an operating room, a transmitter room (they called it the high voltage room), an engine room and a room to accommodate the operator. The latter contained a single cot with mattress, linen and blankets, a table and chairs, a kitchen cook stove and a supply of basic cooking utensils.

The usual outhouse was out back and a well supplied the water. Later they added a windmill driving a pump to supply water to the station. On sites such as Triangle Island, where wells were out of the question, rain water was collected from the building roofs and fed to cisterns. Incidentally, the wall between the operating and transmitting rooms contained a small window so the operator could observe the transmitter spark gap.

The equipment at that time comprised a one kilowatt Marconi spark transmitter, a Marconi 10 inch induction coil as an emergency spark transmitter, a Marconi magnetic

detector for a receiver and a 5 horsepower Fairbanks Morse horizontal single cylinder gas engine driving a generator with a wide flat leather belt. The emergency transmitter was powered by a bank of 24 volt wet batteries which were charged by the generator.

Wavelengths used were around 600 meters, which they called "short wave", and around 1500 meters, which they called" long wave" . The designation of frequency by kilohertz and megahertz did not come into use until much later. Frequency control was very imprecise as they could only tune the aerial with fairly high "Q" inductances and large capacitors. The latter were made of sheets of copper plate with sheets of plate glass as a dielectric. These were later replaced with oil-filled capacitors. When the operator had to change frequency he had to go into the transmitter and change taps on the aerial inductance.

Initially, Gonzales was the only station supplied by a hydro system so its gas engine was used only as an emergency back-up. Also, it was the only station to have electric lights - the others used coal oil lamps. The other stations were connected to hydro systems as and when it became available.

The gas engines were only run when charging batteries or when actually using the main transmitter. Thus, when the operator received a call, he had to go into the engine room and start the engine before he could transmit his reply, and starting these early engines could often take some time. Fortunately, most ship operators knew the problem and waited patiently for the acknowledgment of their call.

Electric starters had yet to be invented so the start up procedure was a bit involved. The operator had to rotate the flywheel to a point just before the igniter would spark, prime the engine with raw gas via a small brass priming cup, check that the oil lubricator drip cups were full of oil and adjust the rate of drip, switch on the ignition by closing a small knife switch, turn on the fuel line to the carburetor and then spin the flywheel; hopefully, the engine would start.

These early engines used a "make and break" ignition system supplied from a 6 volt dry battery (Eveready Hot Shot) which was connected to an iron core inductance and an igniter whose contacts, controlled by a timing cam, would open and close inside the cylinder creating a spark. It was crude but usually effective. In 1910 a program was initiated to replace this make and break ignition system with a more efficient ignition system using magnetos and spark plugs.

The dwellings on the outside stations were initially lit by coal oil lamps but in the 20's, 32 volt battery lighting systems were installed. Later, some of the stations were wired for both 110 volt and 32 volt lighting systems. A diesel plant would usually supply the 110 volts from 8 AM to 10 PM when the plant would be shut down, then everyone would switch on the battery lighting system. During the night, the duty operator would only start up a smaller plant when needed to answer calls.

At Bull Harbour (on Hope Island, the northern entrance of the Queen Charlotte Straits), this unique system continued until the early 50's, when new Caterpillar diesels were installed and continuous power became available.

Aerial masts were made from tall trees felled locally and, after peeling the bark, they were shaped by hand using a large drawknife. Two or three such trees would then be lashed together with iron bands to form a mast 150 to 200 feet high. Erecting these masts was quite a feat considering the lack of power equipment. They relied on the use of Gin poles, blocks and tackle and a small hand operated windless.

Initially these were one man stations open from 8 AM to 6 PM, seven days a week, 365 days per year. If the operator wanted a vacation, he had to hire his own relief. By 1909, it became common practice to hire two operators and provision was made for vacation relief. New operating hours on two-man stations were 8 AM to 1.30 AM the following morning. With the increase in staff, additional accommodation had to be provided. In the case of Cape Lazo, temporary accommodation was provided in the form of a lean-to installed on the side of the station building.

In 1909, a contract was let to a New Westminster firm to build duplex houses at the stations at Estevan and Pachena Points. Unfortunately, Ottawa was short of funds so the contract did not provide for plumbing. Capt. Gaudin did, however, find sufficient material in his stocks to meet this deficiency except for bathtubs which were added the following year.

To assist Hughes in his construction program, two experienced operators were hired. Messrs. Morse and McIntyre acted as overseers during construction and then installed the wireless equipment and trained the incoming operator. At the time the bulk of the operators were recruited from the British Telegraph Services and, while proficient in the continental telegraph code, generally had no experience in wireless. Morse and McIntyre were paid $90 per month with $40 a month living allowance. The casual labourers were paid $3.50 per day and their foremen $5.00 per day.

In 1907, some land was purchased from a cattle ranch at Cape Lazo, near Comox, at a cost of $2,000 per acre. This property and that for the Deadtree station which was built later, were the only sites purchased. The remainder were built on crown land.

Late in 1907, the station at Point Grey was made operational with Mr. Morse running it until February 1908 when J.H. Field was hired as its operator-in-charge. At that time, this station was pretty isolated with the nearest civilization being the village of Point Grey, about 5 miles away through dense forest. (The village was located in the area of present day 10th Avenue and Sasamat Street.) Supplies were brought out to the station from Vancouver by launch. Late in 1908, the CPR blazed a trail through the forest and connected the station to its telegraph service and Field now had to learn the American Morse telegraph code. The station did not get connected to the B.C. Telephone

Co until 1910 and the road connection was made in 1911.

One of the early assistant operators boarded in the village and used to ride to work on horseback over the telegraph trail. The story is told that he was once attacked by a cougar which he shot with a pistol he carried.

In February 1908, the Pachena Pt. station became operational with L.H. Bradbury as operator-in-charge. His brother, Charles Bradbury, took charge of the Cape Lazo station when it opened later in the year. Shortly after, the Estevan Pt. station was opened by Mr. Morse as operator-in-charge but he resigned not too long afterwards. With the shortage of operators at the time and, as Estevan was considered the more important station, Bradbury was moved up from Pachena and Pachena was temporarily closed and not reopened until 1910.

In early 1908, signal flags and union jack flags were issued to the stations, the latter to be flown during daylight hours.. Signal flags were hoisted to warn non wireless equipped vessels of impending storms. In March, the Department had to pay $25 to replace a steer that had wandered onto the station property at Cape Lazo and fell to its death over the cliff. Evidently the Department had failed to comply with a clause in the Agreement of Sale requiring the fencing of the property. Needless to say they were not long in meeting the fencing requirement.

In a letter dated July 13, 1908, Haughton was promoted to Superintendent under Capt. Gaudin, with a salary increase of $100 per month. He was also to continue as operator-in-charge at Gonzales. Later, in a letter of August 12th, the Acting Deputy Minister expressed gratitude for the good work of the wireless stations (actually it was Haughton at Gonzales) for picking up a wireless dispatch from the S.S. Victoria 703 miles west of Cape Flattery. Evidently the much nearer US Naval station at Tatoosh with its rather insensitive Carborundum detector receiver couldn't hear the vessel, but Haughton, with his magnetic detector, could.

Cecil Doutre was promoted in December 1908 to Departmental Agent for Purchasing and Contracts and was replaced by C.P. Edwards, whose background is unknown. Edwards was, however, known to be proficient in both telegraph codes and had a good knowledge of wireless operations.

Jim Harker, a former telegraph operator in the British Postal Service, immigrated to Victoria in 1909 and took temporary employment in a biscuit factory. The story he told his son was that one Sunday, while he was out for a walk in the Uplands area of Victoria, he heard code coming from a wireless building (the early spark transmitters made quite a noise). Harker went in to investigate and the operator was surprised to learn that Harker could read 25 words per minute with ease. This must have been the United Wireless station call "PW" mentioned earlier. The upshot was, the operator put

Harker in touch with Haughton at Gonzales who arranged to hire him and initiated his training in wireless. Thus began his long career in the service. Harker was assigned to Cape Lazo as assistant in 1910 and later became a Radio Inspector.

Late in 1909, the station at Triangle Island, call sign TLD, was opened with J.D. Greer as operator-in-charge. This island, 700 feet high and about 5 miles in circumference, sticks up like a mountain rising from the ocean and is located at the end of a chain of islets, rocks and reefs known as the Scott group which projects some 25 miles northwest from Cape Scott on the northern tip of Vancouver Island.

Wind velocities on the island are incredible with 100 mph being common and up to and in excess of 150 mph being occasionally experienced.

The island is treeless and covered by a kind of tundra grass which is the nesting ground for thousands of sea birds while the rocks below are home to countless sea lions. Back then, the buildings were specially braced and anchored to bed rocks with steel cables and all walkways between buildings had hand rails. Even so, in 1912, the operating building was torn off its foundation and lodged against the engine house. Only its full water tanks saved it from going over the cliff to follow the aerial masts that had already disappeared to sea.

On another occasion, the roof of the bachelor quarters was torn off, most windows shattered and the doors ripped off. Out through the openings went the three operators' bedding along with most of their clothing and personal effects, much of which was never recovered.

In a letter of January 28th, 1910, the Deputy Minister advised that E.J. Haughton would in future have complete charge of the B.C. Wireless Service and that his salary would be increased to $110 per month, but he was also to continue running Gonzales. Hughes was to become District Engineer also with a salary of $110 per month but his $40 living allowance was discontinued and he would be thereafter on a straight expense account.

A. Buchan reopened the Pachena Point station, KPD, in February 1910, and reported that the station was in very poor condition after its period of closure. Evidently the roof had been leaking and had caused considerable damage. He also complained about having to hike the ten miles over the Life Saving Trail from Barnfield through a foot of mud and snow while carrying two suitcases and a new "tuner".

This trail today is known as the West Coast Trail and is part of the Pacific Rim National Park.

In a letter dated June 29th, 1910, Ottawa advised that a parliamentary committee headed by the Right Honourable Sir Wilfred Laurier would be touring the west coast and was to be given free wireless service.

In mid 1910, the station at Ikeda opened, call sign AKD, with A.F. Whiteside as operator-in-charge. This new station soon found a source of telegraphic revenue when the first telephone service in the Queen Charlotte Islands was opened between the station and Ikeda mine, over the ridge to the Jedway Harbour Hotel and on to several other mines in the area. Ikeda was noted for having, at that time, the tallest wireless aerial mast on the west coast with a height of 225 feet.

Earlier in the year in a letter dated January 11th, Haughton had urged extra pay for the more isolated stations, particularly at Triangle Island. This appeared to bear fruit as later in the year some increases were made. In this same letter he went on to comment on some staff transfers and discussed the "not yet enforced" rule against placing none other than married men in charge of stations. He suggested that the property of the government and the service would greatly benefit if this rule were strictly adhered to. Shortly after, C.P. Edwards instructed the enforcement of this rule saying that where a station was already in the hands of a single man or, where a single man was about to be appointed to a station, he would be expected to give a commitment that he would get married within one year.

In mid year, Haughton's wife died leaving him with a young daughter to raise. He never remarried. C. P. Edwards sent a handwritten letter of condolence using stationery from the Grand Trunk Hotel, Prince Rupert, where he was staying while inspecting the construction progress on the northern stations.

During that year, most of the stations were equipped with new 2 kilowatt rotary spark transmitters. Also, most stations were staffed with two operators and Gonzales with three.

Due to the death of King Edward VII, all correspondence coming out of Ottawa was edged in black from the mid to the end of the year.

In a letter dated August 24, 1910, the Assistant Deputy Minister of Marine and Fisheries advised Capt. Gaudin that all wireless stations would in the future come under the jurisdiction of the newly created Department of the Naval Service. Gaudin was advised to turn over all books, files and papers to E.J. Haughton who would be the Superintendent in charge.

In August 1910, Haughton reported to Ottawa that he had inspected four amateur stations in Vancouver owned by Messrs. R.N. Lockner, C. Roddis, R. Buch and R. Kelly. Kelly appeared to be the only one who was able to copy code and who had copies of private correspondence between Pt. Grey and Gonzales.

With the exception of Mr. Roddis, none of the men had a definite objective in view but were merely using their sets as a "pastime" . Mr. Roddis claimed to be experimenting in the transmission of power. Haughton went on to state that the men had been causing interference to ships entering Vancouver Harbour. In one instance,

when the CGS Quadra was towing a disabled vessel in a gale, the captain could not raise Point Grey to request some assistance because of this interference.

Haughton requested some restriction be put on the indiscriminate use of wireless as the "fad" was spreading.

On December 3rd, 1910, at 2.30 AM, after the Government stations were closed for the night, the SS Northwestern which was bound for Nome, Alaska, from Seattle, went ashore at Pile Point on San Juan Island, about 16 miles northeast of Victoria. The vessel sent out a wireless distress call which, fortunately, was picked up by the operator on the S.S. Tees, tied up in Victoria. The operator on the Tees had stayed up to do some repairs prior to sailing the next morning. He alerted the ship's master and the Tees set sail and rescued all on board the SS Northwestern.

This report must have given C.P. Edwards the ammunition he needed because on December 19, he advised he had received authority to employ additional staff to provide 24-hour service at Gonzales, Point Grey, Cape Lazo, Triangle Island, Pachena Point, Estevan Point and Digby Island. He went on in his letter to say that once 24-hour operation was established, he would close down the United Wireless station in Victoria.

In an undated hand-written letter in late 1910, C.P. Edwards advised Haughton that a Christmas box had been authorized for the staff at the U.S. station at Tatoosh. Haughton was instructed to send the receipts directly to Edwards since he had arranged for payment out of the Deputy Minister's personal expense account. He went on to suggest that the box should include a box of good cigars and a case of champagne, but that the total cost was not to exceed $40.

On his appointment as District Superintendent in mid year, C.P. Edwards instructed Haughton to install a partition across the living room of the dwelling at Gonzales and to set up his office on one side. He even included a list of suggested furniture.

Haughton appeared to go along with this idea but in December 1910, the Deputy Minister discovered that Haughton had, without authority, set an office in the Post Office building on Government Street in downtown Victoria (site of the present District office). The letter didn't seem to faze Haughton since he just ignored it and continued to occupy the office until his retirement in the late 30's. At the end of the year, he even applied for authority to hire janitorial service at a cost of $15 per month.

The Deadtree station, located a few miles north of Skidegate Mission on North Island of the Queen Charlotte Island chain, was opened in 1911 with Walter Howard as operator-in-charge. This station had not been included in the original chain of stations envisaged by Doutre and Hughes in their survey of 1906, but was the result of a political decision brought about by a strong lobby made by the citizens living on North Island

who wanted some form of communication with the mainland and saw wireless as the answer.

With the establishment of the Deadtree station, the Government Telephone and Telegraph Co. established a service to connect the station with Queen Charlotte City, Skidegate Mission, Tlell, Port Clements and Massett. This made the station a popular assignment as the operator received not only his salary of $85 per month, but additionally a stipend for managing the telephone and telegraph service.

On January 26, 1911, the S.S. Cottage City was wrecked off Quadra Island. Her distress call was picked up by the Cape Lazo station who implemented rescue operations and all on board were rescued.

Between 1911 and 1914, an extensive recruitment campaign for telegraph operators in the United Kingdom resulted in most stations becoming staffed with four operators.

Among these were some of the more prominent pioneers of that time: Jack Bowerman, Tommy Raine, the Gray brothers, Sid Elliot, the Neary brothers, Sid Jackson, Harold Tee and Jim Daniel.

In 1912, an additional station was established at Alert Bay to provide improved coverage of the inside passage.

After three previous conventions where little had been accomplished, the major nations of the International Radio Telegraph Convention, London 1912, finally agreed to some far reaching International Regulations: to drop the name "wireless" and replace it with "radio"~ adopt the European Continental Telegraph code as the International Radio Telegraph Code ~ establish basic standards for radio operator certification~ set up a table of message tariffs and adopt the French Franc as the medium of exchange~ to adopt the signal SOS as the international signal of distress which would receive priority over all other communications~ and to set up a committee to sort out the call sign mess and to assign blocks of call letters to the various nations.

Within a few months of the Convention, the new distress call was used by the Titanic when she collided with an iceberg in the North Atlantic and sank, incurring a huge loss of life.

Shortly after the Convention of 1912, the Postmaster General of Great Britain issued a "Handbook for Wireless Telegraph Operators" which was adopted throughout the Empire and by most of the Dominions. Haughton made frequent reference to it in his circular letters to the stations.

A new Canadian Radio Act was given Royal assent on June 6, 1913, which cancelled Part IV of the Telegraph Act of 1906.

With the outbreak of WWI in August 1914, the male members of the West Coast Radio Service were put in naval uniform. The radio operators became Warrant Officers, Haughton became a Lieutenant and C.P. Edwards a Lt. Commander. They all continued to receive their civilian rate of pay. The engineering staff under Hughes were busy installing radio equipment on the obsolete cruiser HMCS Rainbow, on the two recently acquired submarines and on other smaller naval vessels.

The acquisition of the two submarines occurred when the Government of Columbia (South America) reneged on payment for their construction to a shipyard in Seattle.

When the German Government showed an interest in the purchase of these submarines, the Premier of British Columbia rushed an emergency bill through the legislature and bought them.

Thus for a few days B. C. had its own navy until the Dominion Government took them over. .

Once war was declared, army infantry detachments were stationed at the Pachena Point, Estevan Point and Triangle Island stations to guard against possible raids by German landing parties.

The fear of German raiding parties landing on the coast was well founded since, as soon as war broke out, the German East Asia Naval Squadron based at Tsing-Tau, under German command, sailed into the Pacific Ocean under the command of Admiral the Count Von Spee (the WWII pocket battleship *Graf Spee* was named after him).

His squadron comprised two modern heavy battle cruisers, three light cruisers and four armed merchantmen. He detached one of the latter, the Emden, to raid in the Indian Ocean and her operations created a legend of daring exploits and of great humanity in the care and treatment of captured prisoners.

In September 1914, one of the German light cruisers, the *Nurnberg*, flying a French flag, put a landing party ashore on Fanning Island and destroyed the cable station and severed the Trans-Pacific cable.

British Columbians living along the coast expected to see *Von Spee* appear on the horizon at any moment, brush aside the Canadian Navy and mount an attack. Fortunately, *Von Spee* had greater worries, namely the Japanese who, with their powerful navy, joined the side of the allies and dispatched a heavy squadron to search out and destroy Von Spee. The Japanese took over the protection of our coast and even kept a heavy cruiser based at Barnfield until the crisis passed.

On November 1, 1914, Von Spee defeated a British Naval Squadron under the command of Admiral Craddock, at the battle of Coronel off the coast of Chile. Craddock

and most of his squadron were sent to the bottom of the sea while only minor damage was done to the German ships. One badly damaged British cruiser managed to break away into the South Atlantic and made her way to the Falkland Islands.

Needless to say, this action caused a lot of concern throughout the British colonies in the Pacific and in Australia and New Zealand. These two Dominions refused to let ships carrying their troops to Europe sail until Von Spee was brought to heel. Fortunately, Von Spee feared that the powerful Japanese Squadron would "descend on him, obtained supplies and coal from neutral ports and then headed off. He planned on occupying the Falkland Islands and using them for a base for raiding in the South Atlantic. This was. his mistake. Unknown to him, a powerful British squadron had gathered there to meet him. The battle started just after noon on December 8th and after three running engagements, Von Spee and most of his squadron were sent to the bottom of the sea with few survivors.

In 1915, new call signs were issued to the stations to conform with the block of call letters assigned to Canada as a result of the International Radio Telegraph Convention of 1912.

The need for better coverage of the North Pacific by the Estevan Point station was soon obvious, so a 7.5 kilowatt transmitter was installed with a huge single cylinder diesel engine and generator to power it. This engine was started by compressed air and was the latest thing at that time. With this increase in power plus an outstanding location which had exceptionally high ground conductivity, the station put out a tremendous signal. Few believed the relatively low power it actually used. It was low compared to the many U.S. stations using 250 to 500 kilowatts and to the one million watts used by NAA on the east coast.

WEST COAST RADIO STATIONS

First Call Sign	Location	Call Sign After 1915
VSD	Gonzales Hill, Victoria	VAK
KPD	Pachena Point	VAD
USD	Estevan Point	VAE
TLD	Triangle Island	VAG
AKD	Ikeda Head	VAB *
PGD	Pt. Grey, Victoria	VAl
DTD	Deadtree Pt., Q.C.I.	VAH
SKD	Cape Lazo	VAC
unknown	Alert Bay (added in 1912)	VAF

* This call sign was re-assigned to the station established in downtown Vancouver in 1923 at 815 West Hastings Street.

1915 Onwards

It is unknown just when radio licensing started in Canada after the passing of the Radio Act of 1913, but they were certainly slow at getting off the ground with radio operator certification. The U.S. had created their Department of Communications in 1912 (later replaced by the F.C.C. in the 30's) and by 1913 had established Radio Inspectors in most major ports, conducting exams and issuing certificates. At that time, since the U.S. had no restriction as the nationality of persons being certified, many Canadians went south and obtained their operator's certificate.

In 1915, Great Britain passed legislation requiring all vessels over 3000 tons to be radio equipped. This legislation was soon copied by most nations and created a great demand for certified operators. Shortly after, Sprott Shaw Schools in both Vancouver. and Victoria started radio operator training courses with Bruce Arundel as instructor in Vancouver and Chris Brown in Victoria.

This turn of events was unexpected by the Department. They had no Radio Inspectors and here were schools turning out people demanding examination for certification. Initially, Haughton had to give the code part of the examinations and then send the written papers to Ottawa for marking. Finally, in 1917, he found his answer in a naval rating, Bruce Restall.


Restall

Bruce Restall had served an apprenticeship as a machinist in Britain and then immigrated to Victoria where he found employment as a machinist in an electrical shop.

He soon qualified as an electrician as well.

In later years, he mentioned he had become an amateur before WWI broke out and when it did, he immediately joined the navy and was assigned to a submarine as a wireless operator. He showed me a certificate issued by the Minister of the Naval Service appointing him as a wireless operator first class and that this was his warrant. He was later moved into Esquimalt as an instructor training wireless operators and before long he was moonlighting by teaching wireless at Sprott Shaw's night school.

This must have caught Haughton's attention as he arranged for Restall to be transferred under his command and had him take over examinations and ship inspections. When he was not employed on ship inspections or examinations, he worked as a Radio Electrician for Hughes.

In 1917, the CGS Quadra collided in fog with a CPR steamer at the entrance to Nanaimo Harbour and had to be run aground to avoid sinking. She sat there for several months where at high tide only her funnel was above water. Finally she was sold, re-

floated and patched up to haul ore from Britannia Mines to the smelter in Tacoma. In the 20's, she was re-sold and used in the rum running trade. She was finally caught by the U. S. Coast Guard, towed into San Francisco and sold at public auction for $1,625, then scrapped. An ignominious end for a vessel that had been a friend to the men of the radio service over many years.

Due to the isolation of Triangle Island, the ruling of hiring only married men relaxed. In late 1916, the bachelor operators at the Island jointly hired a rather plumpish Miss Brunton, a woman in her late 30' s, as their housekeeper.

To their chagrin, she soon had them organized.' They had to dress for dinner with clean shirts, ties and jackets and they had to clean their shoes. As compensation, she was an excellent cook and their dwelling was kept spotless. In November 1918, the fisheries vessel Galiano, doing double duty as a lighthouse tender after the loss of the CGS Quadra, called in to deliver supplies and to pick up two passengers, Miss Brunton and Sid Elliott. At the last moment a message arrived cancelling Elliott's transfer and he woefully climbed back up the 1000 steps to the station.

Suddenly a storm struck, the seamen dumped the rest of the supplies on the beach, pushed Miss Brunton into the work boat and headed out to the waiting Galiano. They were quickly hoisted on board and set sail for Ikeda station on the Queen Charlotte Islands. That was the last anyone ever saw of the Galiano. She apparently foundered and sank with her crew of 26 - and Miss Brunton. The only thing heard was an incomplete message "We are sinking" sent out by the operator Michael Neary and picked up at Triangle by his brother, Jack Neary.

In 1920, it was decided that the Ikeda station would close and that the Triangle station would relocate to a more sheltered site at Bull Harbour.

Due to the improvement in equipment, the need for a repeater station between Triangle and Digby Island was no longer necessary. Also, Ikeda's revenue for handling telegrams from the nearby mines was substantially reduced since the mines were closing. On its closure, the station building and its equipment were moved by barge and set up at Bull Harbour and then Triangle's operation was moved to the new site.

The lighthouse on Triangle was also dismantled since it proved to be too high above the ocean ,and mariners complained it was in the clouds most of the time. It was replaced by automatic acetylene lights mounted at lower levels. Only the equipment was removed and within a few years the buildings had blown down and disappeared.

In February of the same year, a 79 page consolidation of the Radio Telegraph Act of 1913 together with its various updated Radio Regulations was published by the Department of the Naval Service (available at a cost of 10 cents per copy).

Of particular interest was the various classes of operator certificates:

(1) Extra First Class
(2) First Class
(3) Second Class
(4) Third Class
(5) Emergency
(6) Experimental
(7) Amateur Experimental

In 1920, Sid Jones, a WWI veteran with two years in the trenches in Flanders, graduated from the Sprott Shaw School in Vancouver and was examined by Bruce Restall. He passed the examination but was advised it would take three months before Ottawa issued his certificate. Jones and a couple of other new graduates then went down to Seattle for a bit of a celebration and while there dropped into the Department of Communications office in the L.C. building and met Inspector Wolfe. Upon inquiry about writing for a U.S. certificate, they were advised there was no problem and they sat down and started writing. Two days later, they not only had their certificates but Wolfe had lined up jobs for them on U.S. vessels.

Jones made an initial trip on the San Francisco run and then switched to the Alaska run as purser/operator, and to his surprise, was paid overtime (unheard of in Canada). Apparently he had lots of overtime since he had to check the cargo when it was loaded on board and again when it was off-loaded. The result was that when he returned to Canada three months later, he was able to bank $600 American, a large sum of money at that time. He got his Canadian certificate and signed up with the Marconi Company and was assigned to a ship on the Orient run.

In 1923, Jones was about to get married so he swallowed the anchor and joined the West Coast Radio Service (he had a first class certificate by this time).

After a few days at Point Grey where Jack Bowerman was the Officer-in-Charge, he was assigned to Alert Bay under Tommy Raine. Three months later, he received a telephone call from Haughton instructing him to proceed to Digby Island to relieve its Officer-in-Charge, Sid Jackson, who was going on vacation.

Many of the department's early operators had never bothered writing their certificates and, in an effort to force them to obtain their certificates, an edict had been issued that certified operators would go ahead of uncertified operators on the seniority list.

So Jones arrived at Digby Island to find himself in charge of uncertified operators with 10 - 12 years service. This action created a furor but it did force some to apply

themselves to obtain their certificates. Some, however, never did write for their certificates, secure in the knowledge that as permanent civil servants, they had a sinecure for life and could not be fired. These operators never received promotions, and some of them were still operators in 1946.

When Jones took over at Digby Island, he found the station typewriter a mess so he requisitioned a new typewriter brush. Haughton wrote back suggesting he use an old toothbrush. Jones, always a humorist, then requisitioned a used toothbrush but Haughton had the last laugh - he supplied one!

In 1920, Walter Howard was appointed as the first Radio Inspector west of the Great Lakes and was located in Victoria, with Haughton. In 1924, he transferred to Ottawa but soon regretted his move and tried desperately to get back to Victoria.

In 1925, Jack Bowerman was appointed as the first Radio Inspector in Vancouver and set up his new office in the Dominion Bank building on Hastings Street.

A. L. (Andy) Gray and his brother Gifford Gray were also appointed Radio Inspectors with Andy replacing Howard in Victoria and Gifford going on to open the first office in Winnipeg.

In 1927, Harold Tee opened a new office in Edmonton, Sid Jones became assistant under Gifford Gray in Winnipeg and Jim Harker was named assistant to Bowerman in Vancouver.

In 1928, Walter Howard finally got his transfer back to Victoria but payed the price by dropping in seniority behind those appointed in 1925 and 1927. He became assistant to Andy Gray, a position probably kept open for him by Haughton.

F.C. (Charlie) Aitken went to Ottawa to replace Howard.

In WWI I he was seconded to the RCAF, with the temporary rank of Squadron Leader, to help set up the Commonwealth Training Program for radio operators.

He remained in the Air Force after the war and ended up as its Director of Telecommunications.

About this time, the Department developed an internal examination, called the *"Barrier Exam",* which was a requirement for promotion to Senior Operator. It consisted of copying the international radio telegraph code at 25 wpm on a typewriter, similarly copying the American Morse telegraph code at 20 wpm, an extensive examination in message tolls and departmental accounting procedures and finally, an oral exam on the maintenance and operation of typical departmental equipment and power plants.

It is not possible to ascertain just when E. Hughes left the service but, by 1920, R.L. Stephenson was the Divisional Engineer. Stephenson had been an apprentice engineer assisting Marconi in some of his early work, had graduated from the Marconi School for Wireless Engineers at Frinton-on-Sea in Britain, and had worked as an engineer on the building of the chain of stations in eastern Canada.

In 1922, the Radio Service was transferred back to the Department of Marine and Fisheries. At that time there were 740 broadcast stations in Canada with an annual licence fee of $50 and 740 radio amateurs whose annual licence fee was $1.00.

In the 1923 call book, only 6 broadcast stations are listed in B.C. with 5 in Vancouver and one in Nelson. Surprisingly, none are listed in Victoria.

In the early 20' s, the old spark equipment was phased out and replaced with the more efficient tube equipment. Later in the decade, a chain of automatic radio beacon stations was established as an aid to marine navigation.

In his circular No. 286 dated May 19, 1922, Haughton announced an allowance of 50 cents per week had been granted for the cleaning of the station building.

In 1923, Pachena Point was no longer needed as a relay point between Victoria and Estevan Point and nearly suffered the same fate as the station at Ikeda. Fortunately, at the last minute, it was decided to make it a Direction Finding (D.F.) station to assist mariners navigating the Straits of Juan de Fuca.

In his circular letter No. 365 dated January 29, 1924, Haughton advised that in view of the fact that certain D.F. operators on the east coast had made avoidable errors recently in giving bearings by making mistakes in-simple division, addition and subtraction, the Deputy Minister had approved the following penal ties, to become effective February 1, 1924:

1. 1st offence Operator to lose 3 months seniority;
2. 2nd offence - Operator to lose 1 year seniority;
3. and for a 3rd offence - Operator's service to be dispensed with.

About this time, broadcast receiver licensing was implemented at an annual fee of $2.50 per radio. Note 1

These licences could be obtained from any departmental office, post office, store selling radios or door to door vendors. It was a great relief to all when this form of licensing was discontinued in 1952, particularly to the Radio Inspectors who had to enforce this most unpopular form of licensing.

In the early 20' s, a new source of revenue developed when private commercial stations began to be established at such places as Logan Inlet, Anyox, Port Alice, Ocean Falls, Klemtu, etc. These stations had their own radio operators who also often served as bookkeepers, storekeepers, timekeepers, etc., and provided a radio telegraphy service on low frequency to the nearest coast station.

In the 30's, this private commercial service was greatly expanded with the availability of lower priced radiotelephone equipment which could be operated by anyone and soon developed into the major source of revenue for the West Coast Radio Service.

By the late 40' s,the stations at Bull Harbour, Alert Bay, Digby Island, Estevan Point and Cape Lazo each had dozens of such stations under their control. The Department had assigned the frequency of 2292 kHz to accommodate this service. By the late 50's, this service began to disappear with the development of a viable VHF service along the coast by the B.C. Telephone Co.

An additional service provided by the Digby Island station (VAJ), at Prince Rupert was the opening ofa radio telegraph link to station WXH at Ketchikan, Alaska. This circuit handled all the telegraph traffic between Prince Rupert and Alaska.

Also, whenever the CN telegraph lines were disrupted by the frequent slides along the Skeena River, all telegraphic traffic in and out of Prince Rupert would be handled by Digby Island where things could get quite hectic.

The list of broadcasting stations for 1923 stations reported the following as located in British Columbia.

Call Sign	Owner	Location	Wavelenqth
CFYC*	Victor W.Odlum	Vancouver	360 meters
CHCA*	R.C.A.	Vancouver	360 meters
CHOC*	Westinghouse	Vancouver	360 meters
CJCE	Vancouver Sun	Vancouver	420 meters
CKCD	Vancouver Province	Vancouver	410 meters
CJCB	Janes G. Bennet	Nelson	400 meters

*Authorized to broadcast market and weather reports only and were each assigned specific periods when they could make their broadcasts. The other stations could broadcast music, interviews, news reports, etc.

By the mid 20's the Union Steamship Co., whose vessels traversed the coast making calls wherever a passenger or a bit of freight could be picked up or delivered, started to make daily broadcasts on 1630 kHz announcing the next day's points of call. People used to tune their broadcast receivers to the top end of the dial so they would know when to meet the ship to pick up their mail and/or supplies, or to see the Purser to place an order for some item they wanted brought up from Vancouver.

Later, fishermen and tow boat operators started making use of this frequency and by the late 30's it had become the standard marine radio-telephone frequency on this coast. It became so well established that, when 2182 kHz became the international distress frequency, it was a tough regulatory problem getting them to use the new frequency. It was finally phased-in during the late 50's.

With the changeover to tube type transmitters, the radio operators had to make better use of semi-automatic keys (called bugs) such as had been used for decades by their counterparts on the landline telegraph circuits. The high currents used in keying the old spark transmitters generally made the use of this type of key impractical. In some instances, operators would install a special high speed keying relay but these were not always very reliable.Haughton insisted that operators must demonstrate their proficiency to the Officer-in-Charge. These keys were a very personal thing and each carefully adjusted to meet its owner's particular needs. You would never touch another person's bug without his consent and if you altered its setting you were bound for eternal damnation.

In 1923, an additional station was established in downtown Vancouver using the call sign VAB (formerly used by Ikeda) and was located in the Merchants Exchange Building at 815 West Hastings Street.

Jim Harker was the Officer-in-Charge with Len Crowe as his assistant.

The service provided by this station could just as well have been handled by the nearby station at Point Grey. However, shipping agents and tow boat owners who wanted their own station to contact their vessels in Vancouver Harbour and in the Gulf of Georgia were prepared to foot the bill.

The station was later moved to the Marine Building and then closed during WWII.

Another World War I veteran was E.T. Redford who lost an arm in France.

After obtaining his operator's certificate in 1919, he applied for a position with the Radio Service but was turned down by Haughton who did not believe a one-armed man could do the job.

He was then hired by Marine and Fisheries as an operator on a Fisheries patrol vessel.

In 1922, when the Radio Service was transferred back to the Department of Marine and Fisheries, Haughton inherited Redford.

It is to be noted that his one arm never held him back. He was a proficient operator and an outstanding Officer-in-Charge.

In 1926, the Vancouver School Board established a radio operator training course in Room 19 of the old King Edward High School located on the corner of Oak Street and 10th Avenue, with Walter Lambert as instructor. This was later moved downtown when the Vancouver Vocational School was established.

Walter Lambert was a real character and a strong disciplinarian. A strong esprit-de-corps developed among the Room 19 graduates which continues to this day. A few years ago they held a reunion attended by several hundred Room 19-ers who carne from allover the world. Another reunion is being planned for 1989 or 1990.

In the early 20's, radio interference from power lines and street-cars was becoming an increasing problem for broadcast listeners.

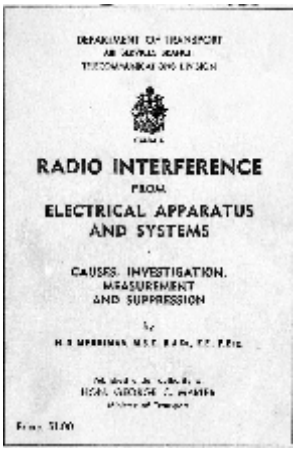
Initially, the Department turned a blind eye to complaints of this problem, they had neither the manpower nor the expertise to deal with it. Fortunately, the B. C. Electric Company was concerned with its public image and assigned two journeyman electricians, one in Vancouver and the other in Victoria, to investigate and resolve these complaints.

It is understood these gentlemen were sent south to Seattle where the puget Sound Light and Power Company had already developed some expertise in the field and agreed to assist in the training of their colleagues from B. C. These gentlemen continued in this work until their retirement in the 60's. Our inspectors found them most knowledgeable and helpful.

With their retirement, B.C. Hydro discontinued this service and turned over all complaints to the Department.

In the mid 20's, the Department decided it could no longer ignore the pressure of interference complaints and H.O. Merriman was appointed to head up an interference investigation service.

He made a thorough study of the problems, authored several papers and books, and in the late 20's toured the inspection offices across the country to give some on-the-job training to the inspectors.


DEPARTMENT OF TRANSPORT

RADIO INTERFERENCE
FROM
ELECTRICAL APPARATUS
AND SYSTEMS

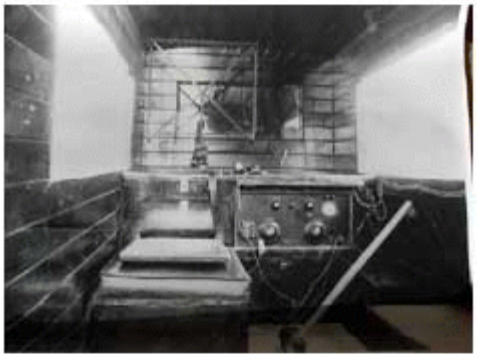
CAUSES, INVESTIGATION,
MEASUREMENT
AND SUPPRESSION

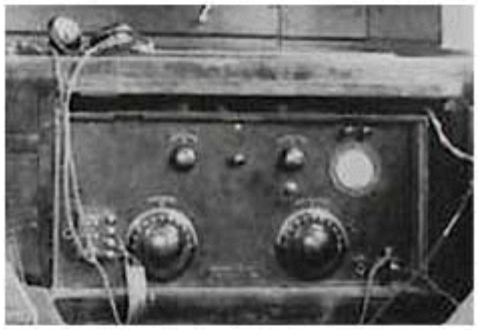
by

He soon realized, however, some full time interference specialists were needed in the field.

Accordingly, he recruited a number of radio technicians from across Canada, gave them some intensive training in Ottawa and assigned them to field offices.

Marine & Fisheries - 1927 - Marine et Pêcheries





They were also supplied with a specially fitted interference vehicle. Basil Irvine was assigned to Vancouver and arrived in late 1929 or early 1930, with his fully-equipped inspection van.

Irvine was originally from Vancouver and had served on the submarines with Bruce Restall in WWI. His arrival in Vancouver initially caused a bit of a stir since he was higher in grade than the working level inspectors.

As a teenager in the mid 30's, a chum and I had set up some old model "T" Ford spark coils and were busy learning the code on the air, oblivious to the interference we were causing broadcast receivers in the area.

One day, Irvine appeared at the door, gave the two of us a "good talking to" and then introduced us to the world of amateur radio. Who at that time would have guessed that I would take over his job when he retired...

Incidentally, when Irvine first arrived, it was considered too dangerous for him to operate the equipment while he was driving, so a chauffeur, George Smith, was hired to do his driving.

Under Irvine's tutoring, Smith soon became a good interference investigator. A few years later, when it was realized a chauffeur was really gilding the lily, Irvine managed to get Smith reclassified as a Radio Electrician and Smith became his assistant. Smith continued in this position until his retirement about 1958.

In the early 30's, a remote transmitter site was established on Williams Road, Lulu Island, for the Point Grey (VAI) and the Vancouver (VAB) transmitters. This new site was given the call sign VAL and had a staff of four operators to take care of equipment maintenance and breakdowns. Just before the outbreak of WWII, it was relocated to a new site on Garden City Road where there was more room for antenna arrays.

In 1930, The Fisheries part of the department was separated to form the new Department of Fisheries. The Department of Marine Radio Service continued to supply the radio operators on the fishing patrol vessels and to maintain their radio equipment.

After the successful voyage of the RCMP vessel St. Roch through the North West Passage, it was deemed time to establish a marine coast station on the Arctic Ocean.

As everything west of Port Arthur at that time came under Haughton, he was instructed to put the wheels in motion and establish "a station at Coppermine, N.W.T. To this end, Fred Sealey was sent north to build the station and to be its first Officer-in-Charge. When he returned to Victoria two years later, he was promoted to Radio Inspector.

Later Fred transferred to the aeradio service when it was first established and ended his career as Radio Technician at Pat Bay Airport. The station at Coppermine continued to be manned from Victoria until 1956.

In the early 30's, Walter Howard was on an interference investigation at Comox when a tube failed in his radio, so he borrowed one from the Officer-in-Charge at the nearby station of Cape Lazo.

On his return to Victoria he must have mentioned the incident to Haughton because the Officer-in-Charge received a letter of reprimand for giving away government property and was told the cost of its replacement would be deducted from his salary.

In the late 20's or early 30's, George Gilbert a senior radio electrician in the workshop, read the first paper in the Proceedings of the I.R.E. about the piezo electric effect of quartz crystals and the crystals' value in frequency control.

Gilbert, always an experimenter, rounded up some quartz, built a diamond saw and sliced up some crystal blanks and then proceeded to teach himself to grind crystals. Once he mastered the art, he then went around converting the station transmitters. It is claimed the transmitters were the first in Canada to have crystal control.

As Haughton grew older he became cantankerous and was disliked by his staff. In the mid 30' s, he went home with an attack of influenza and the story is told that some wit in the office phoned a funeral home, reported Haughton's death and instructed them to pick up his body. Imagine Haughton's rage when he answered the doorbell to find a funeral director complete with hearse there to pick him up. He never found out who the culprit was.

In 1937, the West Coast Radio Service was transferred to the newly created Department of Transport and C.P. Edwards became its first Deputy Minister. Within this new department were two radio branches, Marine Radio and Aeradio which were to remain separate entities until the mid 50's.

Haughton, and after him Bowerman, built up a pool of operators to provide vacation relief on the stations and government vessels. When these operators were not engaged in providing vacation relief, they were frequently used as acting radio inspectors - without the extra pay.

Radio Technicians who frequently traveled the coast, often to out of the way places, were occasionally called upon to undertake special inspections, resolve complex interference problems, give operator "barrier" exams and even get involved in the occasional prosecution. To this end, some of them carried letters of authority issued by the Superintendent.

This practice continued up to 1956 when Radio Regulations became a separate division and was divorced from the operations group.

In 1938, Sid Jackson opened a new office in Kamloops, B.C. and on his retirement two years later was replaced by Len Crowe. In late 1941, with increased demands by the

war, the Kamloops office was closed and Crowe returned to Vancouver. Sid Jackson's son, John, later became a Radio Inspector in Victoria.

In 1939, Sid Jones finally got his transfer back to the coast but, like Walter Howard, he had to pay a penalty by dropping levels to senior operator. However, he went to Pachena Point as Officer-in-Charge shortly after, then to Digby Island and finally to Point Grey, where he was its last Officer-in-Charge.

At the outbreak of WWII, it was necessary to move the Point Grey station inland to Westbrooke Crescent. Heavy gun emplacements were being constructed on the station site to form part of a fort for the defense of Vancouver.

With the outbreak of WWII, all lighthouses on the coast were instructed to monitor the 10 AM daily broadcast of the CBC. A special broadcast was made with either the code word "A FOR APPLE" or "B FOR BUTTER". The "A FOR APPLE" indicated the lights would be illuminated that night but if "B FOR BUTTER" were broadcast, they were to keep the lights switched off.

On June 20, 1942, at approximately 9:45 PM, a Japanese submarine surfaced off Estevan Point and started shelling the station. The shelling continued for about 40 minutes with the first shells landing on the beach about 100 yards in front of the lighthouse. Mr. Lally, the lighthouse keeper, immediately extinguished the light and the submarine raised its sights as successive shells went overhead into the woods.

Approximately 25 shells were fired and, except for a few shell fragments hitting the buildings, no damage was caused. The duty operator sent a message to Pacific Command, shut down the station, and the staff and families went into the woods for safekeeping.

E. T. Redford was Officer-in-Charge at the time. Among his staff were Brian S. Harrison (who later headed up the Regional Authorization group in Vancouver) and Bob Glass (who later was Chief of the air navigation aids flight checking section in Vancouver and took early retirement to be ordained into the ministry).

Several months after the shelling, a Japanese submarine was sunk off the coast of New Zealand. Its crew were rescued and told their captors they had shelled a lighthouse off the Canadian west coast.

After Japan's entry into the war, the military requested assistance in the interception of Japanese radio broadcasts. To this end, they funded the operation and supplied the necessary equipment, mostly' National HRO receivers and typewriters.

This new service was set up on the second floor of the Point Grey station and Andy Gray came over from Victoria as Officer-in-Charge.
The position was reclassified to Radio Technician 3. Some time was taken up in recruiting additional operators and in training them in the more complex Japanese

KANA code.

At its peak, 28 operators in three shifts were employed in this service, among them a number of female operators including Olive Carrol, Elizabeth King and Agnes Lake.

Carrol and King sailed as operators on freighters for several years after the war.

Harry Lathwell, later Regional Head of Authorization in this region, and Eric Shea, later Regional Superintendent of Radio Regulation in Winnipeg, were also interception operators.

With the end of the European war in 1945, the large interception staff used on the east coast to monitor the German submarine service were transferred to Vancouver.

To accommodate this influx, a second interception station was established at the old Williams Road transmitter site on Lulu Island. After being trained in the Japanese code, 68 more operators were engaged in this service. However, they had hardly reached their peak in proficiency when the Japanese surrendered and the service was disbanded. One of these operators who returned to the east was Bill Ryal, later Director of Radio Regulations in Ottawa.

Brian Harrison, who had been at Estevan Point when it was shelled, was a shift supervisor at Williams Road. Another of the shift supervisors was Art Healey, later Officer-in-Charge at Pachena Point and Alert Bay stations.

Bowerman

In recognition of the invaluable contribution made by the Interception Program of the West Coast Radio Service, its superintendent, Jack Bowerman, was awarded the Order of the British Empire.

JAPANESE CODE

A	-- . --	CHI	. . -.	ME	-...-
I	.-	TSU	.--.	MO	-. .-.
U	. . -	TE	.-.--	YA	.--
E	-.---	TO	..-..	(Y)I	.-
o	.-...	NA	. -.	YU	-. .--
N	.-.-.	NI	-.-.	(Y)E	-.---
KA	. -. .	NU	....	YO	--
KI	-.-..	NE	--.-	RA	...
KU	. . . -	NO	. . --	RI	--.
KE	-.--	HA	-. . .	RU	-.--.
KO	----	HI	--. . -	RE	---
SA	-.-.-	FU	--. .	RO	.-.-
SHI	--.-.	HE	.	WA	-.-
SU	---.-	HO	-. .	(W) I	.-..-
SE	.---.	MA	-. . -	(W)U	.. -
SO	---.	MI	. .-.-	(W)E	. --. .
TA	-.	MU	-	(W)O	.---

Interception operators wrote down the code characters in English letters as indicated above and this went to translators who joined the groups of letters to make up Japanese words and they translated them into English. Transmission of numbers from 0 to 9 inclusive are the same as in the international radiotelegraphy code.

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note 1: In 1922, the fee was $1.00, in 1932 it was $2 and in 1938 $2.50

At war's end

At war's end, when I returned to Vancouver after 5 years overseas with the army, I wrote my 2nd class certificate with Jim Kitchin as my examiner, with whom I was to work in later years.

I immediately went job hunting but found that, with the cutbacks, radio operators were a glut on the market. I nearly took a job on the SS Amier which was being fitted out as a China coaster. They were more interested in my army experience in small arms training and wanted me to train the deck officers in the use of a Thompson sub-marine gun to fight off pirates. Caution prevailed and I turned down the job. As it turned out, on her way to Asia, she broke down in the north Pacific and had to be towed back to Vancouver. She was eventually scrapped.

Finally, with my veteran's preference plus a war wound pension, my application with the civil service got top priority. Len Crowe hired me as a relief operator and sent me north to Digby Island with orders to report for assignment to its Officer in-Charge, Stave Mellor.

Mellor initially assigned me as relief operator on the CGS Alberni, a lighthouse tender and a pitiful excuse for a ship. She had originally been a coal tender on the Great Lakes, had been purchased during the war by the Department and sent around through the Panama Canal to Prince Rupert. En route, the crew jumped ship at New York. At Panama they put guards aboard while going through the canal to prevent a repeat performance. After one trip. on her I appreciated what they must have experienced since she was the worst sailing vessel I have ever been on.

I was shocked with the radio equipment - it belonged in a museum. After years in the military, using the latest state of the art equipment, I had some initial concern that it would even work, but I prevailed. However, another concern arose. The radio shack was directly over the boilers which made it a real sweat box. I used to sit out on the open deck with the speaker turned up and, when a call was heard, I would dash in, pick up the message and then get back out on deck. I was not the least sorry to leave the vessel a couple of weeks later.

Shortly after, I was assigned to the one man radio beacon/weather station on Langara Island located on the Alaska border at the north end of the Queen Charlotte Islands. Again the equipment belonged in a museum, but it had been updated by George Gilbert's modification for crystal control.

This was a drastic change in lifestyle for my wife Joan, a war bride brought up in London and used to the modern conveniences of life. She suddenly found herself on an island with only one other family, no electric power and a hand pump for water.

Fortunately, she took to it like a duck to water and even became an expert on the end of a crosscut saw when we cut firewood.

When I left the island after a year, I met Bruce Restall and R.A. (Bob) Cole on board the ship. Restall was giving Cole a tour of the stations along the coast. Cole had just been appointed Divisional Engineer following the retirement of L.W. Stephenson.

Cole was a graduate of the University of New Brunswick and had served as a junior officer in the navy on a corvette in the North Atlantic.


R.A. Cole

After the war he worked at odd jobs and was employed as a clam digger in the Queen Charlottes when his father, a Commissioner in the Civil Service Commission, arranged this appointment for him. This was one of his father's last acts before retiring to Victoria. I remember a few years later going to see Cole at his parents' home and finding the Prime Minister, Louis St. Laurent there.

My next assignment in 1947 was to Victoria at the Gordonhead station, VAK, under Jim Daniel. The staff members were Frank Arnaud, Jack Shaw and Charlie Blacklock. I replaced Don Mitchell who had been promoted to a Radio Inspector position in Victoria. Jim Daniel, finding out I did not know the American Morse code, put me on graveyard shift until I learned it.

While on shift at about 01:30 AM on August 13, 1947, a distress call was broadcast by the *SS Diamond Knot* who had been rammed by the *Fenn Victory* off Race Rocks in fog. The Fenn Victory suffered very little damage. Being the closest coast station, I took control of the distress and alerted the standby salvage vessel *Sudbury* who set sail immediately for Race Rocks.

When the Sudbury arrived at the scene, the Captain of the stricken vessel refused assistance saying that the vessel's owners had dispatched a tug from Seattle and wanted her towed there. Despite a warning from the skipper of the Sudbury that she would never make it, her Captain stuck to his orders. Finally, at about 09:30 AM, the Seattle tug took her in tow but, as predicted, she had barely reached U.S. waters off Port Angeles when she sank.

It was an unfortunate decision made by the ship's owners. The Sudbury, at that time, was the largest and most powerful salvage tug on the west coast of North America, and with her powerful water pumps could undoubtedly have kept the vessel afloat and towed her to the nearby Esquimalt Dockyard. The *Diamond Knot* had been carrying 150,000 cases of tinned salmon, making it the largest insurance claim at that time. The claim was finally settled when 200,000 tins were salvaged by sucking them up with a vacuum hose.

I soon became proficient in the Morse telegraph code and went on the regular swing shift. Soon after, I passed my *"Barrier Exam"* which was given by Don Mitchell and later successfully passed my examination for a first class certificate. My examiner this time was Eric Turner who later opened the Kelowna office in 1950.

In 1948, the service took over the Spring Island Loran station that had been established by the US Coast Guard during WWII. This required hiring additional operators, among them Ernie Coe who later became a Radio Inspector in Kelowna. R.H.M. Lobb was the technician in charge of this station.

At about the same time, a new radiobeacon station was built at Amphitrite Point, near Ucluelet, with Barclay Stuart in charge. This site later became a major Canadian Coast Guard station.

In 1947 or 1948, Reg Woodman, a radio operator at Digby Island and an epileptic, was drowned in nearby Dodds Cove when he suffered an attack and fell face down in a few feet of water.

Herb Holt

In 1949 I was reassigned to Digby Island and moved into one half of the duplex dwelling. Stave Mellor was officer-in-charge but shortly after was moved to Alert Bay.

Herbert Holt took over temporarily from Mellor until Brian Harrison came north a few months later.

Other staff members were Armour Pyke, who had given me my amateur exam pre-war; Jack Leeming, who later became a radio inspector in Victoria; Bill Johnston, who later held a series of radio inspector appointments, culminating as District Manager, Victoria; and Les Tickner.

In the late 40' s, a lighthouse radiotelephone service was established on 1792 kHz. For the first time many of these stations, which had formerly only had contact with the outside world via their quarterly supply vessel, now had daily communication with the nearest coast station.

Later, in the 60's, this service was replaced by the B.C. Telephone Co., which contracted to provide a VHF radio telephone service to all west coast lighthouses.

In 1950, the first monitoring installation was made in a back room at the Pt. Grey station.. State of the art Genera] Radio precision measurement equipment together with an RCA AR88LF receiver were supplied from Ottawa.

An Ottawa technician made the installation with assistance from Sid Woods from

our Radio Workshop. Initially, monitoring was restricted to below 30 MHz but VHF capability was added later.


Read

Vern Read was appointed as the monitoring operator and this service was only open weekdays I except when special assignments were required.

In 1950, the radiobeacon station at Cape St. James, VAM, located on the extreme southern end of the Queen Charlotte Islands, suddenly became a vital link in the Korean war airlift. I was sent out as officer-in-charge to establish a continuous radiobeacon and an hourly weather reporting service. The staff was increased to four operators and accommodation provided for two married families and two bachelors. The $50 a month isolation pay was a strong incentive since that was good money at the time.

In 1959, Jim Condon, one of the bachelor operators, fell and hit his forehead on the edge of a 45 gallon steel drum, fracturing his skull. After getting medical advice via radiophone from Dr. Derby of the Bella Bella Mission Hospital, I sent a message to the Superintendent, Andy Gray, who arranged for an R.C.A.F. rescue plane to pick up Condon the next morning.

Unfortunately, due to the sea conditions at the time, the Cansoe aircraft could only land in the nearest sheltered cove 6 or 8 miles away. Mr. Diggens, the lighthouse keeper, and I had to take Condon in the station's 14-foot open boat to meet the plane.

We had to buck fairly heavy seas and tide all the way and, while the journey probably only took 3 to 4 hours, it seemed more like 12. It was fortunate that we took lots of gas because we had to refill the outboard motor several times. We finally got Condon aboard the plane which took off immediately for Vancouver, and we headed back.

The return trip was even worse since the tide had changed and the wind was increasing in intensity. I do not know how long it took but it seemed to take forever - we were soaked to the bone.

On arrival, I jumped ashore and slipped on some seaweed. Before I could regain my feet, a wave dragged me back into the cold north Pacific. Fortunately, Mr. Diggens had sense enough not to come to my rescue or I might have been crushed between the boat and the rocks. He instead pulled out clear and let me swim to him. When I finally made it ashore the ladies met us with hot coffee well laced with rum. I soon got into a hot tub for a good soak but shivered for ~ays afterwards.

Condon arrived in Vancouver and was immediately rushed to hospital for an

emergency operation. It was success ful but he was off his feet for a period. I ran into him in 1987 and he still bears the scar. Currently he is an operator at the Canadian Coast Guard station, VAK, located at Sooke.

Cape St. James is much like Triangle Island: wide open to the same stormy Queen Charlotte Sound and experiencing the same wild winds. Like Triangle, it is rocky with a cover of tundra grass. The buildings were heavily braced with cables over the roofs anchoring them to the bedrock. When we arrived, the island was plagued with rats. Fortunately, our Labrador dog, Suzy, became a superb rat catcher and every morning we would find a dozen or so rats laid out on our doorstep. By the time we left the station two years later, rats were very scarce.

When I left Cape St. James I was appointed back to Gordonhead, VAK, but on arrival in Victoria my orders were changed. I became a radio technician in the Radio Workshop with Bruce Restall as my new boss.

Staff in the workshop at that time included Bruce Restall as officer-in-charge, Sid Woods, Dick Lobb, Neil McTavish and myself as Radio Technicians, Ted Whitehead as Construction Foreman and Bill Fleming as the Rigger.

Later on, Neil McTavish left to become officer-in-charge at Bull Harbour and a year later replaced Eric Turner as Radio Inspector at Kelowna. When Neil left the radio workshop, he was replaced by Frank Arnaud who later left to become officer-incharge at Digby Island and was replaced by "Bim" Bayliss.

In 1951, the Department acquired three WWII frigates. Two of them, the Stonetown and the St. Catherines, were converted into weatherships for assignment to ocean station POPPA. This required recruiting additional radio operators to supply each vessel with 16 operators and one operator-in-charge. This same year Jack Bowerman retired and was replaced by Andy Gray. One of Gray's first acts was to move his divisional headquarters from Victoria to Vancouver. Sid Jones replaced Gray as officer-incharge at Point Grey.

In the late 40's, the National Research Council had installed a radar on the 1st Narrows Bridge in Vancouver as an aid to marine navigation in this narrow congested waterway.

The Council had also installed a low power single channel radiophone on 1630 kHz to communicate with passing vessels. By 1953, the need for a better radiophone with 1630, 2182, 2318 and 2366 kHz capability became urgent. At that time, Basil Irvine in Vancouver looked after the equipment on the bridge. He brought the matter to the attention of Jim Kitchin who, in the absence of Andy Gray, arranged for Roy Powell to install one of his Norpack units.

A week or. so later I arrived in town to install some equipment on the CGS Alexander McKenzie. I was summoned into Andy Gray's office where I was instructed to investigate complaints by the signal staff about this new piece of equipment. I was horrified with what I found. I had heard rumours about Norpack equipment but could hardly believe what I found. With authority from Gray, I stopped paYment and instructed Powell to get his equipment off the bridge. I then went to the local Marconi office where I met Duncan Black for the first time and bought a suitable replacement set which Black then installed after making some minor modifications.

Shortly after this, Andy Gray retired and Bob Cole became the new Divisional Superintendent.

In 1954, the world's first microwave controlled fog alarm was developed by the National Research Council. It was installed on Holland Rock and controlled from the Barret Rock lighthouse at the entrance of Prince Rupert Harbour. The following year a similar installation was made on Lookout Island at the entrance of Kyuquot Harbour and was controlled from the Spring Island Loran station. During the latter installation, and while ashore, a storm carne up and we were stranded there for about 36 hours without food or blankets.

The microwave equipment performed exceptionally well but the mechanical controllers which operated the gas engines, the air compressors and the fog alarm itself were fraught with problems. The systems were finally abandoned after a few years of costly troublesome service.

In 1953, a new radiobeacon station was built on McInnis Island at the entrance to Millbank Sound which was to serve as a navigation aid for the bauxite ore ships going into Kitimat. Dave McLeod was the station operator who assisted with the equipment installation.

McLeod had graduated from Sprott Shaw School in Vancouver in the depression years. At the time, he was unable to find employment, so he went to Britain and signed up with the British Marconi Co. and sailed on various British merchant ships as a radio operator. During WWII he was twice on ships that were torpedoed. The last time he spent a couple of weeks in a lifeboat before being picked up and taken to Halifax.

While recuperating there in hospital, he fell in love with and married his Acadian French nurse, Adeline. He then swallowed the anchor and returned to Vancouver with his bride and became an instructor at Sprott Shaw. When the school closed in the 50's, he joined the Department and was sent out to Langara Island. A year later he was assigned to McInnis Island. ~n the early 60's, he became a Radio Inspector in Vancouver. In the early 70's, he had to take early retirement on medical grounds and died shortly after of a massive heart attack.

In 1954, a site selection tour was conducted for a new monitoring station location. After a tour of Vancouver Island and the Lower Mainland, it was determined that the best site would be in the agricultural area near Ladner which had extremely good ground conductivity and a very low noise level. The station was finally built in this area in 1957 on land rented from the Canadian Overseas Telecommunications Corporation. It was staffed with Vern Read as officer-in-charge and four monitoring operators.

In, or around 1955, Duncan Black was hired as the new Divisional Engineer. Black had originally taught school in Saskatchewan and in WWII had become an engineer with the Marconi Co. in Montreal on its wartime production program. At war's end, he transferred to their Vancouver office as a sales engineer.

In 1956, the saga of the West Coast Radio Service came to an end when, on a Canada wide basis, the marine radio and the aviation services were amalgamated into the Telecommunications Branch which had two divisions, Telecommunications Operations and Radio Regulations. In this region the Operations Division was headed up by O.H. Quealey and Radio Regulations by Bob Cole.

One final item in the story of this service. In 1956, Miss Marjory V. Haynes retired after 35 years service. She had joined the service in 1921 as a young clerk typist under E.J. Haughton and had spent her entire career in the Victoria office. Shortly after her retirement, she and Jack Bowerman were married after a courtship which had lasted many years.

The wheel made a full circle from marine to combination with air service and back to marine under the Coast Guard. In the 70's, the old marine stations were separated from the air service to become a part of the newly created Coast Guard.

Note:

Hopefully, Larry's story from 1989 onward will eventually be available .

Laval D.