

# The Fabulous RADIO NBD

## BAR HARBOR STORY



### Otter Cliffs ACADIA NATIONAL PARK

By  
Brandon Wentworth

### PREFACE

OF THE THOUSANDS of people who visit Acadia National Park each season, many enjoy the scenic Ocean Drive on Mount Desert Island. On this drive, after passing Otter Cliffs, one comes to a Park Service road sign which reads: *Fabbri Memorial*. A few yards beyond is the memorial itself, a large monument of red granite with a bronze plaque insert inscribed to the memory of Lieutenant Alessandro Fabbri.

Lieutenant Fabbri was awarded the coveted *Navy Cross* by President Woodrow Wilson at the end of World War I for creating what was considered to be the most important and the most efficient radio station in the world.

Herein is the story of how and why Lieutenant Fabbri conceived and developed this fabulous station as his patriotic contribution to the War effort. To my knowledge it is the only concise, most factually accurate, comprehensive, illustrated history ever published about the old Otter Cliffs Naval Radio Station NBD.

Much of my story deals with the actual experiences of the Navy radiomen who operated the station and leaders of the radio communications industry who built it. The story also goes into technical descriptions of the radio equipment and antenna systems the way they were from 1917 when America entered the War until several years after the Armistice. I hope to be forgiven for being carried away by some of the operator quotes about the old arc and spark transmitters. My interest in this antique radio gear stems from spending summers while attending Stanford University and for sometime after graduation as a professional wireless telegrapher aboard ships of the U.S. Merchant Marine. That was between 1924 and 1929. And it was during those years that I became intimately acquainted with shipboard versions of arc and spark transmitters. I operated both types, as one or the other was installed on the various vessels on which I served.

To lend further credence to the authenticity of this historical account, I can add that I've been a radio ham for over sixty years, from 1920 to the present. Also, I was a radio officer with the Army Air Corps throughout WW-II; and later an electronics engineer with the Federal Aviation Administration for twenty-two years until retirement. I'm now a year-round resident of Southwest Harbor, Maine.

The greatest reward to me from this story will be *recognition* by those who read it of the *Fabbri Memorial* and the old time top flight Navy radio operators and brilliant engineers who made it all possible.

HISTORIANS TELL US that the little town of Bar Harbor on Mount Desert Island, Maine, became popular about the turn of the century as a summer resort for the rich and enormously wealthy. Such financial giants as J.P. Morgan, Andrew Mellon and George Vanderbilt spent the summer time there in company with steel magnate Andrew Carnegie and other industrial tycoons of that golden age. They came to play and frolic, to escape the big city turmoil, to enjoy the Island's delightfully cool fresh air and to engage in a social whirl to eclipse all others. Extravagant parties were the vogue, staged at million dollar castle-like summer "cottages" and aboard palatial yachts. It is said that J.P. Morgan's sleek, black, 406' steam yacht *Corsair* was a sight to behold, riding at anchor in the town's crowded harbor. The loveliest ladies of high society summured there too, including Mrs. John Jacob Astor, Barbara Hutton and Evelyn Walsh McLean who dazzled them all with her *Hope Diamond*.

Bar Harbor holds another claim to distinction, less glamorous perhaps, but vastly more rewarding to our nation's well-being. It was the site of "the most important and the most efficient 'radio' station in the world"—and here is how it all came about:

One other well-to-do socialite and yachtsman who spent the summers at Bar Harbor was a Mr. Alessandro Fabbri. He resided in a sumptuous shore front "cottage" on Eden Street, five miles north of Otter Cliffs, a high rocky promontory which juts boldly out into the Atlantic. Mr. Fabbri was not a playboy as were many of his contemporaries. Instead, he devoted much of his time to scientific endeavors, one of which was experimenting in wireless telegraphy. It became his principal hobby.

Sometime prior to WW-I, through knowledge he gained from studying the writings of one Hugo Gernsback and other authorities on the subject, plus invaluable assistance rendered by Mr. Ralph Tabbut, a prominent Bar Harbor radio amateur, circa 1912, Fabbri built himself a very elaborate wireless station. The transmitter, receiver and aerial system he constructed from a selection of coils, inductances, spark gaps, transformers, condensers, crystal detectors, switches, ear phones, wire, insulators and a telegraph key purchased in New York and Boston. Mr. Tabbut helped him to put it all together and to string several long experimental antennas between tall spruce trees adjacent to his cottage. His ground system was the Atlantic Ocean.

To find out, among other things, how Mr. Fabbri learned the code I corresponded at some length with Ralph Tabbut. He replied, "On learning the code I do recall that he (Fabbri) and his brother Ernesto used a couple of buzzers and sent to each other for practice."

A word on Ernesto: Bar Harbor social registers have it that he was a partner in the House of Morgan, J.P.'s New York banking empire. His principal hobby was said to be yacht racing.

Ralph also told me that, "In those years there were only a few amateur, or ham stations around and distances between them were short. I recall that Fabbri, in striving for greater distances, began working ships at sea. One night when I was over at his house he worked an ocean liner headed for Europe. I don't remember the name of the passenger vessel, much less her call sign. That was certainly a long time ago wasn't it? In fact it was even before we had to have an amateur license!" Incidentally, when amateur licenses were first issued in 1912, Mr. Fabbri's was the tenth, with the call sign 1AJ.

Ralph's recollection of that ocean liner contact seems to reveal that Mr. Fabbri's interest in wireless communication may have stemmed from his many Atlantic crossings on what was said to be his favorite passenger ship, the North German Lloyd luxury liner *Kronprinzessin Cecilie*. Probably, as a fugitive from utter boredom, or business worries, he spent most of his time on the bridge chatting with Captain Charles Polack and his deck officers,

or in the ship's radio room listening to incoming signals, conversing with wireless operator Simoni and watching him pound out the many messages. As a result, Mr. Fabbri apparently became quite well acquainted with Simoni who had been "sparks" on the *Cecilie* since her maiden voyage from Bremerhaven to Hoboken in 1907 and from whom Mr. Fabbri undoubtedly picked up much expertise in the art of professional wireless telegraphy.

On August 3rd, 1914 Great Britain declared war on Germany. The very next day, at the first break of dawn, the *Kronprinzessin Cecilie* came steaming into Frenchman Bay and dropped her anchors less than a half mile off shore from Mr. Fabbri's Bar Harbor cottage. She had taken refuge in neutral waters to escape the British battle cruiser *Essex* which had chased her half way across the Atlantic. The escape was heralded by newspapers at the time which reported that the *Kronprinzessin Cecilie* was on a voyage from New York to England with a cargo of \$10,600,000 in gold bullion and \$3,000,000 in silver bars. There were 1,216 passengers aboard (Fabbri was not among them). When two days out of Southampton her wireless operator intercepted an exchange of messages between a British warship and a French warship saying that the *Cecilie* was "close by" and that she was "the finest prize ever open to capture." This alarming intelligence plus a coded message reportedly received moments later from the vessel's owners in Bremerhaven, ordering her to return to New York, caused Captain Polack to turn his ship about immediately and run for it! She proceeded westward under forced draft. She ran totally blacked out at night, thru dense fog day and night at her maximum speed of over 24 knots. Passengers were said to be absolutely terrified as even the fog horn was silenced. To add to their fears, they were neither told, nor did they have the faintest suspicion where the ship was bound, until Mount Desert Island and then the Bar Harbor shore line loomed up through the early morning mists.

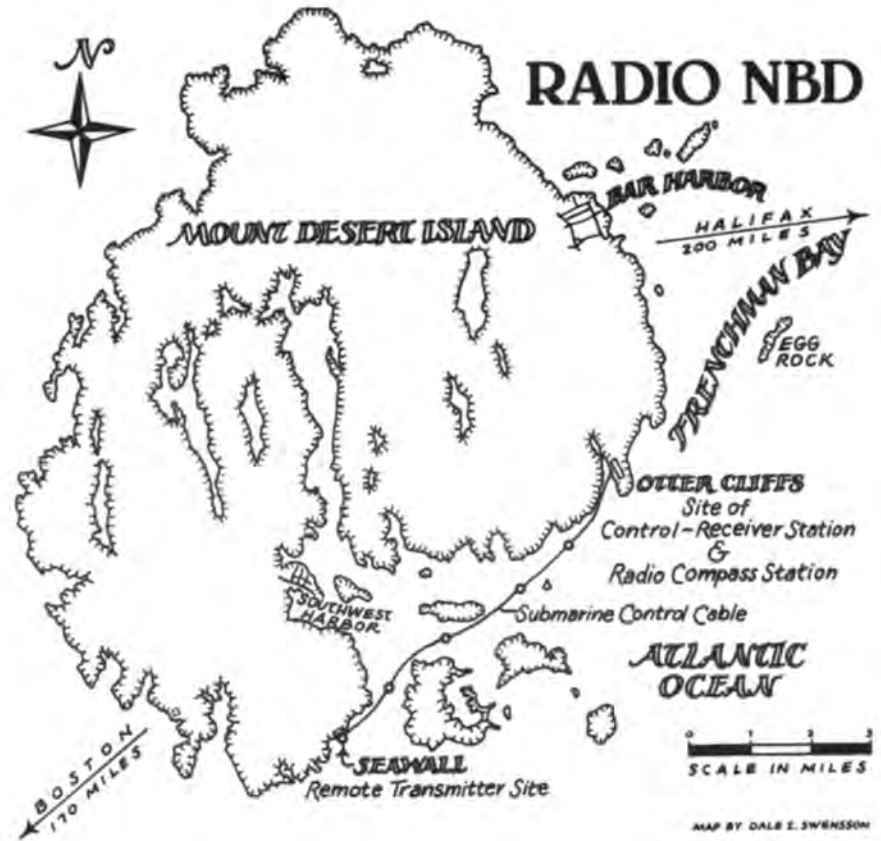
Why did Captain Polack choose tiny Bar Harbor as a haven of safety when the big ports of Portland, Boston and New York were on course, virtually dead ahead? Had he been warned of a blockade? Or, was it possibly because of his close acquaintance with Mr. Fabbri? In either case, one of his passengers was said to be C. Ledyard Blair, a wealthy New York broker and local yachtsman, who was able to pilot the big ship safely past Egg Rock, on up Frenchman Bay and into Bar Harbor. The passengers immediately disembarked and the gold bullion and silver were transported ashore by the revenue cutter *Androscooggin*.

Then, according to downeast chroniclers, the good people of Bar Harbor, including Mr. Fabbri, lavishly wined and dined Captain Polack and his officers during their forced sojourn in Frenchman Bay. It is reported that Mrs. Fabbri bought out the Star Theatre twice a week for the crew of the *Cecilie*. One may surmise that all hands were suitably entertained by such ancient thrillers as, "The Clutching Hand" or, "The Perils of Pauline."

Early one cold morning in November the *Kronprinzessin Cecilie* put to sea again, but under escort of two U.S. Navy destroyers. The proud vessel's next port o' call and what became of her afterward is another story, best told by Sandra Paretti in her historical novel, *The Magic Ship*.

Some two and a half years later, on April 6th, 1917, the United States of America declared war on Germany. Since Mr. Fabbri was beyond the gob or doughboy enlistment age, he decided he could best serve his country by donating both his yacht, the *Ajax*, and his wireless station to the Navy. He would upgrade the station consistent with the most advanced state of the art at his own expense.

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The Navy was quick to accept the yacht, a Gloucester fisherman type hull, 125' overall, 23' beam, 14' draft and 200 tons displacement. She was rigged as a gaff-headed ketch and sported a diesel auxiliary engine. However, the wireless station offer encountered difficulties.

Mr Fabbri, to assure that his patriotic gift would be manned by experienced operators as efficient as the station he planned to build, and not by a bunch of "lids," or novices, asked that he be named station manager. He was advised by Navy brass in Washington that civilian management of such a communication facility in war time was strictly against Navy policy. If he wished to be placed in charge of the station he must at least achieve the rank of ensign in the Naval Reserve. That was understandable. Hence, Fabbri immediately applied for the required ensign's commission.

His application, in due time, was returned, marked DISAPPROVED, with no reasons whatsoever given for the rejection. The several special trips he made to Washington to try to find out why his application was turned down were to no avail. They got him exactly nowhere.

Evidently, Mr. Fabbri was a man of grim determination. Although bitterly discouraged, he didn't give up. In becoming a millionaire he discovered on many occasions that it is *who* you know rather than *what* you know that often turns the trick. So, as a last resort he called on an old friend and wealthy neighbor, a fellow yachtsman and summer resident of nearby Campobello Island, a gentleman named Franklin Delano Roosevelt, then Assistant Secretary of the Navy. The immediate action taken by Mr. Roosevelt promptly won Fabbri a commission as ensign in the United States Naval Reserve Force.

Then, about the end of May, he went up to the Wireless Specialty Apparatus Company in Boston and, with their chief engineer, Mr. J. A. Proctor, selected the most modern equipment available which included a 1 kw spark transmitter complete with quenched spark gap and Dubilier mica condensers.

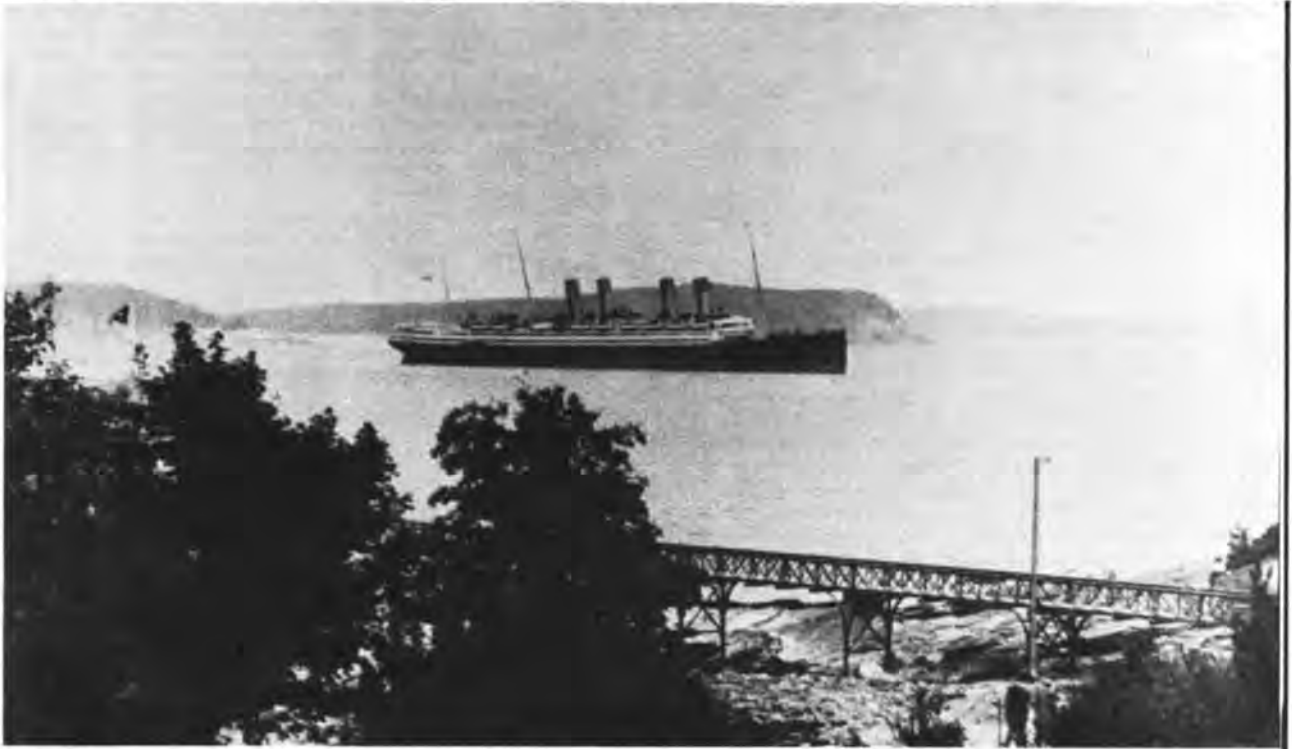
Shortly thereafter, on June 12th, Mr. Proctor, in company with Navy Lieutenant Henry Gawler, went downeast to Bar Harbor. Gawler, as a civilian in peacetime, was the first U.S. radio inspector at District Office #1 in Boston, as established on July 1st, 1912 by act of Congress. It was Proctor who engineered the United Fruit Company's Tropical Radio Telegraph station WBF (originally, the station was installed atop Filene's department store in downtown Boston). These gentlemen, two of the most knowledgeable in their field, tested many locations for the new Bar Harbor radio station. They finally picked out a site on the Otter Cliffs promontory near the Otter Creek side which would be quite well shielded by spruce trees from any curious U-boats cruising off shore. As the site was leased by its owner to the Bar Harbor Country Club, Fabbri subleased it lock, stock and barrel for the Navy. The lease included a fine old club house which too became part of the Otter Cliffs radio station.

On May 29th, 1917 one of the first professional "brass pounders" arrived on the scene. He was Navy Radioman Herbert C. Hovenden. I am greatly indebted to Mr. Hovenden for much of the documentary material contained herein. Hovenden's first duty assignment was to staff the amateur radio station of Arthur Lawford which had been taken over by the Navy. It was located at 292 Main Street in downtown Bar Harbor. The station had a 1 kw transmitter with a rotary spark gap. Hovenden tells us:

"There were four operators who covered a 24-hour watch; Navy Radiomen J. Albert Stevens, Paul D. Sullivan, Chesleigh C. Chisholm and myself. The station neither received nor sent any messages for local (Navy) headquarters because we had a direct telegraph wire into the Boston Navy Yard. Our daily duty was to report to another amateur station (also Navy takeover) at Machias or Eastport, with a 'P O M S A T' which meant, 'Personnel-Operations-Material are functioning SATisfactorily.' They reported the same to us. We logged everything we heard but transmitted nothing except the above report. The call sign for Machias was AA3 and for Eastport AA4. Ours was AA2.

"One morning toward the end of August we heard a station calling Radio NAD, the Boston Navy Yard and using our call sign AA2! It turned out to be the new radio station down at Otter Cliffs. They were doing a little testing. We heard Boston report their signals as 'very strong'.

"On August 24, 1917, Washington assigned Navy Chief Raymond Cole to Bar Harbor to assure that all Navy legal and operational practices were observed at Otter Cliffs since he would be the only one there with long practical experience in Naval radio communications. Furthermore, Cole would be the only regular Navy man at the station—the rest would be Naval reservists (USNRF). He found the station nearly completed and all work



North German Lloyd luxury liner Kronprinzessin Cecille at anchor Bar Harbor, Maine, August 4 1914. Picture courtesy Bar Harbor Historical Society.

progressing satisfactorily. The station was formally commissioned on August 28, 1917 at twelve noon sharp. The Bar Harbor station was simultaneously closed and the operating staff transferred to Otter Cliffs along with the call sign AA2, soon changed to K2B and eventually to NBD.

"During the commissioning ceremonies, conducted by Cole, Ensign Alessandro Fabbri stood by as the happiest of spectators. He then took over as 'officer-in-charge' and Chief Cole became his Executive Officer. Cole, commensurate with his greater responsibilities and the vital importance of the Otter Cliffs assignment, was advanced to the rank of 'Gunner' on September 24, 1917."

The Bar Harbor Historical Society Museum has in its archives copies of the old periodical *Acadian* in which there appears in serial form almost all of Mr. Fabbri's official correspondence with Washington. Several of his letters reveal the exasperating and highly discouraging runaround he endured at the hands of Washington bureaucrats in his determined fight to secure a lowly ensign's commission. He won it only when his good friend Franklin Roosevelt effectively came to his aid.

Some of his other letters tell of the early happenings at Otter Cliffs. In the interest of brevity I have paraphrased one of them as follows:

"The first of the new receiving equipment has begun to arrive. One item which the Navy sent us has been nicknamed by one of our operators as the 'audion on a shingle.' The term was coined in praise and not in any derogatory sense because this vacuum tube, a de Forest audion, and its oscillatory circuitry has given us our first capability of undamped (CW) signal reception. The first station heard was the powerful arc transmitter of Radio POZ in Nauen, Germany. Thus, we are now in the 'arc' reception mode of operation. To demonstrate, we telephoned the Wireless Specialty Apparatus Company in Boston the other day and asked them to listen carefully. We then placed a Baldwin mica diaphragm earphone on the mouthpiece of the telephone. Company personnel reported they could hear the signals from POZ eight feet from their telephone receiver!"

Mr. Hovenden has made available to me some of Raymond Cole's old personal records from which the following is quoted:

"By early 1918 we were copying news and other broadcasts from POZ and message traffic from station IDO in Italy and YN in Lyons, France. This latter station was sending five-letter code messages to us daily on a 24-hour basis. Our 1 kw spark transmitter was installed and ready for operation, but quiet most of the time; until December 7th, 1917 when Otter Cliffs received an urgent telephone call from the Boston Navy Yard asking that we try to contact Halifax, Nova Scotia. They had a report that an explosion had occurred there. We had strict instructions to use only the 'lead backed' four letter code book always at our left side—

but, in this case, we were allowed to use the peace time Halifax call letters, VCS and to use plain English. This was because they didn't have our code. Boston had called VCS repeatedly and couldn't get an answer. We called once. They answered and said their antenna towers were almost demolished and they were using auxiliary power. They then told us there had been a terrific explosion in the harbor which had leveled a good part of the city. We reported this to the Boston Navy Yard who immediately dispatched the hospital ship *U.S.S. Colony* with doctors, nurses and medical supplies to Halifax. Later, in contacting a sailor who was on another nearby ship by letter, he reported that this move was undoubtedly of tremendous help to the people of Halifax."

We recall what happened. The French munitions ship *Mont Blanc*, laden with 2,300 tons of picric acid and 3,000 tons of TNT was rammed by another vessel and blew up, right in the harbor. Half the city was left in ruins. Over 2,000 lost their lives.

To further paraphrase Fabbri's letters to Washington, he reports: "Our trans-Atlantic traffic is increasing and our Washington wire is kept very busy. Our daily 100% reception of YN in France throughout the 24 hours continues. My operators are doing a magnificent job especially when considering we are a receive-only station. Coded messages are sent to us each word *once*. Hence, the radioman on duty must 'get it' the first time or else! There is no opportunity for him to break-in for fills or repeats."

To shore up Otter Cliffs' transmission capability "just in case," the Navy replaced the 1 kw spark transmitter with a 5 kw set.

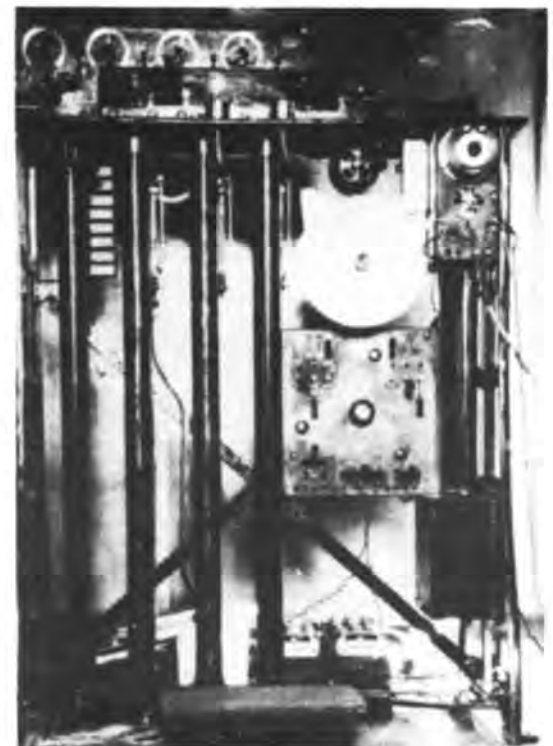
Fabbri had an older brother, Egisto. Not to be outdone by Alessandro he put up the money for construction of a tall lighthouse-shaped building to be located on the highest elevation of the Otter Cliffs peninsula. From the cupola of the structure one could enjoy a superb view of Frenchman Bay and the ocean beyond to the southeast. This lookout tower and a high barbwire fence around the station perimeter were Radio NBD's only security precautions against lurking enemy vessels and saboteurs.

In addition to information from Herbert Hovenden, Raymond Cole and Fabbri's letters, much herein was contributed by Frederick Grindle to whom I was referred by the curator of the Bar Harbor Historical Society Museum, Gladys O'Neil, as the gentleman who "knew all about" the old Otter Cliffs Naval Radio Station.

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The Bar Harbor Country Club building leased by Mr. Fabbri for use as NBD control and receiver station. Photo courtesy Carl Herr.



First Automatic Radio Signals Machine. Invention of Prof. Hoxie of General Electric Co., to record incoming signals graphically we tested at Otter Cliffs Naval Radio Station in 1928. Incoming signals were recorded as dots/dashes on tape and had to "read"—translated into type. Picture from Carl H. Herr.

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thru a tiny slit onto a moving sensitized paper tape. The tape was then run thru four long tubes; the developing tube, the fixer tube, the washer tube, the drying tube and then out. The tape was then read and translated by an operator from dots and dashes to numerals or letters on a typewriter. The operators were referred to as 'tape worms.' Although we made readable test tapes up to 900 WPM, we never actually recorded any incoming signals at over 45 to 50 WPM. You see, we had information that enemy submarines were transmitting their position and other reports at ultra high speeds—too fast for manual copy. But the U-boats we monitored were never able to attain any such speeds on their high power long wave transmitters, though if they ever did we were sure ready for 'em!"

She was right. I found Mr. Grindle at his home in Bar Harbor. He told me he had served under Lt. Fabbri from the station's inception in 1917 until the end of 1921. He said he began as a telegraph operator at Otter Cliffs. Soon after he was promoted to "wire chief," in charge of the land line terminal in downtown Bar Harbor. It seems that all message traffic received by radio at Otter Cliffs was telegraphed via the terminal to Washington, by Morse wire. The return traffic to Radio YN in France was transmitted by the high power, long wave Naval radio stations NAA in Arlington (VA) and NFF in New Brunswick (NJ). Radio YN of course was the message traffic terminal for the American Expeditionary Forces in France.

Fred Grindle had another important responsibility at NBD. He was placed in charge of the very first high speed radio recording machine. The device was invented by a Dr. Hoxie of the General Electric Company. It was designed to record signals up to 1,000 words per minute. In Fred's words, "The recorder required some skill in making adjustments to the speed of the sender, adding tape while in operation and generally knowing how to keep it running smoothly. It worked like this: The incoming signal actuated a tiny mirror which reflected a light beam



Barbwire security fence, Otter Cliffs. Note telegraph pole line at right and antenna towers in distance. Photo courtesy Carl Herr.

Again from Fabbri's letters: "Night before last we intercepted a message from one European station to another on 4,000 meters. The suffix was, 'Please transmit this message to President Wilson since we have no direct means of radio communication.' We copied the message solid and had it in Washington within five minutes!" About mid-1918 Fabbri adds: "Handling over 20,000 words a day from Radio YN. A good percentage is in cypher. We are told that no other U.S. station is receiving YN on a solid day-to-day, around the clock basis."

With all that heavy traffic in coded and cypher messages coming in from YN, one can well imagine NBD was the key link in the "hot line" between President Woodrow Wilson and John "Blackjack" Pershing, Commanding General of the AEF. By early 1918 jamming loomed up as a serious problem. Oddly enough, the person to solve it was Dr. E.F.W. Alexanderson, the same genius who invented a transmitter powerful enough to jam every long wave receiver on earth. His solution is described in a letter, dated August 26, 1964 from Dr. H.H. Beverage to Herbert Hovenden. Here is the letter (in part):

Dear Mr. Hovenden:

Herewith are some notes relative to my activities at Otter Cliffs during World War I. Following a year as a testman at the General Electric Company, I was employed by Dr. E.F.W. Alexanderson in his radio laboratory in Schenectady and assisted in developing the long wave system based on the Alexanderson 200 kw alternator. My specialty was the development of a receiving system for the long waves.

In 1917 there was concern that the Germans might cut all of the trans-Atlantic cables and jam reception of American radio stations in France, thereby cutting off all communications between Washington and the American Forces in France. The problem presented to Dr. Alexanderson was to devise a receiving system that could be located in France with the capability of balancing out any jamming of the American stations by radiation from Germany. In addition, it was desired that the system should have two nulls\* so that a transmitter could be erected somewhere in France to "barrage" jam the German receiving stations, without jamming our stations, thus preventing them from receiving the American radio signals. Hence the system was called the Barrage Receiver.

The Navy was greatly interested in both the anti-jamming and directional features of this antenna system and requested Dr. Alexanderson to have his Barrage Receiver installed at Otter Cliffs. I was the one to whom he assigned the job which as I recall went something like this:

During a rainy week at Otter Cliffs, I dragged rubber covered wires thru the woods and underbrush for two miles in opposite direc-

\*A null is a characteristic of certain type antennas whereby minimum, or no signals at all, are received from a predetermined direction.

According to Fred Grindle this is a true copy of the first German "surrender" message. Fred should know as he was there and has an original copy framed on the wall of his ham radio shack in Bar Harbor. It bears the endorsement, "Copied at Transatlantic Naval Radio Station, Otter Cliffs, Bar Harbor, Maine." He made a Xerox copy for me from which the above is transcribed. Incidentally, according to Fred, Germany had no alternate direct circuit routing for the message since the British Navy had cut all cables connecting the U.S. with Germany early in the War.

There is another rather ironic twist to this tale. It seems that German Telefunken interests built Radio WSL originally, at Sayville, Long Island (NY). About 1916 the station was taken over by the Navy. In 1918 a long wave 200 kw arc transmitter was installed and operated under the new call sign NDD. So, when the POZ operator called "WSL" with the first peace message that evening he was apparently unaware of this call sign change. His call book undoubtedly still listed the former Telefunken station as Radio WSL.

Mr. Grindle has another document framed on his wall. It is a citation addressed in large capital letters to FREDERICK GRINDLE. It spells out at great length all the many outstanding accomplishments of Radio NBD from August, 1917 thru December, 1923. It ends with the following:

"Such pioneering achievements were the result of hard work, exceptional skill, imagination, initiative and devotion to duty in keeping with the highest tradition of the Naval Service. Well done.

/s/ Rear Admiral Robert H. Weeks  
Commander  
Naval Communications Command  
Washington, DC."

On one of my recent visits with Fred Grindle at his home in Bar Harbor we talked a little about his old friend Ralph Tabbut. Fred told me, "You know, Ralph and I were neighbors here. We lived in the same block when I was a kid. That was around 1912. When the War came along he tried to get into the Navy but was turned down. They discovered some physical disability. Too bad. He was really a great operator. He taught me a lot about wireless too, but I didn't get into it right then. Instead, I got my start in life as a Western Union messenger boy. I remember delivering hundreds of messages to the bridge of the big German four-stacker *Cecilie* while she was anchored down here in the harbor. That was way back in August, 1914. She came in here early one morning to escape an English warship, and I believe a French warship too, that had been chasing her. Golly, that *Cecilie*! She was sure a beautiful ship. I was aboard her many times delivering all those telegrams. She stayed here about three months as I recall." Then I asked, "By the way Fred, who do you suppose was the Captain's Bar Harbor friend who decided him to put in here that morning?" He replied without a moment's hesitation, "Fabbri."

With all the sophisticated antennas installed at Otter Cliffs, including the "barrage receiver" Beverage and several 30' high by 90' long vertical loops, plus the efficient receivers which these antennas served, that 5 kw spark set was like the proverbial bull in a china closet. A spark transmitter of that magnitude, if operated in the midst of highly sensitive receivers, would completely jam any and all incoming signals, no matter how strong. Gunner Cole decided well before the Armistice they'd better do something about it. So, he selected an area at the southern end of the Island, between the ocean and a salt water swamp, at a place called Seawall, some six air miles southwest of Otter Cliffs. Here the Navy built a remote transmitter site.

The antenna was a 400' flat top supported by two 220' guyed, wooden lattice-work towers. The ground system consisted of a 20' square heavy copper wire grid extending some 225' beyond each tower. All wires were bonded and those on the southeast side extended into the ocean. A two story building was constructed to house the equipment which included a newly acquired arc transmitter, two motor generators and the 5 kw spark set. The transmitters were controlled from Otter Cliffs thru a submarine cable. Both the arc and spark transmitters were placed in full operation immediately after the Armistice. According to Gunner Cole, the range of each transmitter was "most remarkable."

After the Armistice, NBD's message traffic instead of slowing down accelerated rapidly. On January 25th, 1919, Gunner Cole was transferred to sea duty as Radio Material Officer on the big German vessel *Vaterland*, taken over by our Navy and renamed *Leviathan*. In one of his letters he wrote: "We called Otter Cliffs to make sure the 'regulars' were available. They were there, ready and standing by. We then sent 1080 messages in less than 24 hours. I batted out over 250 of them myself. On that one trip to New York the *Leviathan* carried 17,000 returning troops!"



Otter Cliff lookout tower. It became NBD Radio Compass Station after the war. Photo courtesy Carl Herr.



"Gunner" Raymond Cole. Became a full Commander at the end of WW-II when he retired from the USN. Cole was assigned by the Navy as Chief on the USS *Leviathan*-WSN when the Navy took over the ship from the Germans.

Again on March 31, 1919, Fabbri reported: "In two hours we have taken nearly 200 commercial messages from the *Leviathan* when she was 1,000 miles out of New York." He adds: "Most inbound ships clear their traffic through Otter Cliffs where reception is usually better than at other stations along the coast." By then, Fabbri had been promoted to a lieutenant in the U.S.N.R.F.

May 8 to 31, 1919, witnessed the first successful west-east trans-Atlantic airplane flight. It was made by U.S. Navy Lieut. Cmdr. Albert C. Read and crew from Rockaway, Long Island to Plymouth, England in the seaplane NC-4; flying time 52 hrs, 31 mins. On May 17th, according to Fabbri, Radio NBD was in continuous direct two-way communication with NC-4 cruising at 10,000' on the leg between Trepassey Bay, Newfoundland and Horta in the Azores, a distance of some 1,000 nautical miles. The aircraft was equipped with a 1/2 kw spark set. Radio operator aboard was Ensign Herbert Rodd. Mr. Roosevelt sent a congratulatory message to pilot Read and crew via Otter Cliffs. An acknowledgement was back in Washington in three minutes, according to Fabbri.

The latter part of June, 1919 found President Wilson enroute Europe on the U.S.S. *George Washington* to sign the peace treaty. According to Mr. Hovenden, Otter Cliffs, using the remoted arc and spark transmitters at Seawall, handled a large number of messages for the President and his staff. On his return voyage the President authorized the skipper of the *George Washington* to prepare a letter of commendation, the text of which is quoted as follows:

During the voyage of this vessel, carrying the President from Brest, France to Hoboken, New Jersey, a tremendous amount of message traffic was handled by Navy Radio, Bar Harbor, Maine. The operators on duty showed a perfect knowledge of regulations and their efficient operating was a great help in rapidly clearing the President's traffic.

/s/ Woodrow Wilson  
By: Direction

E. McCauley  
Rear Admiral USN

The letter was sent to Charles B. Ellsworth, Chief Radioman, NBD.

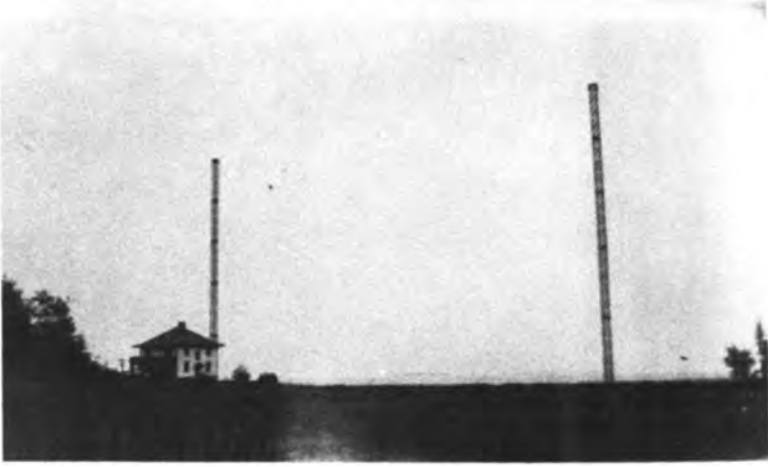
The chief radioman on the *George Washington* was said to be Fred Schnell who later became prominent as traffic manager for the American Radio Relay League. On May 28th, 1919, Fabbri wrote a letter to Lieut. Cmdr. A. Hoyt Taylor in Washington. At that time Commander Taylor was the Navy's Trans-Atlantic Communications Officer. The letter read: "Trans-Atlantic reception has been very satisfactory for the past many months. We have received as high as 28,000 words in one day—words *once*, without repeat. Our best record of traffic is 54,000 words in 48 hours, including 1,003 messages from ships, Government and commercial. As you know, Radio NSS at Annapolis with their new high power 500 kw arc installation is now our principal American transmitting station for European traffic." A few months later, according to Fabbri, the traffic totals had risen to several times that figure and the station had grown to a complement of 170/180 men, excluding officers.

Again we quote from Mr. Hovenden: "Otter Cliffs became the Navy's principal receiving station for trans-Atlantic messages. Ingenious systems of directional loop antennas, counterpoises and submarine ground wires were added; each serving a separate receiver installed in a separate building. Each receiver was for a specific European station—some transmitting on a definite schedule. Messages continued to be forwarded to Washington, New York and other addressees by land line telegraph."

Here is a confirming quote from a Navy Department historical publication of 1922: "After Otter Cliffs had been properly equipped and new circuits installed, the copy made at that station was so certain that the Belmar (NJ) receiving station was, in February, 1919, closed and returned to the Marconi Company. Combined with the advantages due to the geographical location of Bar Harbor, the station there was amply able to care for trans-Atlantic copy."

In sifting thru the voluminous amount of reference material for this narrative, I came across several conflicting reports on the power rating of Radio NBD's arc transmitter. So, to set my record straight, I called on Ted Hancock of Southwest Harbor, a village three miles north of Seawall. Mr. Hancock was a Navy radioman assigned to duty at the Seawall remote transmitter site from 1923 to 1925. He told me the arc was a 12 kw transmitter. To prove it, he picked up a pair of scissors and cut a *captioned* picture of the rig out of his old photograph album and graciously handed it to me with, "Here, you keep it." Of course I thanked him profusely and then asked Mr. Hancock what duties he remembered best about Seawall. He replied more or less as follows: "Well, I still recall several. One was to make sure the drip cup above the arc electrodes was kept filled with alcohol and that the drip rate was proper. That arc in order to generate low frequency radio

(Continued on Page 34)



NBD TRANSMITTER SITE at SEAWALL.  
Photograph courtesy - Carl Herr.



SEAWALL REMOTE TRANSMITTER SITE  
IN WINTER. Photo - Courtesy Ted Hancock



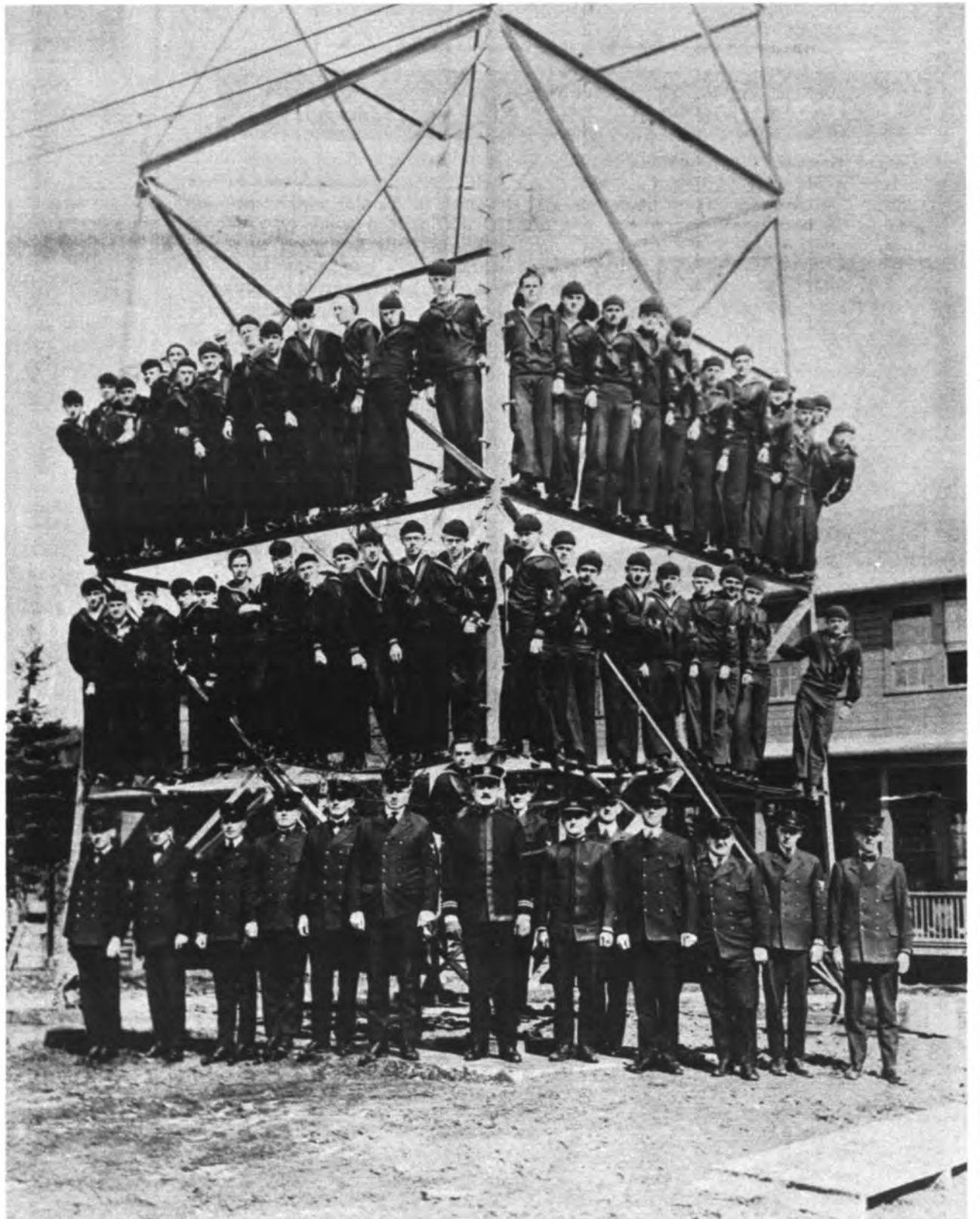
LIEUTENANT ALESSANDRO FABBRI  
- Photo, Courtesy Frederck Grindele



Photograph taken in 1978 by Marion Varney (K1SLJ). L/R: Brandy Wentworth, author of this article and Fred Grindele of NBD. [Fred was Navy CPO at NBD from the commissioning of station in Aug. 1917 until late 1921.



CPO Carl Herr at base of lookout tower, Otter Cliffs, 1919. Note he's out of uniform. He says it was his day off. Photo courtesy - Mr. Herr.



LIEUTENANT FABBRI WITH HIS OFFICERS AND CREW, OTTER CLIFFS, MARCH 27 1919.  
Photograph - Courtesy Herbert C. Hovenden

# NBD - Bar Harbor

waves had to burn within an airtight enclosure in an atmosphere of hydrogen. The arc made its own hydrogen from the alcohol dripping on it. It reminds me of the magazine advertisement which shows Jack Daniel's whiskey being charcoal mellowed, drop by drop. Same idea. Also, it was my job to switch the big antenna from the arc to the spark transmitter when ordered to do so by the control station at Otter Cliffs. Speaking of that spark set, every once in a while the clear, bell-like 500 cycle note would go sour because of a leaky mica gasket between two of the thirty or so quenched gap elements. Then I'd have to change them all to clear up the note. But what I'll never forget for the rest of my days is the standby power plant. It was an old diesel one-lunger with a flywheel as big as your house. To start her, I'd climb up and heat the firing pin red hot with my blowtorch. Then I'd jump down fast and turn on the compressed air—and away she went!"

Following the Armistice, the lookout tower near the brink of Otter Cliffs was converted to a Radio Compass station. Chief Carl Herr was the CPO in charge. Among many other "saves", Herr reports that his compass facility once helped prevent the British cruiser *Raleigh* from running head-on into Egg Rock—a small islet—when entering Frenchman Bay in dense fog. He states, "The *Raleigh* backed down—engines full astern—thus avoided going aground, by a timely bearing and warning from our compass station. The *Raleigh* sent a British major out to Otter Cliffs the next day to explain this happening and to thank us."

Chief Herr tells of another timely rescue: "On July 2nd, 1919, we intercepted an S O S from the British dirigible *R-34*. This was the first crossing of the Atlantic Ocean by an airship. She reported they were running low on fuel because of strong head winds and might not be able to reach their destination—Mineola, N.Y. One of the Navy's destroyers dispatched to her estimated position, confirmed by bearings from our radio compass, advised the airship to descend to a lower altitude where they would probably encounter less wind. They did this. Otter Cliffs then kept the airship advised of weather conditions on the remaining route until she reached her destination safely. The Commanding Officer of the dirigible was so grateful that he asked Otter Cliffs to handle all weather information during *R-34's* return flight to Scotland."

On Armistice Day, November 11, 1920, the President of the United States awarded Lieutenant Fabbri the coveted NAVY CROSS. The citation which accompanied this high award reads as follows:

For exceptionally meritorious service in a duty of great responsibility in the development of the radio receiving station at Otter Cliffs, Maine, and the small receiving station at Seawall. Under Lt. Fabbri's direction the station was developed from a small amateur experimental station until, at the end of the War, it was the most important and the most efficient station in the world.

For the President  
1st Josephus Daniels  
Secretary of the Navy

The Navy Cross itself, with its little blue and white ribbon is in the Bar Harbor Historical Society Museum together with the citation, a large portrait photograph of Fabbri, and his elegant "dress parade" Navy sword.

On January 23rd, 1921, Fabbri wrote the following letter to Alfred J. Ball, the radio operator on duty at Otter Cliffs who, on November 10, 1918, copied Germany's fourth and final peace message direct from Radio POZ:

In case you do not already know it, I'm sure you will be glad to learn that the station was awarded the Navy Cross for its services during the War. As Commanding Officer, I was the recipient of the decoration—but you and the others, on whom I chiefly relied, may well feel that you each own a share in this honor. I am enclosing a clipping from the Bar Harbor Times which shows you the citation.

This same clipping from the Bar Harbor Times goes on to report: "The decoration was received by Lieut. Fabbri at his home here. It was characteristic of the gentleman that, when some of his friends called to congratulate him, his comment was: 'I deserve but one two-hundredth part of the honor. The officers and men who served with me deserve as much of the credit as I do.'"

On February 6th, 1922, at the age of only 44, Fabbri crossed the bar for the last time. He died of pneumonia contracted on a hunting trip. He had resigned his Navy commission and was retired.

In 1935, except for the radio compass facility, all the Navy installations at Otter Cliffs and Seawall were razed. They had far outlived their usefulness. Through the intervention of John D. Rockefeller Jr., of nearby Seal Harbor, the radio compass, later known as a Radio Direction Finder (RDF) facility was moved across Frenchman Bay to Moose Island at the tip of Schoodic Peninsula in order that Otter Cliffs could become part of our National Park System. Rockefeller interests were also instrumental, fund-wise, in the building of a scenic road around the periphery of Otter Cliffs Point. Along this road, just across from where the old Otter Cliffs receiving station stood, the Bar Harbor townspeople got together and in 1939 erected a monument, a big boulder of the Island's red granite, with bronze plaque appropriately inscribed, as a memorial to *their* Lieut. Fabbri.



Radioman Adams at operating position NBD for the Alexanderson Banage Radio using recorder tape. Photo - [Carl Kerr ]



Seawall Remote Transmitter Site. Accirdubg ti "Hank" Grindle, that intrepid motorbike rider in the foreground is none other than Carl Herr !. Photo - [Fred Grindle ]

## Honoring "Brandy" Wentworth

Member Brandon Wentworth [393-SGP] has graciously given us permission to reprint his book ...*"The Fabulous Radio NBD"* which he published in 1984. The contents of our paper do not measure up to the quality stock used in his book, both in texture and print size. Our 6-point type may

be a bit difficult for some to read hence he has consented to furnish members wanting a copy the convenience of ordering direct. Sent your order direct to him... P.O. Box 862, Southwest Harbor, ME 04679. The price postpaid is \$4.50. Brandy's book records a very important period of history during the era WW-1. We feel history owes Brandy a big debt of gratitude for his dedicated effort.



← The Fabbri Memorial Monument



NBD. Operating position (R/Only) at Otter Cliffs. Despite the overhead wheel, this is NOT the NBD Radio Compass — according to Carl Herr. Radioman is unidentified. (Photo - Courtest Ted Hancock).



Radioman Herbert C. Hovenden on duty at Otter Cliffs 1917 - 1918. [Hovenden collection ]



NBD - Radioman Ted Hancock's "Pride & Joy" -- The Standby power plant at Seawall !



NBD RADIO COMPASS operating position. NOTE "new" R.F. amplifier which has just been "hay-wired" in, according to Carl - also pair of "Baldies" on the desk ! [ Photo - Carl Herr ]

## The Pilgrimage of a Pioneer to NBD

BY- HAROLD H. BEVERAGE

P.O. BOX BX  
Stony Brook, ny 11790  
May 14, 1984

Mr. Brandon Wentworth  
Beech Hill Publishing Co.  
Southwest Harbor, ME 04679

Dear Mr. Wentworth:

I was very pleased to receive a copy of your very interesting book "The Fabulous Radio NBD". It brought back recollections of exciting events and wonderful people, especially Alessandro Fabbri, one of the finest gentlemen that I ever met in my lifetime of 90 years! I still keep in touch with "Gunner" Raymond Cole and still correspond with him, especially at Christmas time.

In March, 1919, the General Electric Co. installed a radiophone on the USS George Washington for use by President Wilson to talk with Sec. of War Daniels in Washington. I installed and operated the receiver, and John\* installed and operated the transmitter. I made frequent test calls with the navy department in Washington, usually with a chap named Franklin Delano Roosevelt. On the first trip of the GW, we were anchored for a week or so in Brest Harbor waiting for the President. Since he was not ready, we returned to the US and made a second trip to Brest. While anchored in Brest Harbor, I saw most of the ships that were returning the troops to the U.S. This included the USS Mount Vernon, formerly the Kronprinzessin Cecilie as I recall it, and of course, the USS Leviathan with Radio Material Officer Gunner Cole in charge of the radio department. While the GW was anchored in Brest Harbor, the NC-4 "buzzed" us and we talked with them on our radiophone. I am sure that most of the traffic from these ships was handled by NBD.

On the second trip of the GW, with President Wilson aboard, we left Brest about July 1, 1919. On July 4th, in mid-ocean, we were informed that the President was to make an address to the troops on C-deck. NBD reported that our phone signals were coming in very strong, so we arranged to broadcast this historic address. We notified some 40 ships in mid-ocean to listen to the address. We placed the microphone on B deck at the spot where the President was expected to stand. At that time, President Wilson thought that he had saved the World for democracy and that there would never be a War between the great nations again. Accordingly, he would not talk to anyone other than God. One day, I was dashing around the deck to meet a schedule with New Brunswick, NFF and when I rounded a corner, I almost ran into the President. I apologized most sincerely, but the President paid not the slightest evidence that I even existed. Even Captain MacAuley and Admiral Grayson were not able to tell the President about our plans to broadcast his address, so instead of speaking from B Deck, he went down to C Deck, about 20 feet away from the microphone, so we were not able to modulate the transmitter, and the broadcast was a flop. Some wag wrote this up in a magazine article entitled "The Voice that Failed". After the President finished his address, we read it over the radiophone and received reports of good reception from as far away as Texas.

I was interested in your mention of the Hoxie Radio Recording Machine. At the General Electric Lab. in Schenectady, N.Y., I was associated with Mr. Hoxie by furnishing him with signals of various speeds and types for his use in the development of this interesting device. His recorder would operate at very High speeds, but actual speeds over the ionosphere were limited by the narrow bandwidth of the antennas at very low frequencies, and by multipath on the high frequencies, so the machine was not used extensively for recording radio signals. However, a modification of the idea resulted in the variable area optical sound channel for the moving pictures. This development led to the formation of the RCA Photophone Division. A similar optical sound channel was developed by the Bell Labs. using a variable density sound track. I understand that either scheme would work on the standard sound projectors. I have a Bell & Howard 16 MM projector which has optical sound and in addition has a strip for magnetic sound, very handy for home movies since it can be erased and recorded any number of times.

I have visited Seawall several times in recent years since my wife and I used to have our lunch at Annabelle Robbins restaurant. Now it has expanded into a large motel and dining room.

I have looked for the NBD site, but all I was able to find was a few concrete blocks for anchoring the guy lines. Maybe I did not look in the right place.

Thanks again for your fascinating story of NBD. It brings back memories of exciting times and interesting people.

Sincerely, (sig.) Harold H. Beverage

\* (Page or Payne, unable to make it out)



## THE HISTORIC KEY OF "NBD"



The clock showed "five bells" and an hour had gone,  
When they learned that at seven, Carnarvan came on.  
They gave a quick glance at the clock on the wall,  
And asked if I thought we could hear them at all.

We hastened up stairs where the outfit was laid,  
And I saw the receiver that Pickard had made.  
That one single audion looked very strange,  
But I found the receiver was in the right range.

Just before seven bells, and surprising to me,  
I suddenly heard the loud test of a "V".  
I sat there in silence, and I didn't speak;  
Carnarvan at Belmar, was always so weak.

I tilted the Baldwins just back of each ear,  
And I noticed that Fabbri and Cole could both hear.  
A space and a break signal followed I guess,  
When, clear as a bell, he sent "Carnarvan Press".

A "lid" could have copied a signal so strong,  
And I wrote it all down as he went along.  
This station at Belmar, I seem to recall,  
They seldom if ever could copy at all.

Both Fabbri and Cole showed an interest when,  
I told them five-thirty we covered "YN".  
I told them the schedules they wanted to know;  
"POZ" and "UA", and the op from "IDO".

I found that the signals were better by far,  
Than anything possible down at Belmar.  
But Taylor forbid us to touch any set,  
If the note drifted out, there was nothing to get.

Mr. Fabbri became quite excited I guess,  
And sent a report to our own DCS.  
But it wasn't so easy as all that my friend,  
We had other problems with which to contend.

We never suspected what Taylor would do,  
But we found out precisely before we were through.  
Between Daniels and Taylor, they both made a vow,  
By fair means or foul, to defeat us somehow.

We sent in the most of the copy by far,  
But Taylor insisted it came from Belmar.  
I'll never forget all the pains that they took,  
And resorted to every damn trick in the book.

And then Taylor played the best card that he could-  
Recommended the place be abandoned for good!  
I'll never forget how the boss looked at me!  
He stood there transfixed, just as mad as could be.

He stood there in silence and clinched his fists tighter,  
It was then that I learned that this man was a fighter.  
He told me to copy as much as I could,  
I told him he knew that I certainly would.  
He started for Washington that very night,  
Determined to put up a regular fight.  
He telephoned me, when a few days had gone,  
That they had agreed that the test should go on.

This was the crucial battle he won,  
And that was when Otter Cliffs really begun.  
If Taylor had won, you can take it from me,  
There never would be any call "NBD"!

Things happened fast. We were never aware,  
They promptly closed Chatham, kicked Taylor "up stair".  
Someone got wise what a mess it had been.  
From Chatham and Belmar we got some good men.

From all of this mess it was quite a relief.  
We could now go ahead, and I was made Chief.  
They built rooms for traffic, enlarged the mess hall,  
And remoted the spark over at Sea Wall.

They built two large barracks, and got some Marines.  
The shacks in the field had the Hoxie machines.  
Bill Woods and his crew kept the sets working right,  
And the "Spark" and "Arc" crews kept it up day and night.

How pleasant it is for us all to recall,  
Such men as Ralph Elliott, Dutton and Ball,  
And Scutter and Newmark, Frank Seiler and Bates,  
And the fights that we had with Marines at the gates.

And Chief McElaney, who dished out the chow,  
And Jimmy legs Grimes, whom we all recall now.  
O'Connor and Swanson, who led the Marines;  
The ship's cook, Mike Early, who cooked such good beans.

Al. Stevens and Maddocks, the Davis boys too,  
And Chisholm and Hovenden of the first crew.  
Jim East and Fred Meinholtz; yes, we knew them all,  
And the "Morse" men we had were right on the ball.

(Continued on Page 36)



(Continued from Page 35)

NBD

### The Historic Key of NBD

John Steele and Harper, and Bruce, so they say,  
Invented the Rhombic Antenna one day;  
And Proctor and Curtis, Pfieffer and Cole,  
The Warrants we had - and - Oh, Oh my soul!

Dear old Captain Tracy, in memory figures,  
Who first went to sea in the days of square riggers.  
Mr. Berry and Marshall, who ran the ship's store,  
And Kumpel the Yoeman, and so many more.

Jack Miller indeed was a musical cuss,  
Who got up the band just to entertain us.  
At all the church services he took his place,  
And played all the hymns with a sneak rolling base.

And Old Doctor Morrison, the two-stripe MD,  
The messcooks who permanently worked the KP,  
The old Denby trucks that went so damn slow;  
You were stuck in as little as one inch of snow.

You all must recall the old mascot airdale.  
We all called him "Mocca", he had a short tail.  
He certainly was a most seagoing dog,  
I can still see him trying to rescue a log!

There was Macintosh, Kenderick, Carrol and Morse,  
All there in the office to wait on the boss.  
With all this activity, anyone might,  
Imagine the letters that he had to write.

The thousands of messages handled on spark;  
The millions of words that we copied on arc.  
The total amount there is no way of knowing,  
But it took a big crew just to keep it all going.

Each watch had its chief for the eight-hour trick.  
The Morse men we had were the best you could pick.  
With work of this kind it also requires,  
To be relayed again over all the leased wires.

With all of this work and the hundreds of men,  
There never will be such a set-up again.  
Electronic progress reveals that it means,  
Instead of the men, it is done with machines.

By the end of the war we had grown to such size,  
The "big brass" in Washington all had become wise.  
They learned what a marvelous job had been done,  
And a whole lot was said to commend everyone.

We all were delighted when we heard the boss,  
Was honored by wearing the great Navy Cross.  
The President sent him a citation too,  
In full recognition of what we'd been through.

And so, on this day, just us few who remain,  
Have gathered, recalling those old days again.  
It's forty-five years since he passed on,\* and yet-  
As long as we live, we will never forget.

We all are aware many others of these,  
Are now in the ranks that we call "Silent Keys"  
How long we may live, there is no one can tell,  
But today, we must all say a final farewell.

POET LAUREATE OF N.B.D. Harold Castner  
CPO/Chief Radioman, NBD.

\*Note: Castner wrote this undated poem in 1967 on the 50th Anniversary of the commissioning of NBD (in 1917). Castner became a Silent Key in the 70's. - BW



## LONG ISLAND'S GRAVEYARD OF SHIPS

### Davy Jones Extracts Heavy Toll

By JERRY CASSIDY

ONE HUNDRED AND FIFTY years before President George Washington commissioned the building of the lighthouse on Montauk Point, the turbulent, rocky shoals there had claimed their first recorded vessel. Since then the hungry seas surrounding Long Island have devoured over 600 ships, with the area just south of Block Island being the most voracious.

Some say the winds of winter still whistle with the screams of the 131 passengers who went down with the Lexington, a steamer that sank off Eaton's Neck in 1840; others swear they have seen Spanish galleons, with sails awind, despite dead calm weather, bearing down on them, only to vanish.

The lore and legend of the seas are plentiful on Long Island, from the mysterious "Money Ship" that spewed up at least 60 gold coins onto Southampton's beach to the German Sub, the U853, which was sunk off Block Island with all crew members aboard, including the oldest, the captain, who was 23.

And it is this fascination with both history and the seas that leads divers to spend hours traveling to wrecks that they are able to spend only 15 minutes examining.

Although there are an estimated 600 wrecks surrounding the Island, only about 45 of them are divable. Some have joined their crews in being only skeletal remains; some are buried in the shifting sands of the ocean bottom and some are in waters too deep or too dangerous for diving.

But those that are divable are a source of continuing excitement. "I've been down on the Oregon, any number of times," said master diver Ed McClure. "No two dives, even on the same wreck, are the same."

Here is a list of the most dived upon wrecks in the waters south of the Island.

#### The Oregon

This 300-foot wooden Cunard Line ship was known as the Queen Mary of its day. It sank in 130 feet of water off Point Beach, Center Moriches at 3:45 p.m. on March 14, 1886, after a collision with a three-masted schooner. The schooner with its crew, sank forever unknown, while the Oregon stayed afloat long enough for its complement of 845 passengers and crew to be res-

cued by the steamship Fulda and a schooner, the Fannie A. Gorham. But at 1:30 p.m. the Oregon, nose first, sank in 60 feet of water, 13 miles offshore.

#### The U.S.S. San Diego

This World War I cruiser was the victim of German mines planted 20 miles off the beach at Point O'Woods, Fire Island. Fifty lives were lost in this disaster, and the San Diego has claimed at least two more divers since then. The ship went to the bottom in 110 feet of water, upside down. After this disaster, the Coast Guard cleared the waters of mines, with two of them finding their way to the beach at Westhampton.

#### U853 German Submarine

This was one of the tragedies of World War II, when, because of radio silence, the German sub did not know the war had ended. On May 5, 1945, the U853 sank a U.S. freighter, the Black Point. Within three hours, three U.S. ships, a destroyer, the Ericsson, and a Coast Guard frigate, the Moberly located the sub and sank it about ten miles southeast of Block Island.

#### The Larchmont

This side wheeler steamboat sank after a collision with the schooner Harry P. Knowlton in Long Island Sound on Feb. 12, 1907, a bitterly cold winter night. All 131 on board perished in the Sound, southwest of Block Island.

#### The Orundo

The Orundo was a barge torpedoed off the south shore of Jones Beach, about 30 miles out in 130 feet of water. One of the novelties of diving on the Orundo is that there are two steam locomotives on its deck.

#### The Iberia

This sea tug went down in 1890 four miles off Long Beach in 55 feet of water. It was carrying a cargo of whisky, illegally.

Some of the other favorites of divers are the USS Turner off Riis Park; the Stone Barge off Fire Island, the Black Rock off Sag Harbor; the Fran S., a tug off Atlantic Beach; the Pinta, off Belmore, N.J., and the Mohawk, a freighter, which went to the bottom off New Jersey in 75 feet of water after a collision in 1935.



(Maritime Museum photo)

The Oregon (above) a Cunard Line ship, sinks off Point Beach, Center Moriches, in 1886.



THANKS DON KNIGHT.  
KEN McINNES - G3FTE

## About 600 ships are resting at the bottom



Map locates various shipwrecks that have occurred off the coast of Long Island.