# The Story of the West Coast Radio Service 1906-1956

## Larry L. Reid

One can only imagine the drama and the excitement for the men and women who built and manned the first chain of shore radio stations along the British Columbia coast from Victoria to Prince Rupert. It was a time of adventure and glamour if you were a budding operator or a technician employed by the federal government in this new and fascinating business. It was also a time of hardship for the lonely families who manned the stations at very desolate coastal points. But, not one could ever say it was not exciting. Not only has Larry Reid produced a unique record of the evolution of Canada's West Coast Radio Service, he has captured the mood of a period and some very special people who made an enormous contribution to the stability of our growing country in the early part of this century.

We stand on the shoulders of these wonderful pioneers who made it all happen. Today, Canada's Department of Communications, or DOC as we prefer to call it, is one of the world's most envied telecommunications administrations. The tradition of commitment and dedication of the people involved in the radio service is as evident in the age of digital communications as it was with pioneer days of ship to shore "spark" telegraphy. The wireless of yesterday has become the cellular radio and satellite communications of today. The men and women who dedicate their lives and careers in the service of Canada through the radio service of Communications Canada are to be congratulated on a job well done.

A special thank you to Larry Reid for taking on the task of giving us this brief and welcome short history of our West Coast Radio Service. He spent many long hours scanning old files, photographs, letters and official documents and correspondence to compile this wonderful piece of Canadiana. He even learned the skills of operating a personal computer and word processing software to make his task easier. And through it all, under difficult circumstances, his late wife Joan supported and encouraged him to see it all through.

We thank you Larry for this special gift, for expanding our knowledge and our pride in our country by keeping alive the story of the very special people of our West Coast Radio Service.

J. Farrell Hopwood
North Vancouver, BC
November, 1991

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# West Coast Radio Service

1906 – 1956

Larry L. Reid
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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 1903 an Act to incorporate the Marconi Wireless Telegraph Company was given assent. This was followed in 1904 by issuance of a contract to the new Marconi Company of Canada to build a chain of 23 wireless stations from Port Arthur east to the Atlantic coast. The 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 the chain of stations was taken over by the Department of Transport.

In 1905, the first Wireless Telegraph was given assent. That same year an Act to incorporate the Fessenden Wireless Telegraph Company was given assent. Also 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 Stuart's Hill north of the Ross Bay cemetery. 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 Captain 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 DGS Quadra. Sites were selected at Point Grey (near Vancouver), Gonzales Hill (Victoria), Pachena Point (Vancouver Island entrance to the Straits of Juan de Fuca), Estevan Point (half-way up the coast of Vancouver Island), Triangle Island (25 miles northwest off 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 Street Bridge. Late in 1906, the first stations were 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 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 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 dull so he joined the Royal Engineers. Around 1900 he was sent out to work on improving the defenses of the Royal Navy 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. Howard turned down Haughton's offer of permanent employment as an operator as he had been smitten with gold fever and went north to the Yukon to make his fortune. Like so many others he struck out 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 was married in 1910.

In an effort to get the chain of stations operational as soon as possible, the first consideration was construction of the operations 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 a 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, rainwater 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’s spark gap.

The equipment at that time comprised a one kilowatt Marconi quenched gap spark transmitter, a Marconi 10 inch induction coil as an emergency spark transmitter, a Marconi magnetic detector with tuner for a receiver and a five horsepower Fairbanks Morse horizontal single cylinder gas engine driving a generator with a wide flat leather belt. A bank of 24 volt wet batteries that were charged by the generator powered the emergency transmitter.

Wavelengths used were around 300, 600 and 1500 meters. 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 wanted to change frequency he had to go into the transmitter room and change taps on the aerial inductance.

Initially six wire "umbrella" type aerials were used but in later years these were replaced by long wire "T" and/or inverted "L" aerials

Initially, Gonzales was the only station supplied by a hydro system so its gas engine was used only as an emergency backup. Also it was the only station to have electric lights instead of the usual coal oil lamps. The other stations were connected to hydro systems as hydro became available.

The gas engines were only run when charging the 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 acknowledgement 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. At that point, hopefully, the engine would start.

These early engines used a "make and break" ignition system with a six volt "hot shot" dry battery 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.

Coal oil lamps initially lighted the dwellings on the outside stations but in the 1920'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 at 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, block 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 a year. Sick leave or holiday leave was unheard of and if you took sick it was a case of toughing it out or going off the pay list. It was to be many years before provision was made for vacation and sick leave.

By 1909 a program was implemented to hire second operators for the stations and the new operating hours 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.

Before a separate dwelling was built at Point Grey in 1911, the Operator-in-Charge and his wife occupied the living quarters sandwiched between the radio room and the engine room. When a call was received the operator had to dash through the living quarters to the engine room to start the power plant and then return to answer the call. This presented problems when a second operator arrived, particularly when the wife of the Operator-in-Charge had her weekly bath in a galvanized tub in the middle of the floor. Thus, on being warned on the impending bath, the duty operator had to detour, taking the outside route to and from the outside back door of the engine room.

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. Captain Gaudin did, however, find sufficient material in his stocks to meet the deficiency, except for bathtubs where were added the following year. Toilets were not provided, however, and outhouses were used for many years, but more on them later.

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 and a $40 per month living allowance. The casual labourers hired for station construction were paid $3.50 per day and their foreman $5.00 per day.

In 1907 some land was purchased from a cattle ranch near Cape Lazo at a cost of $2,000 per acre. It is suspected the ranch owner must have had strong political affiliations, as this was an absurdly high price for land at that time. 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 Gray 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 five 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 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. He then skinned the animal and nailed its pelt on the outside rear wall of the station where it remained on display for several years. Finally visiting brass from Ottawa ordered its removal.

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 within a few months. With the shortage of operators at the time and, as Estevan was considered the more important station, Bradbury was moved up from Pachena. Pachena was temporarily closed and not reopened until 1910. As direct wireless communication between the Gonzales and Estevan Point stations was marginal at the best of times, the U.S. Naval station at Tatoosh, Cape Flattery (directly across the Strait of Juan de Fuca from Pachena Point), generously agreed to provide a "free" relay service until such time as Pachena could be reopened.

I was to meet and serve with Mr. Morse for a period in the army during World War II.

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 Captain Guadin, with a salary increase to $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 his appreciation 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 U.S. Naval station at Tatoosh with its rather insensitive carborundum detector receiver couldn't hear the vessel, but Haughton, with his magnetic detector could.

In late 1908, Field at Point Gray resigned and was replaced by Mr. L. James.

In December 1908 Cecil Doutre was promoted to Departmental Agent for Purchasing and Contracts and was replaced by Mr. 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.

Mr. 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 Ross Bay 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 called "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 in later years became a Radio Inspector. This started a family trend with his brother William joining the service in World War I and his son Bill joining in the late 30's.

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 five 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 not uncommon and up to and in excess of 150 mph 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.

At Triangle the buildings were specially braced and anchored to bedrock with steel cables and all walkways between buildings had handrails. Even so in 1912 the operations 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. Jack Bowerman told of a hurricane in 1913 that tore the roof off the bachelor quarters, shattering most windows and ripping off doors. Out through the openings went the three operator's bedding, along with most of their clothing and personal effects, much of which was never recovered. During this same storm, the spinning cups were stripped from the anemometer which was later on display at the Gonzales Meteorological station.

Simultaneously with the construction of the wireless station at Triangle Island, a lighthouse was built with a Mr. Davies as its keeper. Mr. Davies had three school-age daughters named Violet, Ella and Mona and, as correspondence schooling was yet to be established, the young bachelor operators took over their education. Mona later married Tom E. Morrison who, in the late 40's, became Marine Agent for the Department of Transport.

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. E. Hughes was to become District Engineer, also with a salary of $110 per month, but his $40 living allowance was discontinued and he would thereafter be on a straight expense account.

January 1910, A. Buchan reopened the Pachena Point station, KPD, 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 Bamfield 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 Wilfrid 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 opened between the station and Ikeda mine, over the ridge to the new 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 228 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 the 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. This rule soon had to be modified due to the difficulty in getting married staff to go to the more isolated stations, notably Triangle Island. Later the rule was found too difficult to enforce and was abandoned.

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 stationary from the Grand Trunk Hotel in Prince Rupert where he was staying while inspecting the construction progress on the northern stations.

PACIFIC COAST--STAFF
GOVERNMENT WIRELESS SERVICE May 17, 1910
Monthly Salary

| | | |
|---|---|---|
| E.J. Haughton | Superintendent, Victoria | $110 |
| E. Hughes | Engineer, Victoria | $110 |
| W. Howard | Operator, Gonzales | $75 |
| L. James | O.I.C., Pt. Grey | $85 |
| J.H. MacDonald | Operator, Pt. Grey | $65 |
| C.H. Bradbury | O.I.C., Cape Lazo | $85 |
| J. Harker | Operator, Cape Lazo | $85 |
| A. Buchanan | O.I.C., Pachena Point | $85 |
| C. Kennedy | Operator, Pachena Point | $85 |
| L. H. Bradbury | O.I.C., Estevan Point | $75 |
| J.D. Creer | O.I.C., Triangle Island | $95 |
| R.G. Dundas | Operator, Triangle Island | $95 |
| A.F. Whiteside | O.I.C., Ikeda Head | $85 |
| L.H. Dewhurst | Operator, Digby Island | $70 |
| C.M. McIntyre | Whilst engaged in construction | $90 plus $40 cost of living |

During that year most of the stations were equipped with new 2-kilowatt rotary spark transmitters and the old magnetic detectors were replaced by the more sensitive silicon crystal detectors. Also most stations had now become staffed with two operators and Gonzales with three.

As an interesting aside, due to the death of King Edward VII in mid-year, all

correspondence coming out of Ottawa to the end of the year of 1910 was edged in black.

In a letter dated August 24, 1910, the Assistant Deputy Minister of Marine and Fisheries advised Captain Gaudin that all wireless stations would in 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 a report to Ottawa in August 1910, Haughton reported that he had inspected four amateur stations in Vancouver owned by Messrs. R.N. Locknar, 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 Point 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 DGS 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 a.m., 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 SS 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 Triangle 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 Divisional Superintendent in midyear, 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 Haughton had, without authority, set up 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 and 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 Islands 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 on by a strong lobby made by citizens of 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 Masset. 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.

On May 1, 1911 at 23:00 PST, J.H. MacDonald while on duty at Pt. Grey monitored the first station to broadcast voice and music in the Pacific Northwest and made an entry in the station log that he heard this station on 4000 meters loud and clear. This experimental station had been established in Seattle, Washington by William Dublier (who later invented the mica dielectric capacitor and formed the Cornell Dublier Company). The station comprised a 2-kilowatt "singing arc" transmitter and used an aerial in the form of a huge cone made up of 40,000 feet of wire and supported by a 320 foot wooden mast. The Operator-in-Charge of Pt. Grey, L. James, soon noted several log entries made by J.H. MacDonald of his monitoring these broadcasts and, in writing, formally reprimanded him for being distracted from his watch keeping duties.

Between 1911 and 1914, an extensive recruitment campaign for telegraph operators in the United Kingdom resulted in most stations becoming staffed with three operators. Among these were Tommy Raine, the Grey brothers, Sid Elliot, the Neary brothers, Sid Jackson, Harold Tee, Jack Bowerman, Jim Daniel, Fred Cornish, Bob Ainslee and Jimmy Arnold. Fred Cornish had immigrated to the U.S. around 1904 and worked as a lab assistant to Dr. Lee Deforest on the development of the triode vacuum tube. He was never happy with the American lifestyle and in 1911 moved to Canada and joined with the Wireless Service.

Bob Ainslee had been an operator in the Royal Navy and had participated in the naval review at Spithead during the 1902 coronation of King Edward VII. On leaving the navy around 1910 he moved out to Canada.

Jim Arnold had served his time as a cadet officer on square rigged sailing ships but decided a sailor's life was not for him so became a wireless operator and ended up with the West Coast service. In 1912 he was assigned to Triangle Island where he demonstrated a complete disregard for danger. He would launch the station rowboat in almost any sea and go fishing. Once, during a gale the station aerial was carried away and its halyard was fouled near the top of the mast preventing the hauling up of the spare aerial. Without hesitation, Arnold strapped on climbing irons and a safety belt and, in the middle of the gale, climbed the 200 foot wooden mast and freed the halyard, thus permitting the hauling up of a new aerial.

When WWI broke out, Arnold was stationed at Ikeda and, on receiving the news, sent a message of resignation to Haughton, climbed into his open boat which had a small inboard engine, and headed across Queen Charlotte Sound to catch a southbound steamer to Alert Bay. A few weeks later he was in England and joined the Royal Navy and underwent training as a pilot with its Fleet Air Arm. In 1915, when the Royal Navy India Squadron bottled up the German cruiser Konigsberg in the Rufigi River estuary on the east coast of Africa, it was Arnold who located her hidden in the mangrove swamps and dropped smoke bombs to indicate her position. Once the British monitor ships HMS Severn and Mersey were in position he directed their gunfire from his aircraft using a signal lamp. His plane was hit by enemy gunfire but he continued to direct the British gunfire until he crashed. Fortunately he survived and was awarded the DSO. He was later transferred to the western front and was killed in a 1918 dogfight over France.

Jack Bowerman started his career as a telegraph operator for the Post Office in the United Kingdom. In 1908 he was seconded to the Hampshire Yeomanry Regiment as a civilian telegraphist for their annual maneuvers. While there, one of its officers extolled the virtues of the west coast of Canada from which he had just returned. This must have impressed Jack as in 1909 he moved to Victoria and was immediately offered a job by Haughton which he turned down to take a higher paying position with the United Wireless Co. as a relief operator at their various stations in the Pacific Northwest, including their Victoria station "PW".

In 1910, the United Wireless Company suffered financial problems and Bowerman was laid off. As it happened the company never did recover and in 1912 was taken over by the American Marconi Co. Jack next signed on as an operator on the vessel Chicago, a halibut schooner, and spent several months fishing in Alaskan waters. On return he then signed on the Canadian Pacific Railway (CPR) Steam Ship ‘Tees’ as relief operator and, finally, joined the government service in 1911.

Tommy Raine liked to tell the story about his first year in the service. He arrived in Canada almost penniless with a wife and a small child, joined the wireless service and was immediately assigned as the third and junior operator at Pt Grey. There was no accommodation for him or his family at the station and he couldn't afford to board in the village. He did, however, manage to borrow a tent and some camping equipment. So he and his wife spent the first winter camping out on the station grounds with dinners being cooked on a kerosene camp stove. They only had a single cot for a bed, so had to sleep in shifts, which worked out since Tommy was the junior operator and thus was on graveyard shift permanently.

Another of these early operators was Victoria-born St. Elmo "Jim" Meiss, who exchanged the Morse code for the continental code when he left the CPR Telegraph Co. (located at the corner of Government Street and Trounce Alley in Victoria) to join the wireless service.

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

On April 15th, 1912, the new super-liner ‘Titanic’ struck an iceberg in mid-Atlantic and sank with a loss of 1,500 lives. Fortunately, her Chief Radio Officer, Jack Phillips, was able to send out distress calls and, due to this, over 700 lives were saved. Jack stayed at his

post until ordered to leave by the Captain. He then put on his life jacket and jumped into the ocean. He was later picked up, but died shortly after of exposure.

A few months later and with the Titanic disaster fresh in their minds (and after three previous conventions where little had been accomplished) the major nations participated in the first International Radio Telegraph Convention in London and finally agreed to some far reaching international regulations: the term "wireless" was dropped and replaced with "radio", the European Continental Telegraph code as the International Radio Telegraph Code was adopted, the basic standards for radio operator certification were established, a table of message tariffs was set up, with the French Franc as the medium of exchange, "S0S" as the international signal of distress was adopted and was to receive priority over all other communications, and a committee was set up to sort out the call sign mess and to assign blocks of call letters to the various nations.

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.

In 1912 Haughton again had to deal with amateur interference problems. This time it was in Victoria where amateur stations were disrupting operations of the station at Gonzales. Again he obtained their agreement to cease operations when requested to do so by the Government station. Two of these amateurs were Bruce Restall and Syd Elliott, who both later joined the government radio service and where they spent the next 40 years. Syd, on recalling his amateur activities, said they used their initials for call signs and would occasionally talk to ships passing through the Strait of Juan de Fuca. He also recalled that, when atmospheric conditions were good, he could work another amateur across the straits at Port Angeles, about 18 miles away.

By 1913 the first licensed Private Commercial land stations on the West coast had been established at Ocean Falls by its pulp and paper company and at Sidney Island by the Canadian Explosives Company and using the call signs VFE and VFF.

A new Canadian Radio Act was given Royal assent on June 6, 1913, which cancelled Part IV of the Telegraph Act of 1906. This Act for the first time recognized the existence of Radio Amateurs by setting forth some regulations for the control of their interference with commercial radio operators and also made provision for issuing them call signs. However, the licensing and operator certification of radio amateurs was still several years away.

This same year new call signs were issued to the stations in conformity with the block of call letters assigned to Canada as a result of the 1912 Convention.

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 and Hughes became Lieutenants and C.P, Edwards a Lt. Commander. They all continued to receive their civilian rate of pay. The title Operator-in-Charge was discontinued and replaced by Officer-in-Charge.

The new engineering staff under Hughes were put to work installing new radio

equipment on the obsolete cruiser HMCS Rainbow, on the two recently acquired submarines CC1 and CC2, on the two sloops Algerine and Shearwater and on other smaller naval vessels. Among the latter were three fish boats chartered from the Anglo-British Columbia Packing Co, named the Laurel Leaf, Holly Leaf and Ivy Leaf, and which were fitted with two torpedo tubes each.

The acquisition of the two submarines occurred when the Government of Chile reneged on payment for their construction by 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 for $575,000 each. 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, a German base on the coast of China, sailed into the Pacific Ocean under the command of Admiral the Count van 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 merchantman. 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. Next the Nurnberg called at Honolulu for coal and supplies. The Leipzig made a similar call at San Francisco. This caused a considerable stir in British Columbia where citizens living along the coast expected to see Van Spee appear on the horizon at any moment, brush aside the Canadian Navy and mount an attack. Fortunately, Van 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 the German squadron. The Japanese took over the protection of our coast and even kept the heavy cruiser Izumo based at Grappler Inlet, near Bamfield until the crisis passed.

On November 1, 1914, Van Spee defeated a British Naval scratch force of antiquated vessels 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 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, in Australia and in New Zealand. These two Dominions refused to let ships carrying their troops to Europe set sail until Von Spee was brought to heel. Fortunately, Von Spee feared that the powerful Japanese Squadron would descend on him and, after obtaining supplies and coal from neutral ports, headed off into the Atlantic. He planned on occupying the Falkland Islands and using them as a base for raiding in the South Atlantic. This was a

mistake as, unknown to him, a powerful British Squadron had gathered there to wait for 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 with few survivors.

The need for better wartime coverage of the North Pacific by the Estevan Point station was soon obvious, and particularly the urgent need for it to act as a relay between the Japanese cruiser Izumo, based at Bamfield, and the main Japanese fleet patrolling the Pacific. Accordingly, a high-powered rotary spark transmitter was installed, together with a massive cylinder diesel power plant to power it.

It is uncertain just when radio licensing started in Canada after the passing of the Radio Act of 1913, but they were certainly slow at getting around to operator certification. The U.S. had created their Department of Communication (predecessor to the Federal Communications Commission (F.C.C.) in 1912 and by 1913 had Radio Inspectors located in most major cities who were conducting operator examinations and issuing certificates. At that time there were no nationality restrictions for U.S. operator certification, so many Canadians went south and wrote the U.S. exams.

In 1915 the British government passed legislation requiring all vessels over 3,000 tons to be radio-equipped. This legislation was soon copied by most nations and created a demand for certified radio operators. Shortly after Sprott Shaw Schools started training courses leading to operator certification at their Vancouver and Victoria centres.

The Department was not prepared for this turn of events. They had as yet to establish Radio Inspector positions and here were schools turning out people who wanted to be examined for certification. Initially Haughton had to give them code examination and send their written papers to Ottawa for marking. Finally, in 1917 he found his answer in the form of a naval Warrant Officer, Bruce Restall, who was mentioned earlier as a radio amateur in Victoria.

Bruce had served an apprenticeship in Britain as a machinist, immigrated to Victoria and found employment in an electrical shop where he soon additionally qualified as a journeyman electrician. In his spare time he built spark transformers and other parts for sale to radio amateurs. In early 1914 he went to Seattle and obtained a U.S. 1st Class operator's Certificate. With the outbreak of World War I he immediately joined the navy and was assigned to one of the newly acquired submarines as a wireless operator. It was not long before the navy found out what a valuable man they had and soon moved him into the Esquimalt base to set up a radio operator-training course. Shortly after Sprott Shaw started their operator course, Bruce began moonlighting by teaching at their night school. This soon came to the attention of Haughton who was also in the Navy at that time and the result was Bruce was transferred to his command. He then had Bruce take over examinations and ship inspections. When employed in these activities, he worked under Hughes as a Radio Electrician.

In 1917, the Canadian Government Ship (CGS) ‘Quadra’ collided in fog with the CPR SS ’Charmer’ 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 and masts were above water. Finally she was sold, refloated and patched up to haul copper ore from Britannia mines to a smelter in Tacoma. Later she was resold and used in the rum running trade. She was

finally caught by the U.S. Coast Guard, towed into San Francisco and sold at auction for $1,625 and scrapped.

In late 1916, the bachelor operators at Triangle 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 their shoes had to be polished. 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 pick up two passengers, Miss Brunton and Syd Elliott. At the last moment a message arrived cancelling Elliott's transfer and he woefully climbed back up the 1000 steps up to the station.

Suddenly a storm struck, the seamen dumped the rest of the supplies on the beach, pushed Miss Brunton into the workboat 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 floundered 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 which was picked up at Triangle Island by Arthur Green. It has often been incorrectly reported that this message was picked up by Michael's brother Jack Neary, but Syd Elliott in later years refuted this, saying Jack was asleep at the time.

In mid 1917, Jack Bowerman was temporarily seconded to the Ottawa Radio Workshop to work with a special group building the world's first chain of direction finding stations and whose function was the detection of German submarines operating in the North Atlantic. He built the DF stations at Bird Rocks at the mouth of the St. Lawrence and at Barrington Passage. While he was in the east he talked his way into making a trip to England as a relief operator on the troop ship HMT Oceana. On his return he was sent to the Royal Flying Corps base at Morely, Alberta, where he participated in experiments to put radio equipment in aircraft. Finally, at war's end, he returned to the west coast and was assigned to Pachena Point as Officer-in-Charge.

In 1920, it was decided to close the Ikeda station and relocate the Triangle Island station to a more sheltered site at Bull Harbour . Due to the improvement in equipment, the need for Ikeda as a repeater station between Triangle and Digby Island was no longer necessary. Also, its revenue for handling telegrams from the nearby mines was substantially reduced since they were proving unprofitable and 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 Island 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 the cost of 10 cents per copy). Of particular interest were the various classes of operator certificates:

(1) Extra First Class
(2) First Class
(3) Second Class
(4) Third Class 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 celebration and while there dropped into the Department of Communications office in the L.C. building and met Inspector Wolfe. Upon inquiring about writing for a U.S. certificate, they were advised there was no problem and they sat down and started writing.

**WEST COAST RADIO STATIONS**

| **First Call Sign** | **Location** | **Call Sign After 1913** |
|---|---|---|
| VSD | Gonzales Hill | VAK |
| KPD | Pachena Point | VAD |
| USD | Estevan Point | VAE |
| TLD | Triangle Island | VAG |
| AKD | Ikeda Head | VAB* |
| PGD | Point Grey | VAI |
| DTD | Deadtree Point | VAH |
| SKD | Cape Lazo | VAC |
| unknown | Alert Bay (added in 1912) | VAF |

* *The Ikeda station was closed in 1920 and its call sign was reassigned to the station established in downtown Vancouver in 1923 at 815 West Hastings Street*.

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 to 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. More on Jones later.

In 1923 Jones was about to get married so he left the Canadian Marconi Company for a shore job with the West Coast Radio Service (he had a first class certificate by that time). After a few days at Point Grey where Jack Bowerman was the Officer-in-Charge, he was assigned to the Alert Bay Station, VAF, under Tommy Raine. Three months later he received a telephone call from Haughton instructing him to proceed to Digby Island, VAJ, to relieve its Officer-in-Charge, Sid Jackson, who was going on vacation.

Many of the early operators had never bothered writing the examination for certification and, in an effort to get them to do so, an edict had been issued to the effect that certified operators would go ahead of uncertified operators on the seniority list. Additionally, a first class certificate would be required to fill all Officer-in-Charge positions at Coast Stations. So when Jones arrived at Digby, he found himself in charge of older operators with 10-12 years service. Needless to say, this caused some concern, but it did force some to apply themselves to obtain certification. Some, however, never did write the examination, secure in the knowledge that, since they were permanent civil servants they had a sinecure for life and, at that time, couldn't be dismissed. These operators never received promotions, and remained as junior operators throughout their career.

I have not been able to ascertain when E. Hughes left the service but, by 1920, R.L. Stephenson was the Divisional Engineer. Stephenson had been an apprentice assisting Marconi in some of his early work, had graduated from the Marconi school for engineers at Frinton-on-Sea, and had worked as an engineer on the building of the chain of stations in eastern Canada.

In the early 20's, the old spark equipment was phased out and replaced with the more efficient tube equipment.

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

Another WWI veteran was E.T. Redford who lost an arm in France. On discharge he attended Sprott Shaw School and obtained a 2nd Class Certificate in 1919. He then applied for a position with the Radio Service but was rejected by Haughton, who didn't believe a one-armed man could do the job. Marine and Fisheries then hired him as an operator on one of their patrol vessels.

In 1922, the Radio Service was transferred back to the Department of Marine and Fisheries and Haughton became responsible for all their radio operations, thus inheriting Redford who proved he could do any job given him. He was a proficient operator and an outstanding Officer-in-Charge.

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 1922, the Pachena Point station was no longer needed as a relay station between Gonzales and Estevan 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 station to assist mariners navigating the Straits of Juan de Fuca.

In another circular, No. 365 dated January 29, 1924, Haughton advised that in view of certain operators on the east coast making avoidable errors in giving bearings by making mistakes in simple division, addition and subtraction, the Deputy Minister had approved the following penalties, to become effective February 1, 1924: 1st offence - operator to lose 3 months seniority; 2nd offence - operator to lose 1 year's seniority: 3rd offence - operator to be dismissed.

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 paid the price by dropping in seniority behind those appointed in 1925 and 1927. He became the assistant to Andy Gray, a position probably kept open for him by Haughton.

F.C. (Charlie) Aitkens went to Ottawa to replace Howard. In WW II 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.

Back to the outhouses mentioned earlier. In the early 20's the Director of Radio, C.P. Edwards, made a tour of the west coast stations and had to overnight at Pachena. On arrival there he was met with a delegation of wives who complained about having to use outhouses and urged the installation of interior facilities. Unfortunately they did not get much sympathy from Edwards who couldn't see anything wrong with outhouses and considered them healthy as you could relax in the fresh air while you meditated.

Unfortunately for him, however, that night he suffered a severe attack of diarrhea and spent all night running back and forth through rain squalls to sit in a leaky outhouse. Afterwards he swore that his hostess had laced his dinner with laxatives. He must, however, have got the message as shortly after all the outside stations had indoor facilities installed.

In 1923 a station was opened at the Lennard Island lighthouse, located near Tofino, with C.E. Carver as Radio Operator. In 1925 the station was expanded with the installation of a radiotelephone and then, in 1926, a submarine telephone cable was laid connecting the lighthouse with the Tofino lifeboat station and Carver was withdrawn for reassignment.

About this time the Department created a senior radio operator category with an examination for promotion to the new level. The examination, called a "Barrier Exam", included copying both codes at 25 words per minute on a typewriter (with no errors), a written paper on radio, cable and telegraph message tolls, another on departmental accounting procedures and finally an oral exam on the operation and maintenance of departmental radio

equipment and power plants.

Later in the 20's a chain of automatic radio beacon stations was established as an aid to marine navigation. These marine radio beacons generally operated in pairs or threes. For example, in the northern waters, three radio beacons at Langara Island, Triple Island and Deadtree Point, operated sequentially on 308 kHz for 3 minutes every half hour, their operation controlled by Venner time clocks as follows:

*1. Two minutes before hour and again at 28 minutes past the hour the time clock starts the Kohler gas power plant at Langara.*

*2. At one minute before the hour and at 29 minutes after, the Langara clock turns on the beacon transmitter and allows it to warm up for 60 seconds. At the same time the Triple Island clock starts its Kohler power plant.*

*3. On the hour and at 30 minutes past the hour the Langara beacon makes a one minute transmission. At the same time the Triple transmitter is turned on to warm up and the Deadtree power plant starts.*

*4. At one minute past the hour and half hour, the Langara transmitter goes on standby, the Triple Island transmitter makes its one minute transmission and the Deadtree transmitter is turned on for its one minute warm-up.*

*5. At two minutes past the hour and half hour, the Triple Island transmitter goes on standby and the Deadtree transmitter make its one minute transmission.*

*6. This is followed by Langara making its second transmission and so on until all had made three transmissions after which they closed down for half an hour and then made their next period of transmissions.*

This permitted ships to take three bearings from different sources without having to tune to another frequency. During periods of foggy weather the radio beacons were switched to continuous sequential operation.

About this time, broadcast receiver licensing was implemented at an annual fee of $1.00 per radio (later raised to $2.00 and finally to $2.50). These licenses 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 additional sources of revenue developed when many more private commercial stations began to be established at such places as Logan Inlet, Anyox, Port Alice, 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 price 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 of a radiotelegraph 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.

By the mid 20's the Union Steamship Co., whose vessels traversed the coast making calls wherever a passenger or bit of freight could be picked up or delivered, started to make daily broadcasts on 1570 kHz announcing the next day's point 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. This frequency was later changed to 1630 kHz.

Later, fishermen and towboat operators started making use of this frequency of 1630 kHz 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 began to make use of semi-automatic keys [called bugs) such as had been used for decades by their counterparts on the landline telegraph circuits. The high current 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 reliable. Haughton insisted that operators must demonstrate their proficiency with these keys to the Officer-in-Charge before they could be used. This type of key was 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.

**WEST COAST RADIO SERVICE**

***Staff* as *of November 5th,* 1923**

**Division Headquarters, Victoria**
Haughton, E,J, - Superintendent
Haynes, M,V., Miss - Clerk/Steno
Kennedy, M.V. - Clerk/Bookkeeper
Larsen, L. - Janitor
Robertson, A.S. - Accounts Clerk
McKay, J. Miss - Jr. Clerk/Steno
O'Neil, Miss - Jr. Clerk/Steno
Palzant, F.A., Clerk/Bookkeeper

**Radio Inspectors**
Bowerman, W.J., Vancouver
Gray, G., Winnipeg
Gray, A.L., Victoria

**Radio Workshop Staff, Esqnimalt**
Gilbert, G. - Radio Electrician
Restall, B.A - Radio Electrician
Taylor, F. - Carpenter
MacQueen, M.H. - Radio Electrician
Stephenson, L.W. - Division Engineer
Taylor, J.D., Junior Engineer

**Radio Operator Staff**
Ainslee R
Aitkens, F.C.
Bond, V.I.
Burford, W.T.
Busswood, W.I.
Carver, C.E.
Cooper, F.F.
Cornish, F.H.
Corriveau, H.F.
Crow, L.B.
Daniel, J.
Daniels, G.F.
Davis, Peter
Deacon, Al.
Durkee, K.M.
Emmerson, R.G.
Elliott, S.
Fricker, R.H.
Gold, S.I.
Harker, J .E.

Harker, W.
Harris, C.K.
Harris, E.H.
Hollis, F.I.
Jackson C.
Jones, S.P.
Kelk, E.W.
MacCracken, E.J.
Meiss, S.E.
Mellish, C.W.
Moses, C.A
Mugford, B.W.
Raine, C.
Redford, E.T.
Robson, B.H.
Shatford, SA.
Smith, N.I.
Spouse, R.
Stephen, J.C.
Swiler, R.H.
Tee, H.D.
Turner, E.
Wilson, R.T.
Wolfe, H.

In 1923 an additional station was established in downtown Vancouver using the call sign VAB (formerly used at 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 but shipping agents and towboat owners who wanted their own station to contact their vessels in Vancouver Harbour and in the Gulf of Georgia and were prepared to foot the bill. The station was later moved to the Marine Building and then closed during WW II.

In 1924 a one-man station was opened at Merry Island lighthouse with G.F. Daniels as its operator. In 1927 Daniels was replaced by Gerald Pike who had newly arrived from the United Kingdom, joined the service and this was his first assignment. Three months later he was killed in a gasoline fire. Evidently he had foolishly been carrying an open pail of gasoline while smoking. Later a radiotelephone was installed at this site and its operation was taken over by the lighthouse keeper and the radio operator was withdrawn.

In 1925, 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.

In the early 20's, radio interference from power lines and streetcars was become an increasing problem for broadcast listeners. Initially, the Department turned a blind eye to the complaints of the 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 journeymen 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. With their retirement, the 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 B.D. 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 inspection offices across the country to give some on the job training to the inspectors. 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 extensive training in Ottawa and assigned them to field offices. 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 interference van. Irvine was originally from Vancouver and had served on the submarines with Bruce Restall in WW I. 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 with crystal sets for receivers 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 it was realized a chauffeur for Irvine was really gilding the lily, so the chauffeur position was declared redundant. Irvine, however, managed to get Smith reclassified as a Radio Electrician and who became his assistant. Smith continued in this position until his retirement in about 1958.

In the early 1930'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 VAI and had a staff of four operators to take care of equipment maintenance and breakdowns. Just before the outbreak of WW II, 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 continued to supply the radio operators on the fishery patrol vessels and to maintain their radio equipment.

In the mid 30's with increasing marine activity in the Arctic Ocean, it was deemed time

to establish a marine coast station on the northern coast of Canada. 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 new 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.

A story is told that in the early 30's Haughton went home with an attack of influenza. While he was away someone in the office phoned a funeral home and told them Haughton had died and to come and pick up the body. Imagine Haughton's dismay when he answered the doorbell and found a funeral director, helper and hearse there to pick him up. It is claimed he never found the culprit responsible, so made life miserable for the office staff for some weeks.

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 at 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 mid 20's, George Gilbert, a Senior Radio Electrician in the workshop, read a paper in the Proceedings of the I.R.E. about the piezo electric effect of quartz crystals and their 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 these transmitters were the first in Canada to have crystal control.

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. That same year Haughton retired and Jack Bowerman became the new Superintendent.

Haughton, and after him Bowerman built up a pool of operators to provide vacation relief for the stations and for 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 , he had to pay a penalty by dropping in level to Senior Operator and was sent to Pachena Point as Officer-in-Charge, then to Digby Island and finally to Point Grey where he was made its last Officer-in-Charge.

At the outbreak of WW II, it was necessary to move the Point Grey station inland to Westbrooke Crescent as its site was required by the army for construction of a major fort for the defense of Vancouver.

As a wartime measure, all lighthouses on the coast were instructed to monitor the 10 AM daily broadcast of the CBC when 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" was broadcast, lights were to be kept 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 in the basement and on the second floor of the Point Grey station and Andy Grey came over from Victoria as Officer-in-Charge. 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 Ryan, 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 Healy, later Officer-in-Charge at Pachena Point and Alert Bay stations.

**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 then translated them into English.*

*Transmission of numbers from 0 to 9 inclusive are the same as in the international radiotelegraphy code.*

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.

At war's end, when I returned to Vancouver after five years overseas with the army, I wrote for my 2nd class certificate with Jim Kitchin as my examiner and with whom I would work in later years. I immediately went job hunting but found that, with the cutbacks, Radio Operators were a glut on the market. 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. Enroute, 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 this old equipment would even work, but I found it did. 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 where it was cooler. I was not the least bit sorry to leave the vessel a couple of weeks later. The one consolation this vessel had was its Master, Captain Peterson, who was not only an outstanding seaman, but was a kindly and understanding man and with whom I developed a good rapport, which continued for many years.

Shortly after, I was assigned to the one man Radio Beacon/Weather station VGP on Langara Island located on the Alaskan border at the north end of the Queen Charlotte Islands. The island is about 6 miles long and 4 miles wide with the lighthouse located on the northern tip. During the summer season a fish buyer's camp was located on the south end at Henslung Bay. During WW II, a major radar station had been built on the island by the RCAF and I arrived shortly after they had disbanded their station, leaving behind a network of wooden plank roads, a 3-ton GMC truck, and a number of empty buildings plus a recreation building complete with a good slate billiard table.

Again the radio equipment belonged in a museum, but 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, to suddenly find 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.

Shortly after our arrival we were visited by an RCAF officer accompanied by some officials of Crown Assets who listed what had been left at the RCAF station and a few months later George Brown, a fisherman from Skidegate Mission arrived, produced a bill of sale for the billiard table which he dismantled and I helped him load it on his boat

A few months after I left the station, someone else purchased the GMC truck and had it removed by barge. As the landing area where all our supplies came ashore was about a mile distant by plank road from the station, a truck was a necessity, so the Department replaced the lost truck with a war surplus jeep.

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 during WW II. His father had been a Commissioner of the Civil Service and had retired to Victoria. I remember a few years later going to see Bob at his parents' home and finding the Prime Minister, Louis St. Laurent there; apparently he and Cole Sr. were great friends.

My next assignment in 1947 was to Victoria at the Gordon Head 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 on 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 the Diamond Knot 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 of Port Angeles when she sunk.

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 by "Barrier Exam" for promotion to Senior Operator and later successfully passed by examination for a 1st Class certificate. My examiner was Eric Turner, who later opened the new Kelowna office.

In 1948 the service took over the Spring Island Loran station that had been established by the US Coast Guard during WW II. 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 radio beacon 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 1947 (typo in document), 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.

In 1949 I was reassigned to Digby Island and moved into one half of the unfurnished duplex dwelling at a rental fee of $20 per month. Stave Mellor was still Officer-in-Charge, but shortly after was transferred to Alert Bay. Herbert Holt took over temporarily from Mellor until Brian Harrison came over a few months later. Other staff members were Armour Pyke, who had given me my amateur exam pre-war; Les Tickner; Jack Leeming, who later became a Radio Inspector in Victoria; and Bill Johnston, who later held a series of Radio Inspector appointments, culminating as District Manager, Victoria.

In the late 40's, a lighthouse radiotelephone service was established on 1792 kHz. For the first time many of these stations, which 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 Point Grey station. State of the art General Radio Company 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. Vern Read was appointed as the monitoring operator, and this service was only open weekdays, except when special assignments were required.

In 1950, the radio beacon 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 radio beacon 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 allowance, $20 in-charge allowance and free rent of a fully furnished house was a strong incentive. We also received $30 per month meteorological allowance, which was divided four ways, plus a newly created allowance of $1.00 per hour for helping unload the quarterly supply vessel.

One of the first things I did on arrival was to build a fence around the dwelling to keep my toddler son from falling over the cliff, but that night a gale came up and in the morning my fence had disappeared out to sea, leaving only the post holes as evidence of there ever having been a fence. From then we kept our son tied with a long tether whenever he was outside.

The other married couple was "Buster" and Hilda Frame who left after a year on the station and were replaced by the Fetterlys. The bachelor operators were replaced at six month intervals and included Jack Egan, L. Layton, O. Johnson, Jim Condon and others, whose names now escape me.

In 1951, Jim Condon 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 Canso 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 forever and 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. Instead, he 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 and I soon got into a hot tub for a good soak but shivered for days afterwards.

Condon arrived in Vancouver and was immediately rushed to hospital for an emergency operation. It was successful, 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 Gordon Head, 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-in-Charge at Digby Island and was replaced by "Bim" Bayliss.

This was probably the most interesting period in my career as I undertook the installation and maintenance of radio equipment on the various marine coast stations, lighthouses, weather ships, the two lifeboats and various government vessels. I traveled the coast by steamer, by small aircraft and occasionally scrounged passage on tug boats and with fishermen. It was a wonderful experience and I met some amazing people. In my opinion mariners, whether they are fishermen or masters on a passenger liner, are the most hospitable

people I have ever encountered.

In 1951, the department acquired three WW II frigates. Two of them, the Stonetown and the St. Catherines, were converted into weather ships for assignment to ocean station PAPA. This required recruiting additional radio operators to supply each vessel with 16 operators. 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-in-Charge at Point Grey.

In 1953, Andy Gray retired and Bob Cole became the new Divisional Superintendent.

In 1954, the National Research Council developed the world's first microwave controlled fog alarm. 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 came 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 radio beacon 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 me with the equipment installation. McLeod had graduated from Sprott Shaw School in Vancouver in the depression years. At the same 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 Officer. During WW II, 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. In the early 60's, he became a Radio Inspector in Vancouver and soon became a familiar figure on the waterfront doing ship inspections. 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. 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 with 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 WW II 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.

With the creation of the new Telecommunications Branch a plan was implemented to combine a number of the marine and aeradio stations. These included the old Point Grey station, VAI, which was moved to Vancouver Airport and combined with its aeradio station. Pachena Point (VAD) and Estevan Point (VAE) stations were closed and combined with a new marine/aeradio station at Tofino which used the call sign VAE. Cape Lazo VAC was combined with the station at Comox airport, and the Digby Island station VAJ was moved to the newly built airport on the same island. Deadtree Point, VAH, was closed and its radio beacon was moved a few miles further north to Lawn Point. This was an unattended beacon operated by a UHF telemetry link from Sandspit airport. Sandspit also had a limited coast station facility installed.

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.

This combination marine/aeradio service continued until the creation of the Canadian Coast Guard Service in the 70's when the marine stations were separated to become part of the new service, but that's another story.

## APPENDIX I

### LACK OF INTERNATIONAL REGULATIONS PRIOR TO 1912

In the early days of wireless there were few rules and almost anything went. Some American stations and ships used the American Morse code as used by the telegraph systems of North America, while others used the Continental Telegraph code as used by the European telegraph systems and the world's cable systems. Thus, they often had difficulty in communicating with each other.

Many stations wouldn't accept traffic from stations belonging to another company. There was an instance where a Marconi station refused to accept messages the German Kaiser had sent from his yacht

Some countries assigned call letters but others left it up to the individual companies to originate their own. At one time in the U.S.A. 30 different stations were using the same call letters.

They couldn't even get together on an international distress signal. The first recorded wireless distress was on March 3rd. 1899 when the SS RF Matthews stuck the East Goodwin Sands lightship in fog. Fortunately the lightship had been fitted with a new Marconi wireless installation earlier in January that same year and sent out the message "HELP need assistance immediately". This message was picked up by a nearby lighthouse and the lifeboat service swung into action and all on board were removed.

Again, on December 1905, the Nantucket Shoals lightship Relief #58 was struck by a passing ship in a gale and its operator William E. Snyder broadcast, in both codes, "HELP need assistance from anywhere, in distress and sinking". This call brought assistance from the nearby lighthouse tender Azela who removed all on board before the vessel sank.

The need for an international distress signal was recognized at the Safety of Life at Sea Convention, Berlin 1903, but no agreement was reached. They did, however, insert in the final protocol that "wireless telegraph stations must, unless there is a material impossibility, give priority to calls for help".

In 1904, the Marconi Company took it upon itself to fill the need for a distress call by instructing its operators, on and after February 1st, 1904, to use the signal "CQD" when any ship is in distress or in need of aid. It was further ordered that the signal must be only used with the approval of the ship's captain and "any misuse of this call will result in the instant dismissal of the person improperly employing it".

The signal CQD was adopted because most of the Marconi operators came from the United Kingdom telegraph services and brought with them their continental telegraph code plus many of their telegraph abbreviations, one of which was the general call "CQ" used to attract the attention of all operators along the wire, and which preceded time signals and notices of general importance. CQ went to sea as a general call to all ships and the Marconi Company added the letter "D" to make it a "general call, DISTRESS".

At the next international convention in Berlin in 1906, the subject of a general distress signal

came up again. The Italians suggested the signal "SSSDDD", the Germans "SDE", the British "CQD", and the Americans suggested the letters "MC" which was, and still is, the international flag signal for distress. No agreement was reached at this or at the next convention in 1909.

Finally, at the Convention in London in 1912, a breakthrough was made, not only adopting "SOS" as the international signal of distress but some basic rules and regulations were established. The continental telegraph code was adopted as the "International Radiotelegraph Code"; basic standards were set forth as to the certification of radio operators; the name wireless was dropped and "radio" adopted in its stead (Britain, however, continued to use wireless for many years after); standards were set for the exchange of traffic between stations of different companies and even between stations of different countries and a system of tariffs was set up with the French Franc as the medium of exchange and, finally, a committee was set up to sort out the call sign mess and to assign blocks of call letters to all nations.

## APPENDIX II

### THE COMING OF TELEGRAPH TO BRITISH COLUMBIA

In 1864, Dr. W. F. Tolmie informed A.N. Birch, the Colonial Secretary of the Colony of British Columbia, that his employer, the Hudson's Bay company, intended to lay a telegraph line between New Westminster and the Rockies and there to connect up with a line being carried westward from Fort Garry. But the HBC was slow off the mark and an American company brought telegraph service to New Westminster in 1865. The California State Telegraph Company, having run a line north to Seattle, extended their service north to New Westminster. On March 1st, Governor Seymour in person, with his yacht Leviathan, got the cable across the Fraser River, working under the direction of Mr. Gamble of the California company. On April 18th, the line became operational and one of its first messages announced the assassination of Abraham Lincoln.

The opening of this first telegraph line was soon followed by the Collins Overland Telegraph. Perry M. Collins, banker, lawyer and entrepreneur, was an American with imagination and boundless energy. In 1857, he made a journey across Russia to the mouth of the Amur River and thought it might prove a useful avenue for future American commerce.

Back in California in 1858, he found wide attention given to the recent failure of the Trans-Atlantic cable, which had gone dead within three months of its laying, and it was widely believed the width of the Atlantic was too great and would defeat further attempts to lay another cable.

With the problem of linking North America with Europe still to be solved, Collins came up with the answer -- since the Russians were extending their telegraph system into Siberia, why not build a line through British Columbia, across Alaska, by short submarine cable to Siberia and link up with the Russian telegraph system.

Working closely with the US State Department, Collins secured the necessary rights from the Russian, British and American Governments. Then in 1864 he sold his rights to the Western Union Telegraph Company. Western Union appointed Colonel Charles S. Bulkley of the U.S. Army's telegraph system as its Engineer-in-Charge and Major Franklin L. Pope was appointed Chief of Exploration in British North America and Captain Edmund Conway was named Chief of Construction. Some time was taken to purchase and charter ships and to accumulate the huge quantities of wire, insulators, and other material. On June 17, 1865, the steamer Milton Badger arrived in New Westminster with the supplies and Conway immediately started construction.

By August 17th he had completed a line into Hope where he received the welcome news that a new attempt to lay another Trans-Atlantic cable had failed. Stringing wire along the Cariboo Road at a terrific speed, Quesnel was reached by September 14th.

Christmas Day saw the advance survey crew at Takla Lake where its men joined with those of the nearby Hudson's Bay Company post to celebrate Christmas. With the onset of winter, all work was discontinued until May 14th, 1866.

Work was suspended for the season on October 2, 1866 by which time the line had reached a point of 25 miles up the Kispiox River.

In his report for the year, Conway advised that the length of line from Quesnel was 378 miles, with 15 stations having been built with log houses at approximately 25-mile intervals. Bridges had been built over streams that were not fordable, they had corduroyed swamps, and the steeper hills had been graded for ease of traverse by pack animals. The average clearance of the telegraph right-of-way in standing timber was 20 feet and in fallen timber, 12 feet. He estimated the road was adequate for horses to travel at the rate of 30 to 50 miles a day. Double lines spanned the larger rivers. A total of 9,246 telegraph poles were erected and boats were built for crossing larger rivers.

This amazing feat was accomplished by Conway with 150 men and 160 pack animals.

After October 1866, no further construction was under taken as the steamer Great Eastern had successfully laid a new trans-Atlantic cable from Ireland to Newfoundland. By 1867 it was clear that the new cable was successful, so Western Union abandoned the overland telegraph project. It was deemed too expensive to retrieve the stores cached at various points along the uncompleted line and great dumps of insulators and wires were abandoned. The Indians, helping themselves to the wire, used it to build, among other things, a ramshackle suspension bridge across the Bulkley River at Haswilget Canyon.

The layout that had gone into Collin's scheme was not all lost. The section from New Westminster to Quesnel was kept in operation and in 1868 was extended east to Barkerville, with the colony taking over the line on permanent lease in 1871.

In the mid 1870's the California State Telegraph Company laid a submarine cable from Bellingham to San Juan Island and then a second cable to Victoria thus linking Vancouver Island to the rest of the telegraph world.

In the late 70's New Westminster was finally connected to Canada by Telegraph and in 1885 by railroad.

In 1889 construction was started on a telegraph/telephone line to connect the Department of Marine and Fisheries office in Victoria with its west coast lighthouses at Carmanah Point and Cape Beale. Severe weather conditions during the fall caused suspension of construction when the line reached the San Juan River in October 1989, leaving 50 miles to be constructed. Finally the line to Cape Beale was opened for service on the 4th of August 1890.

The line comprised a single strand of galvanized wire strung from tree to tree all the way along the coast with ladder like cross pieces of wood nailed to each tree to assist linemen in making repairs.

The line was built with the best of intentions, but in practice it did not work out too well as falling trees broke the line putting it out of service much of the time, particularly in stormy weather when it was most needed.

In 1899 the line was extended to and then up the Alberni Canal to Port Alberni, across the island to Parksville and then down the east coast back to Victoria. It is claimed that in the stretch of coast from Jordan River to Cape Beale there had been one shipwreck for every mile of coastline and that many shipwrecked sailors who managed to make it ashore died of privation in the wilderness.

After the sinking of the steamer Valencia near Pachena Point in 1906 with the loss of 126 lives, the trail was rebuilt and is now called the West Coast trail. It had rescue huts at regular intervals stocked with blankets, medical kits and emergency food. Each hut also had a magneto telephone with instructions in several languages on how to call for assistance. The line was patrolled regularly by lineman who repaired breaks caused by windfalls and who went to the assistance of shipwrecked sailors. The heroic deeds of some of these linesmen are a story in itself.

A similar telephone/telegraph service was established on the north side of Barkley sound between Ucluelet and Tofino about the same time as the southern line, and was later extended north up the coast to Nootka and also east from Ucluelet to Port Alberni.

The line along the Alberni Canal was strung on trees along the shoreline and frequently sagged so that at high tide it was under water. Thus a practice developed of checking the tide table before making a telephone call to the outside world via Port Alberni.

Another line ran up the east coast of the island, from Parksville to Port McNeil and Port Hardy with a submarine cable across to Alert Bay.

This telephone/telegraph service was established by the Government Telephone/Telegraph Co., a federal Crown Corporation, whose purpose was to establish communications with isolated communities where it was not profitable for commercial concerns to go.

As mentioned earlier, they provided a similar service on the North Island of the Queen Charlotte Islands which was tied into the Government wireless station. Another circuit of their's was from Hazelton to Telegraph Creek, on up to Dease Lake in northern B.C. then into the Yukon to link up with Whitehorse and Dawson City. This system had a tie-in to the CN telegraphs at Hazelton and in later years had high frequency radio back-up. Occasionally, when the CN telegraph was cut by slides, the Hazelton government station would relay their traffic via radio to our station VAJ at Digby Island.

In the late 50's, the B.C. Telephone Co. took over these old lines and soon upgraded them with state-of-the-art equipment with a resultant vast improvement in service. However, the government telephone and telegraph services deserves a lot of credit for its pioneering work in providing service where no others were prepared to go in the early days.