

Lee Wareham

Interviewed by Hilary Hilscher

June 24, 2000

Interviewer Note: The first portion of the interview with Lee, taped June 24, 2000, had numerous technical problems with tape skips and inaudible comments. After reviewing that tape, I asked Lee to repeat the significant stories and these are recorded in this second interview. The transcript starts here with Tape 2.

Tape 2, Side A

Hilary: The last time, we were talking about the 50s and what was going on out in the Aleutians. When you look back at that period, especially the one on Adak, what jumps out in your mind as some of the real stark memories?

Lee: Well, the thing about the time when I was on Adak, it was the last of the wireless days in the sense of conventional radio because Adak was connected with the continental United States by a single channel radio telephone high-frequency circuit that went into Seattle then tied into AT&T. And we had four channels of 60-word-per-minute teletype that went on one radio signal. And the primary method of transmission was a low-frequency, (LF) 172 kilohertz, link to Anchorage and we had diversity in the sense that we always transmitted the same information two different ways. We sent it on HF and that was between the lowest frequency we ever used – right around 3 megahertz – and the highest we ever used was just below 10 megahertz and that was with... we had (rhombic) Antennas and we ran two-and-a-half kilowatts that was frequency-shift keyed which Was multiplexed. But that was time-division multiplex – and at that time it took a six-foot rack of equipment to put – and I mean it had 100 some tubes because the guy that took care of it was really proud of the fact that this thing had more tubes than anything else.

And there was a guy who was the multiplex man. He was an AT&T employee who had been drafted and he took care of...it was called an ANFGC5, stood for Army, Navy and FG frequency generating component five. And shortly after I left there and in fact I was extended by a little over a month on Adak. I was 18 years old, I didn't want to be out there. It was fun to be out there for the adventure but the adventure was over and it was time to go and I had got extended a month which seemed to me like an eternity because I was losing summer. I left there...I was supposed to leave there in August and I left there the end of September. Being from Seattle, that meant that when I got home everybody was back in school so there was nobody around. College had started and everybody was gone and it was the beginning of the rainy season. But the reason I was delayed was the kind of equipment I was working on – all that HF stuff and the LF stuff – was being turned down because they were getting ready to build the Bluegrass portion of White

Alice, because they didn't (extend) down the (Aleutian) Chain, they didn't call it White Alice, officially that was Bluegrass. It was an extension of White Alice but it was...

Hilary: I'm certain it was connected in...

Lee: Yes, it connected in. But they started building all that stuff. Now the Navy had... see, I was in the Army. I was doing ACS and the Navy had a big transmitter site about half a mile from ours that cost millions of dollars and it had walk-in transmitters. 'Cause you know, the Navy has to communicate with their ships and there is nobody in the world better than the Navy at long distance communication, then and now. They had three 800-foot towers and a reinforced concrete building, a bunker-style building, and walk in transmitters and brand new super sex stuff and ... we were in World War II buildings; we had World War II transmitters. This was in 1958 so the war had been over for 13 years so they weren't that old, but our antennas were mounted on cedar poles. They were wire antennas on cedar poles. We were a dinosaur.

Hilary: Where did the cedar come from out there? Was it shipped?

Lee: They shipped it in. But the island, at that time, was covered with thousands of buildings. They hadn't torn any of the World War II stuff down and when we needed tiles we decided – “we”, the commander – decided that we were going to retile part of the transmitter building so we just went out and found a building that had the kind of tile that we wanted. And because those buildings had been unheated, freezing and thawing of the buildings had loosened the tile. So we just went in and it was very easy to get the tile up and the tile was okay. I mean, it had come up from the floor but it wasn't hurt. It was composition tile. It wasn't ceramic tile or in the sense that they had in Roman baths or anything like that. But if we needed lumber, we just went out and found a building and took what we wanted. There was a lot of stuff still around and when the big windstorms came... In fact, somewhere – I'll have to try and figure it out – I have a recording of AFRN (Air Force Radio Network) there in my personal tape collection there's a warning during one of these big storms to pull down the shades because we always had blackout curtains still in, to pull down the shades and stay clear of the windows because these old buildings were breaking up and debris was blowing around and after those big storms you'd find pieces of metal stuck in the side of the buildings and once in a while boards speared into things.

Hilary: How did you and the Navy interact? I mean, you guys were communications people and they had their communications people.

Lee: Their primary mission there was signals intelligence. They had at Clam Lagoon what was called a signals intercept station and that was all very highly classified. See, when I first got there, there were three Army units on the island. There was us: We had 10 or 11 people, and there was an ionospheric sounding unit. Back at that time, the Army had the

mission, at least in a lot of places, where they set up transmitters with antennas that fired vertically and their job was to bounce signals off the ionosphere with this special radar thing. And they measured the virtual height of the ionosphere for the various layers and all that went to... went into the National Bureau of Standards to a federal government agency called the Central Radio Propagation Laboratory. And this stuff was compiled from all over the world and converted into a propagation forecast. We used to get an ATF propagation forecast that was like a weather forecast for the next (day) and it used to be anywhere between... the best it could ever be was N9. N stood for normal and 9 was excellent propagation. It went N1 through 9, through I never saw an N9, but I saw an N7 well, I saw a "William1". They had N,U,W: U was unstable and it went 9 through 0 and then it had William and that was the old phonetic alphabet. Whiskey is what it became but when I first got in it was still William and it went 9 and that meant that there was an ionospheric storm in progress...

Hilary: And that's terrible?

Lee: And that's terrible. I mean, the reason we never saw... they had to send time and time again. They had to send that to us to get through to us. I think I saw William 1, so I remember.

Hilary: So almost the worst possible.

Lee: But that came in on the LF because, see, the 172 kilohertz signal– that was not ionospheric propagation. That was ground waves and, theoretically, that wasn't affected by ionospheric problems. That was why we used that frequency. And the transmitter we used was an old... it was called a Bunnell. In fact, there is a Bunnell at the University of Alaska and I think he's the one, he was in the School of Engineering, a radio engineer. I think he is probably the guy who designed that thing. *[Ed. Note: There is no connection between the UAF Charles Bunnell and the Bunnell radio equipment company.]*

And the other (one) we had (was) a Bunnell 10KW transmitter that operated on 172 kilohertz and then we had what was called a Press wireless, a PW 2 1/2. Press wireless, two and a half. That was 2 1/2 kilowatts output and that was a radio teletype transmitter.

Hilary: So that was the end of that era is what (you) were seeing?

Lee: Yeah. That stuff turned into museum pieces while I was there. And then there was also a Wilcox 96D 2-1/2 kilowatt transmitter that was used by the HF radio telephone between Adak and Seattle. And the Wilcox wasn't an air-to-ground. That was for communicating with airplanes and it had four, big, pull-out drawers that were about two feet wide and six feet tall and about four feet deep and each one was an individual frequency and you pulled them out and you set it up manually. You manually tuned these things and in order to tune them, you had to pull them out and you had defeat the interlocks and you had

4,000 volts at about an amp-and-a-half power supply. And they used to call the Wilcox “the man-killer” because a lot of guys got killed by those Wilcoxes because there were plenty of opportunities to get into the high voltage when you were in there tuning that thing because you were working it hot, with it pulled right out. Right out in the breeze there and you were in there working right close to the high voltage and periodically guys got killed.

Hilary: Did you connect at all with the Navy guys or were they just pretty separate?

Lee: Well, we used to go over there and borrow things from them once in a while. They never came to us to borrow anything, ‘cause, I mean, they never needed to borrow a stone ax or a spear or an animal skin. I mean, that was kind of the... we were always intimidated by them because they had Marine guards over there and, you know, nobody guarded our place. Although we were armed, we had rifles and stuff, but we never had any weapons – formally, any weapons at the site. We had guns that were locked in the commander’s safe. I had a .44 Magnum and .44 Magnums were brand new then. Smith & Wesson had come out with this magnificent .44 Magnum in 1956 and this was 1957. And on my way through Seattle on the way out there I had bought a .44 Magnum at Warshall’s Department Store...

Hilary: Sure, it’s still there.

Lee: ...In Seattle and that cost me – I was making \$99 a month as a PFC – and that pistol cost \$140. I didn’t have \$140 so I gave them a deposit and when I got it paid off, they shipped it up to me. And I had a .44 and one of the guys had a .357 and it was locked in Jasper’s – well, no. Warren K. West was the commander when I first got there and it was locked in the commander’s safe. Now, he was a Sergeant First Class. We didn’t rate a commissioned officer any more, but he was Warren K. West, Comma, Commander. And Warren changed the safe (combination) in accordance with Army regulations every month and he had a notepad on his desk that he wrote the combination of the safe on and kept it in a secret place.

Well, we’d take pencil and shade it in so we always had the combination of the safe. And when nobody was there, we’d get out the pistols and shoot! We could see for about half a mile from the hill there; we could see vehicles approaching. And we usually tried to shoot when there was some wind so it would mask the sound because the Navy transmitter was, oh, it was probably three-quarters of a mile away and maybe just a little more and it was kind of perched on a hill that was subsidiary to ours. We were farther up the mountain than they were so we kind of looked down on them in a physical sense.

And one day we were – Ken Litscher and I were – out shooting behind the transmitter site there and those big pistols made quite a bit of noise and there wasn’t much wind and here comes the Marine sentries– the MPs, because the Marines had MPs. And they came

up there and of course we had everything put away and we were just as innocent lambs when they got there. And this corporal and a PFC, they came up there, and I was still a PFC then so we were the same rank. And we got to talking and one thing led to another, and we had a bunch of pistol ammunition – among the unit’s weapons we had a couple of .45s and we had a bunch of .45 ammunition that was outdated that we supposedly had thrown away but we didn’t. We kept it and I mean with Warren’s, with the CO’s blessing, we were going to shoot it because it was good training.

So after a little parlay back and forth with the Marines and total denial on our part of hearing (anything), they said, “We heard heavy shooting coming from this direction.” We said, “We didn’t hear anything.” But anyway, one thing kind of led to another and, see, they had to account for all their ammunition. So we had sort of a shooting fest and we provided the ammunition for their .45s and they’d come up here and shoot with us. Whenever there were any investigations, they’d come up and shoot with us and find nothing. So that worked out pretty good.

Hilary: So there was your interaction with the Navy.

Lee: Well, that was with the Marines. Now, see, the Marines wore the same uniforms we did, except their pockets had an eagle, globe, and anchor on that them, and it said USMC and ours said US Army. Well, there was no Army facility there and our fatigues wore out. So we were wearing Marine uniforms and we just took the pocket off. I mean, we still had the flap and the button but no pocket because the pocket had the eagle, globe, and anchor. And you know, hell, I had big... I mean, my uniforms were just worn out and we were a little bit like the lost battalion in that regard.

Hilary: Then you came back to Seattle at that point. And then how did you come back to Alaska again?

Lee: Because White Alice was already operational on the mainland. People like me... see, I was a... I represented a vanished art. I was an HF radioman and all of that was gone and ACS was downsizing dramatically in certain MOSs – Military Occupational Specialties – (and we) were being shipped out just as quick as White Alice turned up. So I had a choice, quote-unquote, of where I wanted to go. Now I mean, everybody has a choice. I could have asked to be assigned to Heaven, you know, and they’d say they’d look at it but I wouldn’t have got an assignment there.

But one of the places that I had high probability of actually being sent was Fort Huachuca, Arizona, and I had been sitting on Adak for 13 months and we had three sunny days during the 13 months I was there and to me I’d never been in the desert but I was born in Montana you know in the Interior of the United States and I knew what good weather was like but I had never been in the desert. But at that time, in fact it still is, Fort Huachuca was in the Army Electronic Proving Grounds and the Cold War was going full

steam and there was some interesting stuff going on at Huachuca. So I asked to be assigned there. I got it and when I got down there, I got down there in October. I took a leave. I lived in Port Angeles then. When I got down there you know Fort Huachuca the flagpole, the base of the flagpole on main post is at 5,000 feet so it is high enough that it is cool, cooler. Like when it was 114 in Phoenix, it would be maybe 90 at Fort Huachuca and that's a beautiful place. I thought I was in paradise. I used to get up before everybody else and get dressed and go sit on the steps in front of the barracks that faced east and watch the sun come up and think, "Wah hoo. Look at that." It took me months to get over that, and that's a perfect time of the year cause it is warm in the daytime.

Hilary: And cold at night.

Lee: And cool at night and, bright and, you can see forever. And on Adak, you had about an 800-foot ceiling. And the thing about our transmitter at Adak was that it was just about at the cloud line and we were in the fog a lot of the time but a lot of the time the fog was just above the building and you could literally go get a rock and throw it up in the fog. I remember the first thing I thought when I landed here in Anchorage... I came in on a Reeve DC-4 and I was a day late because they came into Adak from Shemya on the way back. The airplane had already been down the chain and was coming back and there was oil all over one wing and they had an engine feathered. And they fiddled with that engine... I shouldn't say fiddled, because they were very professional, but there was a part or something that had failed, and they borrowed stuff from the Navy and they went to the machine shop and they modified this part 'cause it was something for a different engine. And I don't think it was anything unsafe about this because the guys were really good. And it took them about 24 hours and we were on one-hour standby. And I was so excited... hell, I couldn't sleep, I couldn't eat. All I could think of was getting out of there because at that age it seemed like I had been there for an interminable period of time and I had this terrible feeling that I was never going to get off of that island. I wanted off of there so bad and I had a lot of fun there. I did a lot of interesting things. I walked all over and explored and all that, but that was over.

So when I got here to Anchorage... we got here early in the morning and it was fairly normal weather for late September. It wasn't raining even though it was the rainy season. But I got off the airplane and the ceiling... I remember we landed at Elmendorf. Actually we landed, yeah, we landed at International because that was a Reeve airplane. It wasn't a military charter and the ACS guys picked me up. But when I got off of the airplane and looked, the clouds were about two-thirds of the way up the mountain and you would see. I mean, you could see 10, 15, 20 miles and I thought, boy, the sky sure is high around here. I remember clearly thinking that.

Hilary: Then you came back up here from Fort Huachuca?

Lee: Well, see, I went to Fort Huachuca and served out my time in the Army and I had decided that I was going to go and be an electrical engineer and I was taking correspondence courses when I was down there and sort of reactivating the porosity in my mind in terms of getting back in the swing of studying. And I got out of the Army on August 26 of 1959 and I went to Port Angeles. School didn't start then until about the middle of October. I don't know how it is at the University of Washington now but they started a lot later because of fishing season and something, I don't know. It was some archaic thing that had to do with lifestyles that no longer exist and it was kind of obsolete even then. But anyway, I worked in the woods for a while for about a month and I went there and I didn't have any money. I figured I better not try to work and go to school because I hadn't been in school for a while and I knew I was going to have an adjustment to make to start having my business being to learn things. And I was always a good student. I figured if I was going to be there, I would learn everything I could.

So I didn't have much money. Now I went and joined... there was a Reserve out there, an Army Reserve, and they met out at Sand Point. There happened to be a Signal (unit) out there. So I went and joined that because I found I couldn't just walk away from the Army. I felt like when I got out of the Army I wanted to get out. I had been in for three years and I was only 17 when I went in – almost 18. I'll never forget... I got out of the Army they finished processing me at ten o'clock in the morning. Now the way they set that up, you weren't actually out of the Army for... you weren't considered out until you got home so nobody could go around and smack their platoon sergeant or anything like that. You were still in the Army. I mean, if you wanted to hang around a few days you could – and I don't think that was the only reason but that is what we all thought.

I liked everybody at Fort Huachuca but I got out and had all my paperwork and put on my civilian clothes. I ate lunch there 'cause I was catching a bus to Bisbee to get on the train. No, I would have had to catch a bus but the guys were going to take me because my train... I went by train to Los Angeles (left about 11 o'clock at night). I had a sister there and I spent a couple of days in Los Angeles. And at that time the smog was so bad you couldn't see anything. I thought there were some mountains in the distance. It was a hill about a half-mile away. It was three days before I realized that this gray shape I could see was only a little hill. I thought it was mountains. But anyway, I got out at ten o'clock in the morning and I stuck around and I went and had early chow at noon and I just sat on the steps on the barracks and watched the noon formation. And then is when it hit me, "This isn't my outfit anymore."

Hilary: That's right.

Lee: I'll never again stay in formation with these guys and I felt like an orphan. I mean, I felt like a motherless child. I thought, "Gee, this isn't my outfit anymore."

Hilary: No wonder the signal outfit at Sand Point looked good.

Lee: Oh, yeah. So, plus one of the things about them, that was there were a lot of Boeing guys and they were all professional types and one of the things that the Army doctrine entailed at that time was everybody is a soldier first. You're a soldier and then you're an HF radio guy or whatever the job was. And as part of the training, we used to go down to Fort Lewis and shoot. And Signal units used to have .50 caliber machine guns as part of their ordinary stuff and that was my favorite weapon of all time, of all the stuff that I shot. I was in heavy weapons company in antiaircraft and some other stuff so I got to shoot some pretty big stuff. But that ground-mounted .50 caliber machine gun was... and everybody that used them loved them if they had a soul. And these guys didn't want to shoot. So I'd go down and I'd spend the whole day. I'd shoot for Joe and I'd shoot for Sam and I'd shoot for Pete and I loved that big gun, and I was good with it.

Hilary: You know, I think that's what the guys at the picnic in Seattle said: that they made lousy soldiers but they made great communications people.

Lee: ACS... see, we had, among other things, we were the only unit in the Army that was authorized to wear low-quarter shoes with their fatigues. So everybody else wore black boots, you know that was the Army uniform, combat boots, blouse tucked in the tops of your boots. And we ran around in low-quarter shoes like we were on sick call. Now I wore boots. I mean, you didn't have to. You were kind of looked down on, I mean, you were a little bit suspect if you wore boots, but I did a lot of outdoor stuff so I didn't run around looking like I just got up. You know that was considered to be...

Hilary: Now, how did you get back up here with them?

Lee: Well, after I got out of the Army I went to the University of Washington for a year and I had a problem. I mean, there was a wonderful intellectual atmosphere. I loved that, good professors. It was an outstanding school, but after being in the Army and never knowing for sure what was going to happen when you wake up in the morning, you know...

Hilary: That's right.

Lee: It was boring. But I was in the Reserve outfit so if something big happened I knew I got to go but I wouldn't go in the first wave and it was obvious that we would have to, you know, God help the military if they deployed us without training and additional equipment and it would be months before we really were functional.

End of Tape 2, Side A

Tape 2, Side B

Lee: They had an ad in the paper and one of the seniors... see, I was the age of the seniors, and one of them came and told me, he said, "RCA is in town hiring for something called the DEW Line." I'm sorry, RCA was BMEWS (Ballistic Missile Early Warning System). Federal Electric had the DEW Line. "And I don't know what that is but I'm going to go down and find out." It had something to do with missiles and you know missiles were something that was very interesting to everybody. And so I went down there and I spent – it was on a Sunday – and I spent hours down there taking tests of various kinds, technical tests and psychological tests, and they gave you the same psychological tests that they gave the guys that were serving on submarines.

Hilary: Because of the isolation.

Lee: The isolation and some of it was strange questions and you know a lot of the questions had no answer. Would you rather knit a doily, sing a song, or read a book? Hell, I'd read a book obviously. So I did all that and did technical stuff and at the end of the period they had questions about radar and telemetry and that sort of thing. There were all these different sections in this test. And they told me that I had scored very well in sections that were things that they were interested in but not for this project. They wanted telemetry guys and heavy radar guys because the nature of way BMEWS was set up and that they would keep me in their active file. I said fine and I went back to school.

When school got out, I was working in the woods out in the rainforest in the Hoh River country, out the other side of Forks (Washington) and in August, no it was in July, it was about the middle of July one of the truck drivers brought me a telegram. Now I don't know where the hell he got the telegram but see we were staying in a logging camp and we used to go to town on weekends and one of the drivers looked me up and he had to come out. They sent somebody out because there I was falling and bucking. I was out in front of everybody else and he brought me this telegram from RCA and they said that RCA has been awarded a contract for the White Alice system. Well, I only vaguely knew what the White Alice system was and they offered me a job as a Site Representative B at \$90 a week. Now that was two-and-a-half, two-and-a-quarter, \$2.25 an hour, but it was a 54-hour work-week and room and board was furnished. Now that was a lot of money at that time. I was getting paid pretty well in the woods but this was Cold War high technology, super sexy.

This was serious stuff. I mean, this was a chance to have a little excitement in the area, plus coming to Alaska because I had never seen Alaska except for Anchorage and the Aleutian islands. I wanted to come up here since I was a tiny little kid, since I first became aware, and I always felt a little bit short changed that all I saw was the Aleutian Islands.

Hilary: Let me take a short quick break here. [Tape off.]

Lee: Anyway I got this telegram and it said that if you are interested call so and so in Cherry Hill, New Jersey. Well, you know, that wasn't... I had been stationed in Fort Monmouth, that's where I went to the Signal School so New Jersey was part of the known universe as far as I was concerned and, in fact, one of the reasons that they were in New Jersey was that's part of the defense area in terms of military. That was a fairly heavily militarized area.

So I got a vehicle and got some time off and drove into Forks, and I called this guy from a phone booth there in Forks. I identified myself and I told him, said, "I want to go." He said, "You do?" I said, "Yeah." He said, "Are you serious?" And I said, "Yeah, I'm serious." He said, "You're really going to go?" I said, "Come on man, do you want me to go or not? What – are you trying to hire me or are you trying to run me off?" He said, "Well, it is just that nobody wants to go." Well, for him, you know, to go to Alaska... and it would be one thing to go to Anchorage or to Fairbanks, but this is a remote site.

The thing that made it interesting to me, there were 13 White Alice sites then and they were sprinkled around in really colorful places and tough places – and none of them were in the Aleutian Islands. Well, that stuff hadn't been turned up yet and the ones that had, some of them had, but they were manned by the Air Force so there was no way I was going to get back down to the Aleutian Islands. So I was supposed to come up here on August 1st, I was supposed to show up. And he asked me, "Do you want me to send you an airplane ticket?" And all that sort of stuff. I said, "Well, I don't know how you would do that, and if you have procedures to reimburse me when I get up there, why, I'll just show up." And he said okay. It turned out that this was a start-up operation up here, and it took a long time to get my money, which was okay, but I wasn't exactly flush. I wasn't broke but...

So I showed up here and I was supposed to show up at the Westward Hotel, yeah. I was supposed to show up at the Westward Hotel and meet so and so. So I showed up there and they said, "Well, they checked out this morning. They're gone." And I said, "Well, where did they go?" He said, "Well, I'm not sure where they went but I heard them talking about Monty's Department Store," They had a temporary office at Monty's but they were living at the Westward.

They first had a temporary office at the Westward and then they moved upstairs over Monty's Department Store and it was just one big room. They had one desk and 17 folding chairs up there and they had a receptionist named Dorothy. Bud McCormick and Jim Williams were there and Jim Williams was the instructor and Bud McCormick was the supervisor and they had a personnel guy who came, whose name I can't remember, who was there. And I was the employee. But other people were showing up.

We had a meeting and talked about business expense reports and so on and they had made arrangements for us to live at the Martin Arms. We had to pay our own room and

board but we didn't know our way around Anchorage. I had been here for a few days for a MATS, Military Air Transport System Flight. I didn't really... I was living out at Fort Rich (Richardson). The school was in a house that was about a five-minute walk. It was down the hill toward the railroad depot from the Martin Arms. It was on the side of the hill there at some private residence, a big house that they had leased and set up as a classroom. And we went to school for six weeks before we went to the sites.

Hilary: And where did you go after six weeks?

Lee: Well, that was another deal. We had choices. I always did well in schools like that. I was top of the class, so I could go about where I wanted. But I wanted to go to the toughest place they had, but I didn't really want to be around the water. The hell with the water 'cause water means clouds to me, and I had had enough of that. So there really two places that I was interested in. Once was Cape Lisburne, but that was on the ocean. So I thought, well... but the one that was really intriguing to me was Indian Mountain because it was the highest site and it was almost on the Arctic Circle and it was clear the hell and gone away from the water. There was no water around there so I figured "minimum clouds." And I wanted a continental weather with cold and wind and snow and clear and (so I could) see the Northern Lights and see the skies and all that stuff.

So I went to Indian Mountain and I got up there... well, we shipped out on September the 15th. No, we must have shipped out later than that because... We shipped out September 22nd and we flew from Anchorage to Fairbanks. We were supposed to catch an F-27, which was a hot new machine then. It was turbo-prop. It wasn't a "recip" and we were supposed to fly to Hughes, and then by (Cessna) 180 from Hughes to Indian Mountain. But it was freeze-up and the weather was bad.

Now just before we left Anchorage, we were assembled and given a pep talk and told how we were contributing to the national defense and all that sort of stuff, and keeping the Ruskies at bay, and we were asked if we wanted a cash advance. Well, there was no payroll system functioning up here and we weren't getting paid. What we did is every other week, I then... we drew \$100. We got a hundred-dollar cash advance. Now we all had money coming and I don't know why they were being so penurious about this deal, but you would have thought we could have drawn a cash advance that was equal to what we had coming. But they didn't... but this is RCA and they were getting the use of the money, I guess, and the finance guy had figured that out. But we were asked if we wanted a cash advance and everybody raised their hands – and we got a \$15 cash advance. I'll never forget it – a fifteen-dollar cash advance! Now even in 1960, that wasn't a hell of a lot of money in Alaska 'cause things were a lot more expensive here. There was a fifty percent cost of living (difference) between here, you know, and Seattle – between Seattle and Anchorage, for example.

Hilary: This gave you insight into RCA early on?

Lee: Oh, yeah, but I was naive and, you know, I didn't view that in strategic terms. I just said, "Well, this is interesting." But anyway, we headed out and we got to Fairbanks and I was with a guy by the name of Vernon Gaylor, Bud Gaylor. He was from Texas and he was an Air Force radar guy, had been. And all of us had just got out of the Army, out of the Army or out of the Navy. We had one Coast Guard guy and we had one guy (Jim Spencer) who had been in the Navy in World War II and who had been on these government contracts, basically since the end of the war. Well, he was kind of the elder statesman of the group because he was, well, he must have been in his late 30's; everybody else was 21, 22. You know, I was one of the youngest ones and I was 21 and most of the guys were 24 down to about 21. Everybody... hell, if they'd hollered, "Attention!" We'd have stood at attention. "Right face!" and we'd have right-faced. I mean, everybody had short hair.

And anyway, Gaylor and I were in Fairbanks and we were caught by the weather. It was low overcast and snowing. And we were stuck there for five days and we ran out of money. And there was no... we thought about calling Anchorage but, Jesus, calling Anchorage was a big deal. I mean, what could they do for us anyway? Nothing, at least in our minds. Now even then they could have made arrangements for us to go down to the bank and pick up some money or something, but we pretty well figured we were on our own.

So we got down to where we ate once a day and we had one beer a day. We had a hamburger and a beer a day. I mean, we were wondering what would happen if it was time for us to go and we couldn't pay our hotel bill, because every day we would figure it out. Well, we got \$17 left and all this stuff. And we were staying at the Nordale Hotel and, God, it was hot. It was so hot and the windows wouldn't open, of course. Hot in the hotel, not hot outside. And it snowed and snowed and snowed but it was melting as fast as it was falling. In the morning when you'd get up there would be maybe half or three-quarters of an inch of snow and it would snow all day but it was right at freezing and it didn't accumulate much, and then finally they... We were checking with Wien, and Wien had our telephone number. I mean, it was kind of a family kind of deal. They'd round up the kids when the airplane was ready to go and finally we were out at the airport and got on the F-27 and went to Hughes. And Sam White, who was a very famous bush pilot, flew us over to Indian Mountain in his 180.

Hilary: What kind of communications would they have had then in the airplanes? Were they pretty –

Lee: HF. They had 3411 kHz HF and I don't remember...

Hilary: Wien was communicating...

Lee: Wien talked among themselves on 2945 kHz, and everybody was talking. Everybody had a good-sized HF. They had 100-watt Northern Radios and they talked on 2945. That was Wien's frequency. That was their private frequency and we had HF stuff, and wherever I was for the next 10 years, I always had a radio on 2945 because that was the "what's happening" frequency. I mean, you knew who was dead and you know who was sick. I mean, you knew everything.

Hilary: You had your own "Tundra Topics".

Lee: Yeah. We need... Wien, (the village of) Ruby, and all that kind of stuff, and Bettles and all those places. Wien and Northern Consolidated were, you know, we were kind of in the middle at Tanana... after Indian Mountain, I went to Tanana, to Bear Creek and that was kind of the frontier between Northern Consolidated and Wien because we used to get Northern Consolidated flights there at Tanana as well as Wien. And NCL had sort of to the south of us, McGrath and places like that, and Wien had more of the north. But that was how you knew what was going on.

At Indian Mountain, the thing that was impressive to me was we were at the top of the mountain, the vertical azimuth benchmark there was at 4237 feet, was the nearest they could reckon it, and that's the highest mountain for miles around so it has radar on the top. We were there because it was. It had a good radio horizon and we had an FPS6 and FPS20 radar up there and I couldn't use my tape recorder because the tape recorder was always going (noise – zip, zip, zip) from the radar, and I'm sure all of us were exposed to radiation way above anyone's, any limits. We weren't in the major lobe. The radar was above us, my bedroom – because we just had little two-man rooms about 100 feet from the base of a FPS6 tower and that tower stuck up probably – the actual antenna was probably 50 feet above us – and those are short, cutoff antennas, but even at that I'm sure we exceeded the standards because those were five or six megawatt, five or six million watt pulses. So you couldn't use your tape recorder. See, that was why the White Alice site was a quarter of a mile down over the hill, to get down out of that intense (power field) because of the radio interference. We would have obstructed the radio horizon, too.

Hilary: Then how long altogether were you with White Alice, with RCA?

Lee: From August the 1st of 1960 and I left... I actually left in August of 1969, so for nine years. And at the end of 1969, RCA – we – lost the White Alice contract and I liked RCA. I was proud of RCA and I considered myself an RCA man and you know that was the culture there. You had a company and you were good to the company and the company was good to you. And that was a covenant between employer and employee, a bi-directional covenant, and they took care of you. And you knew that if you worked hard and were good at what you did, you'd be promoted and the company would take care of you.

And RCA was very good for that. When they lost that contract, they had... just got a deal to build earth stations, satellite communication station on Guam, and in '69 that was like – that was absolutely – I was going from some pretty hot stuff to something that was white hot and they wanted five people. There were 185 technicians and they wanted five and I was the first one they called and I went to Guam and I wanted to know who was going.

They said we want you to help us with that. We want Roland O'Shea to go and nobody here knows Roland that well. We know you do. Because, see, in 1969 in the spring, no actually, no, it was in '69 I was sent on an emergency maintenance mission down the Aleutian Chain, and I spent 34 days down there and Roland O'Shea and I and an Air Force Captain and Senior Master Sergeant and a GS-11 went down there and put the Air Force tropospheric scatter sites back on the air because you couldn't call from Anchorage to Adak to Shemya because those six sites were in such poor shape that they needed some experts to put them back together. So we went down there and we worked 12, 16, 18 hours a day putting those sites back together and we hit all of them.

Hilary: That must have been such a hard time for you guys.

Lee: It was but, you know... we got tired. By the time we got back to Anchorage after 34 days, we could barely crawl off the airplane 'cause we were exhausted. Because you would get into these places... we were flying with Reeve down there and you'd have three days or you'd have six days and there wasn't six days worth of work. And I'll go anywhere if I have work to do because time flies. It's not an issue. But we didn't and I'm not being critical, because they didn't have anything else to do, but the non-RCA guys picked up glass balls on the beach and took pictures and did all kinds of stuff cause they were there mostly to run interference for us to keep... to see to it that we were allowed to work unfettered. And it was a matter of honor, too, that we'd get in there and get everything fixed. And at some future time, if you want to, I'll give you some ideas about some of the stuff we found down there. Mostly it was – I'll give it to you in a general sense – it was neglect rather than abuse and if I have to go in behind somebody and clean things up I'd rather have guys that just stood back and left it alone because they were afraid of it, which was pretty much the case.

Hilary: And this would have been the Air Force?

Lee: The Air Force guys because they were just out of tech school, with one exception. There was one exception. We went to site after site and these things were disasters, but it was relatively easy to repair because it was neglect. And we had hundreds of pounds of tubes and test equipment and it was almost like an expeditionary force. We had everything you could imagine. I mean, some things we had to fabricate but it was stuff we knew how to do because we had been working on this stuff for nine years, okay? So it was, you know, it was old friends and we knew how it acted with sore feet and we knew what it did when

it had a headache and all that stuff. Now they had some stuff that we didn't have and we very quickly picked that up. But we had all the stuff and we were able to go into those places and put them together.

Now we got to Port Moller, and it was almost as if we got caught up in a time-warp because where these other sites were completely nonfunctional and there were some things that were almost ludicrous that they had done, which showed (us) that they just didn't understand. And these are good people that are trying, but they didn't want to mess anything up. If you didn't know what you were doing and you went in and did something and put the site off the air then you're in trouble. But if it doesn't work, then you know it just doesn't work, and we don't seem to know how to fix it.

But we got to Port Moller (that) had an ex-Wehrmacht first sergeant, a German, a signals guy from World War II, German Army, as a first sergeant and an electrical engineer for the commanding officer and that site was as good as any of our sites. I mean, those were colleagues and we had a professional relationship with them. You know, we went in and looked at this and looked at that, and made some suggestions and the whole atmosphere there... the food was good. The morale was good. The station worked. And one of the things they had there that was, I think, terrible psychology (at the other sites.) The culture was that when in these AC&W (Aircraft Control and Warning) sites... well, they didn't call them AC&W sites. I forget what they called them. It was AC&W up here but in these Chain sites... anyway, I forget what the Air Force formal designation (was) for those units.

They had in the club... there was a club there where everybody went and got soused. It was the social center of the place. There was a triangular bulletin board deal and when you came to the unit, you got put in the lower right-hand corner... there was a picture of you, you went in the lower right-hand corner and there were it seems to me like there was about 40 guys at their site and you were number 40. And then you were number 39, 38, 37 and you marched across until you got to be number one and that meant you were the next man to rotate. So that meant that every time you went into the club to have a beer or do anything you were reminded of your status in durance vile. Now, I wouldn't have allowed that if I was the commanding officer but there was no subtlety I mean, human factors wasn't a big issue out there. So they, you know, everybody was sniveling except at Port Moller. You know: "We can't get this" and "This is so hard..." And you know I had some insight into that because I had spent 13 months (out there).

Hilary: You knew.

Lee: I knew and we never sniveled like that. We were always busy doing things and these guys wouldn't go outside for months at a time.

Hilary: Probably cabin fever.

Lee: And all kinds of stuff. But anyway, the result of that trip down the Aleutians was now, O'Shea and I, we had been identified as kind of troubleshooters anyway, and when they wanted to do an engineering modification, I think they went from... we used to have rectifier tubes and these are great, big tubes that take alternating current and convert it to DC, so you can run it in power amplifiers and other things and in the 10KW tropospheric scatter amplifiers there was a 17,500-volt power supply and we used to have 12, (2-240) two dash 240 rectifiers. There was two in parallel. It was a full wave bridge so there was six of them but there were two in parallel for each of the six so that meant there were 12 tubes. And these damn things were always arcing over and it would knock the amplifier out and it was a weak link. So they decided they would go to the next size bigger tubes and that was called a two-dash-400 (2-400).

I did engineering work on that. I did the prototype and the tests and all that stuff on that. We did it at Bear Creek but it was mostly me. And that worked pretty good but we still had problems with them and then solid-state rectifiers were coming along and they decided that they would try eliminating those tubes altogether. So I did that for them – and I like to do stuff like that. And they typically did that at a couple of sites. O'Shea was the other one. And then after the Aleutian Chain, why, our bona fides were solid. So they asked me if I would call O'Shea. And I hadn't made up my mind if I was going to go yet or not, because I knew where Guam was. But I knew I was going to leave Tanana, but I didn't want to leave Alaska. I had a contract here. I wanted to stay with RCA. RCA didn't have anything in Alaska, but one thing we had done is we had got ACS (Alaska Communication System).

Hilary: I was just going to say that was certain? Permanent?

Lee: Well, it was a fait accompli but it hadn't been formalized, the signatures weren't there. But I was sophisticated enough by then that I didn't believe anything that had to do with the government until the signatures... until it closed. I knew what "closing" was and it hadn't closed. We had been awarded but "there's many a slip twixt the cup and the lip", so what I thought I was doing was filling a gap, because they had asked me if I wanted to be part of the transition team and that involves counting the needles and pins. I mean, monkey business. And I don't think so. I don't think so. So the Guam deal was for two years and then I'd come back up here, and they figured we would be up and running with ACS. We didn't know it was going to be called Alascom. We figured we'd be up and running. So I called O'Shea and he said, "Yeah, I want to go." I said, "Roland, you don't even know where it is." "I don't care. I want to go."

Hilary: So you did too?

Lee: I did. I told him, you know... and Roland has always been kind of indecisive. I said, "Roland, you're wishy-washy and indecisive and you're sitting here telling me you're going to go."

End of Tape 2, Side B