

Nevada Test Site Oral History Project
University of Nevada, Las Vegas

Interview with
Ernest Williams

October 27, 2004
Las Vegas, Nevada

Interview Conducted By
Joan Leavitt

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[00:00:00] Begin Track 2, Disc 1.

Joan Leavitt: *OK, you said you would like to add a few more details about Enewetak.*

Ernest Williams: Yes. Enewetak, as most of us realize, it's 2,500 miles west of Honolulu [Hawaii]. It's in the [Republic of the] Marshall Islands. And the thing that I would like to explain is that from the time we left Hickam Air Force Base [Hawaii] to get out to Enewetak, we were flying on C-124s, or else a C-97, and that was a twelve-hour flight non-stop. And so it was a long grind during the day. You listened to all those propellers on the airplanes grinding away for twelve hours, and we always had a box lunch with us, and we didn't have the conveniences that we have today of the jet age.

And so finally we would get to Enewetak some twelve hours [later]. We'd usually leave Hickam Air Force Base about five or six in the morning and we'd get to Enewetak—you got to remember, we're going over the International Date Line now, so we're changing days. But we finally arrive at Fred, which is the military island within Enewetak. There are two separate islands. Fred is the nickname that we used for the military island, also where the airstrip is, and that's where we would land. And once we get off of there and get our personal effects, we'll be hauled down to the dock – which is probably in the vicinity of three-fourths of a mile – and we'll get on a M-boat or else we'll get on the *African Queen*. In most cases, it was the *African Queen*. The *African Queen* is a small vessel that would go between Elmer and Fred, and they're about three miles apart. And it's basically a personnel boat to shuffle people from one island to the other as needed. And so we get on the *African Queen*, which runs every hour from five a.m. in the morning until ten o'clock at night, and we're going between Fred and Elmer. Elmer is the

island where all the civilians are living, and Fred is basically where all the military people live. They're two separate, distinct islands.

And these are all Enewetak?

They're all within the Enewetak chain. And of course at Fred, [if] my memory serves me, there's probably between eight hundred and a thousand people, military people, living at Fred. And when you get over to Elmer, which is where the Atomic Energy Commission [AEC] and its contractors and its laboratories and its various other federal agencies that are supporting the AEC, that's where we all live.

My memory serves me that we have somewhere in the vicinity of about 2,500 to 3,000 beds available for people to sleep in. You must remember, at Enewetak we only had about twenty-five or twenty-nine, and my memory's just not good enough, I want to say it's more like twenty-five permanent buildings for us to sleep in. These buildings are basically like a Butler building. They're made of metal. There's nothing fancy. There are semi-partitions up to about five-and-a-half, six feet, and then it's all open space above. They are individual rooms, and then there's a long hallway, and then at the end of the building there will be a small day room. But that's twenty-five and there's, if my memory serves me, probably no more than fifteen or twenty people could live in one of these dormitories. I'll call it a dormitory.

And then the rest of us are living in tents. And I got to tell you, we have Tent City which is probably in the vicinity of 2,500 to 2,800 people are living in tents. The tents do have a wooden framed structure and a wooden floor into them.

And how long would you live in tents?

For the construction people, there was a lot of construction people lived eighteen months there. They agreed to come and work for eighteen months. They lived eighteen months in a tent.

The tent did have two different roofs on top. We had the regular tent on it and then on top of that we had another canvas cover to put on top of the tent, which would then help keep the heat from coming down into the tent so bad. You got to remember, the temperatures at Enewetak [00:05:00] are 72 to 78 degrees.

All year round?

All year round. We get about 144 inches of rain a year – so that’s an average of twelve inches a month – and so it’s very humid. First thing I’d like to point out is all of the lockers that you put your clothes in – whether you’re in a tent or whether you’re in one of the what I will call now a dormitory – the locker is probably about two feet wide and six feet high and oh, I don’t know, two-and-a-half feet deep. And there is a 100-watt light bulb in the very bottom, and that keeps enough heat into the locker so that your clothes will not get musty.

That would be a problem. The smell.

Oh yes. It’s really a problem. I will tell you that in the dormitories and of course we had only one restroom and bathroom in the dormitories. There was a community bathroom. Probably within every twenty tents, then there would be another community bathroom, but it was also made of a tent. And that’s where you could go take your shower and, you know, and clean up.

And the thing you have to remember is that we have a distillation plant on the island, and so we have to make all of our fresh water. And so part of the—there are two different systems on the island for water. There’s one that is what I would more or less refer to as a brackish water. It’s a combination of salt water and fresh water mixed together which you took a shower with. The fresh water for drinking and brushing your teeth and everything was on the faucets at the sink. So there’s two different systems within the bathroom.

Did the salt water, trying to shower with it—?

No, salt water doesn't, you know, that's why we had a mixture of fresh water.

It doesn't bother you too much, then.

And it doesn't bother you.

Now I'm curious. You're describing something that looks like MASH [Mobile Army Surgical Hospital] you know.

Almost like MASH, yes.

Because they do have the shower tents and they have the living tents. So do they look familiar there?

Very similar. Very similar. Yes.

That's what I visualize.

You open up the tent flaps just like you would any—later on at Enewetak, we finally, instead of having the flaps that would open up like in a triangle face opening up, we finally built a square opening into it. And then we did put a wooden door onto it because we found that – and the thing you got to remember is as it rains all the time – we've got a lot of gravel on the sidewalks.

They're not concrete sidewalks. They're actually sidewalks with lots of aggregate on top of them, and that's to keep you so you don't sink down in the mud so bad.

But you also got to remember, we get a lot of storms out there, and I can remember, it had to be in 1957, we had a tropical storm come through, and you got to remember the island only sits about three feet above the normal sea level, and so we get concerned when we hear typhoons are coming in our area. So one evening we knew the typhoon was coming in and the eye come very close to the site of Elmer, or I should say the island of Elmer. It came very close to us and yes, the water came over the top of the entire island about six inches deep. And there's no place to go—

So there's no mountains in the middle, there's no higher ground.

No, there's no mountains. No. The highest point above the sea level is about three feet.

Where do you go?

There's no place to go.

Did you get on a boat?

The thing you have to remember is we move everybody out of the tents and we take them down and put them in the warehouses. Now if it's just an overnight thing, people will bring their blanket and their pillow and they'll sleep on the floor in the warehouse.

Would the water get into the warehouses?

No, the warehouses are built up a little higher because we don't want any products to get wet, because we anticipate that there's going to be times when water *may* come over the island. It's only happened once or twice that I can remember at Enewetak where the water came over the entire island. And, you know, at the time I was there we had over 2,500 people and we got one airplane over at Fred which'll hold ninety-some people, and so there's no place to go.

Did you ever have anybody die or drown or anything?

No. No, we never—no.

No casualties. Wonderful.

No, no casualties because of the storm. And my memory serves that we didn't have many casualties from construction work either. I won't say there weren't, but I don't recall any at this [00:10:00] given point. My memory just doesn't show me that we had anybody that was accidentally killed because of construction work. Which happens, you know. We all recognize it happens.

I was more concerned about the storms and the drowning and stuff like that, so it sounds like the warehouse worked.

The thing that's kind of funny is because in 1955 when I first arrived, I got there the twentieth of December 1955 and the rest of the federal employees were all going home for Christmas. We had just finished Operation Teapot at the Nevada Test Site in 1955, and so now I'm on my way out to help take care of [Operation] Redwing at Enewetak. And as I arrive, Henry Slacks meets me, and he's a federal employee. He's also a radiological representative, or his line of work is in the radiological side of the house. And Henry says, Well, I'm only going to be here for a couple of days, but I want to take you down to the EMBL. Enewetak Marine Biological Laboratory, which is also a subcontractor from the University of Honolulu [Hawaii?], is involved with us and also the University of Washington and we're studying all the various live animals, fish and everything that's in the ocean. And so he said, Look, I want to take you down and I want to introduce you to the air tanks and the rubber flappers and the face masks and the snorkels because I'm not going to be back for about thirty or forty days so, at least on your time off, if you'd like to go swimming. So Henry takes me out, and the beach area is beautiful white sand. It's probably in the vicinity between the beach where the water and the sand finally stops and the water begins, you can probably go three hundred to four hundred feet directly straight out and it's all just beautiful white sand. Well, Henry's got me all suited up and we go swimming and we go out about three hundred feet or more. And by this time I looked back around – and you got to remember I've got the rubber flaps on my feet, I've got the air tank on my back, I've got the snorkel on and a face mask – and I turned back around to see where Henry is and Henry's nowhere close to me. And I stop and I come up out of the water and, well, Henry's on his way back to the beach. So I'm paddling around out there and all of a sudden I see—

Doesn't he know you're supposed to have a buddy? Rule number one of scuba diving.

Well, Henry's playing a little prank on me, because he hasn't taken the time to explain to me that there are five-to-six-foot white sand sharks. And I turn around and look underneath the water and naturally sure I find one of these sand sharks. And so I about-face and I'm headed back for the beach, and I have to admit I was a beautiful Ferris wheel. I was *really* moving on. And when I got to the beach, Henry's just standing up on the beach just *laughing* his—he's just really hysterical, he's laughing so hard. And he said, Ernie, I didn't want to tell you that there was sand sharks out there but, he says, I got to tell you, never seen such a beautiful paddlewheel coming into the beach. But the sand sharks are very curious animals, or fish I should say, and they're not an attacking-type fish. And so they're more curious and they'll get behind you and just trail along behind you and you look back. And of course all of us realize that when you are looking through your face mask under water, every fish looks ten times bigger than what it really is. But Henry just had a real fantastic day with me.

Well anyway, they leave within, I want to say like the twenty-second of December and they all head for home for Christmas. They want to be with their families – which I'm single, Leo Woodruff is not, he's going to stay with me, and Ray Emens is at Bikini Atoll, so we're the only three feds left on the island, or the whole complex. So for Christmas Day, I told Leo Woodruff, I said, I'm going to go over Christmas Day morning. The cafeteria or the mess hall opens up at ten o'clock in the morning, because we didn't serve breakfast that [00:15:00] morning. We start the Christmas Day dinner at ten o'clock in the morning and we run till four o'clock in the afternoon. So I stand over at the door and I shake hands with every person that comes in to have Christmas dinner and wish them a Merry Christmas. And Leo wouldn't do it. He said, You're going to have such a sore hand tomorrow you won't be able to

write. But I don't regret ever doing that, you know. It was great. Because later on, as time went on, you'd hear some of the Holmes and Narver, which are basically the contractor personnel, you would hear them say, well, there's the guy that shook our hand and wished us a Merry Christmas, and isn't that nice of the AEC to tell us that? And I said, I just thought that was necessary for us to do.

And I got to be known by a lot of people, and that work there as well as, you know, being the fed. But you got to remember, I'm the office manager for the administrative area of the office at Enewetak. And basically it was just the administration, you know, making sure all the typing gets done, the mail gets mailed, all the details that goes with running an office. And so it was great. But I got to—people would come in and of course they had met me but I wouldn't probably remember them, but they would remember me. And they'd say, Gee, you know, we've been trying to get something done. Could you look into this? Well, pretty soon I got to be known, you know, if you really want to get something done, go see this young man.

What a wonderful reputation.

So pretty soon I no longer was known as Ernie. I picked up the subtitle of Tiger. And so I got listed then from then on at Enewetak only, I was known as Tiger. And one of the things that I always tried to—for instance, if you came to me with a problem, I would make sure that I finally got back to you and let you say yes, we can make some corrections, or no, we can't make any changes for you. But I always responded and got back to you. And that really paid off because I could go out in the field and say guys, I really need to get this done today, and I never had to ask twice.

Yes. Networking. Made contacts. Good PR.

Yeah, good public relations. And I did the same thing when we went to Christmas Island in 1962. I made sure that their—and again, some of the people that I had worked with at Enewetak are now some—this is 1962, we actually left in 1959. But I left Enewetak in 1958 and I went to Albuquerque to survive and remain on the payroll because we knew we were going into a moratorium under President [Dwight D.] Eisenhower and Jim Reeves, which was the test manager, didn't want to lose all this talent. I have to take my hat off to Jim. He was a very conscientious man, not only as a test manager but for his people. Jim knew that the moratorium was coming, he *knew* he wasn't going to be able to hold all of these people. So Jim made a very delicate effort to make sure that he could go to various operations offices, either Idaho or he could go to the State of Washington or he went to Oak Ridge [National Laboratory, Tennessee] and he went to Kansas City, and he tried to see if there was any positions open that he could take some of us and put into those slots, with the understanding that—

Now were these the DOE [Department of Energy] people?

These are all DOE people, better known as the AEC in those days. And we would make sure that when they accepted the job that the people knew that if we went back to testing, that they were going to lose these people. And so spasmodically he got us spread around.

Was he able to place most of them there?

And most of us got placed. I left early in '58 because there was an accounting position open in Albuquerque [New Mexico], and I had worked in accounting in 1955 for a period of about sixty-five or seventy days. When Teapot came to an end in 1955 at the Nevada Test Site, I had been hired as a temporary employee in the federal government. And they said, Look, if you want to go to Albuquerque and take over the—it's a secretarial position, the lady is going to have to take maternity leave, but we need somebody with a Q clearance. And you're also a good typist.

[00:20:00] So I went to Albuquerque and took over this lady's position. And it was called a CR-9 report, and it's basically a ledger. It had twenty-seven columns across, and you fold out two sheets, one to the left and one to the right, and then you unfold that and you finally get twenty-seven columns. And this all has to be typed up. And it's called a CR-9 report. Well, when I got there to start the program, the lady explained to me [that] it wasn't something real difficult, it's just *lots* of numbers. And these numbers are not only just in hundreds, we're talking about numbers that go into the millions, so you're now talking about nine digits plus the decimal point and then the zeros. So it's nothing fancy but you really have to be on your toes to make sure you're getting the right numbers in the machine.

Well, it was all done in ditto. Now I don't know whether people understand what ditto was. Ditto was a blue piece of paper. Messy. And when I got there, this was all done on ditto. Well, just before I'd left the test site, *we* had incorporated here at the test site on Operation Teapot what was called multilith printing.

Oh, you had seen it at the test site! Oh!

And so I knew what multilith was.

And so when I got there, Mr. Frank Abbott, one of the gentlemen I worked for, and I said, Frank, why are you dealing with ditto? Why don't you get into the multilith printing?

And he said, What are you talking about?

Well, it's amazing because I said, Saturday, let me go downtown and find a printing place or people that—

So I found a printing shop with multilith and so then I said, Could I have this guy come out to the ALOO [Albuquerque Operations Office] office in Albuquerque, which was not too far from Kirtland Air Force base.

So on Monday the gentleman came in and showed us what he could do, and of course Frank Abbott looked at me and he said, Oh my, he said, what a difference!

And I said, Yes, because you know you make a mistake, you can take just a special rubber eraser and you can erase it and you can print over the top of it and you don't get all this messy stuff.

Well, needless to say, by the end of the week we had spent another \$10,000 in capital equipment money to buy multilith machines, buy typewriters that—and I said, There's such a typewriter that has the keys beyond the tab. There's keys that has whether it's hundreds or whether it's thousands or whether it's millions, and you can hit that key and that'll put you in the right category.

Oh wow! So you kind of helped him modernize.

Oh yeah, I really helped him modernize. And I stayed there from I want to say late August until early December.

Well, why is it that you think the test site had that modernization before Albuquerque did?

Well, because here at the test site we had Stan Froistad and Sherman Sullivan that worked in the Las Vegas field office and they were more—they were both administrative types. And they both were concerned with doing a lot of paperwork, and so they were keeping up with what was the modern technology, if I may use that word.

And Albuquerque was a smaller outfit?

No, Albuquerque was the Operations Office but they just had just not taken the initiative to see what they could do to improve the system. Well, once I got that into the system, I got to tell you, it spread throughout the whole building, and Albuquerque Operations is probably eight, nine hundred people there. And it's something that started to spread. Well, you know, and the lady finally in early December said that she was returning from maternity. I knew I was a temporary,

but when I took the position in Albuquerque, they made me a permanent employee, and so that was my step to long term employment.

Now was that permanent employee of the AEC?

Of the AEC. I was a temporary employee, so I could be laid off at any time without any problems. Well, when I took the position as a temporary secretary, I got a permanent position, and so that meant that I more or less had my foot in the door now. And I was a secretary. I couldn't take shorthand but I could type letters and do whatever was necessary. But it was kind of amazing. When the lady returned, why, she was just flabbergasted. She says, We don't have ditto anymore? And I said, No, no, we don't have ditto anymore.

Changed everything. Ernie's been here.

She looked at me and she said, Boy, what a pleasure this is going to be. And then she got just ecstatic about the new typewriter that I had. So Frank said, You know I don't have any positions for you.

[00:25:00] And I said, well, let me go see Jim Reeves again, see what he's got going. I said, We're getting ready to do Redwing at Enewetak.

And so I went back to see Jim and I said, Jim, what have you got going out at Enewetak? I said, You know I got over in Albuquerque but you know that job is now coming to an end again, and we got Operation Redwing coming up.

And he said, I need you back at Enewetak.

And so that's when I left. In December of 1955 before Christmas, I went back to Enewetak.

But again, in 1958 he did the same thing for us. We went into the moratorium. Again, I went back to Albuquerque to work for Frank Abbott because Frank says, I've had Ernie before. I'll take him out of the administrative field and I'll make him an

accountant. So I transferred to Albuquerque then as a permanent position and took on a new title of an accountant. Now bear in mind, I do not have an accounting background. And I spent the middle of '58 to February of 1962 in the Accounting Department. Well, I'd been in the Accounting Department a little over a year and a half and I got promoted to chief of the general ledger section.

You learn fast, don't you?

And Frank Abbott saw fit, he said, Look, I want you to take over the general ledger section. Now the general ledger section is really the trial balance. This happens every thirty days. And at that time, the trial balance in Albuquerque in '58 through 1962, early '62, probably that trial balance was in the vicinity of between fourteen to eighteen, maybe twenty billion dollars. But that also includes the products that we may have in storage, nuclear units that might be in storage.

And so I got to be chief of the general ledger section. I had three different ladies working for me. And of course they're doing all the posting and I'm the supervisor. And one of the things that I did was I immediately went in and I said, You know I don't know nothing about posting. So I sat down with one of the ladies and I said, I want you to teach me everything that I need to know about how to post. I said, I have one thing that I'm going to tell you three ladies right now. When you leave to go on vacation— and the previous gentleman that had my job, he didn't do this. All of the paperwork that had to be entered onto the books would be stacked up on their desk and they'd be gone for two weeks, it'd be two weeks deep.

That they had that to come back to.

Yes, they had that to come back to, and I said, That ain't going to happen.

And she said, well, I've been in this office for almost twenty years and none of the supervisors knew how to post.

And I said, well, you got one that's going to do that.

So I learned how to do all the ledger posting, get it in the proper account, and return the document back to the finance division for appropriate storage. And when the first lady went on vacation, I left my desk and went down and sat down on the desk with the machine for posting and I did all of her posting of all of her ledger work while she was gone. And when she came back, she came in on a Monday morning, she'd been gone two weeks, and says, Oh, I got a clean desk. And I said, I told you, you was going to have a clean desk.

That makes a vacation even more of a vacation.

And you know what? I have to tell you, you know, those three ladies, when they went on vacation, they knew when they came back that they didn't have this two-week lag plus all the current posting that needs to be going on. And so I have to admit, I made friends. The ladies, they would do anything for me. But I'm a firm believer as a supervisor that if you're going to be the supervisor, you got to work with your people. And if one of them's going to be gone, you better know how to handle their job while they're gone. And I'm not complaining about people, but I've known people that couldn't do that. I'm a firm believer that if you, as a supervisor, take care of your people, the people will give it back to you ten times over.

And then of course the moratorium came along those three years I was in there. And then all of a sudden, you know, the Russians [Union of Soviet Socialist Republics, USSR], I want to say August of 1961 broke the treaty with Eisenhower. By this time [John F.] Kennedy's in office, Eisenhower is out of office. Now President Kennedy's in charge. Kennedy sent a message [00:30:00] down to Albuquerque Operations Office to the Test Division saying, I want to

resume testing. I worked in B Building and Test Division was in C Building, and we had four buildings: A, B, C, and D.

So the resumption of testing was directly related to the Soviets breaking [the agreement], then?

Sure. Oh yes. And so at lunch hour, I always carried my lunch—and of course when I went to the Test Division while at Albuquerque I was single, but when I left Albuquerque in '62 I had met a lovely lady and we got married and—so I always carried my lunch at lunch hour. But at lunch hour I'd go over to Building C to the Test Division and try to keep up with what was going on throughout the world because [of] what the Russians were doing and keeping up into the test program, basically which is the nuclear test side of the house.

And so in August 1961 Jim Reeves, the phone rings and he said, *Ernie, I think you need to come over for lunch today. Definitely need to come over for lunch today. He said, We have a message and we got to answer this thing.*

So when I went over for lunch Jim Reeves explains to me, he said, *President Kennedy wants to resume nuclear testing at NTS.*

And I said, *Oh, OK.*

Because we kind of anticipated this might be coming about. We never knew exactly when Russia might break the treaty. Well, they did, and they announced they were going to break the treaty. And Kennedy said he wanted to do some of the larger atmospheric tests at the test site.

And Jim Reeves looks at me and he said—and of course Joe Sanders was his deputy and Carl Hoefs was an engineer and Edward Butts was an engineer, and we're all sitting there and I made the comment, I said, *Well, guys, you know we can't do this big stuff at the test site. I said, You know, you've all been at the test site as well as I have*

and I'm the youngest of all this whole entire group, but you can't afford to do that because of the RADSAFE and the safety of people.

Jim Reeves says, I understand that, Ernie, but what the hell are we going to tell the president?

And I said, Look, when we left Enewetak in late '58 or early '59, I wasn't the ones that wrapped up the island, but you also must remember that Great Britain [United Kingdom, UK] was doing atmospheric testing at Christmas Island. And I said, That's a thousand miles south of Honolulu. If he wants to do the big stuff, maybe we should try to negotiate with Great Britain.

I need to insert in here that after we left in 1959, we basically gave the islands back to the district administrator of the Marshall Islands, so we could never return to do nuclear testing there. So we did no longer have the option of going back to the Pacific and doing atmospheric testing. We could never do that again. So we gave it up.

And Jim says, We don't have a Pacific test grounds.

And I said, I understand that, Jim, but why don't we start the negotiations with Great Britain to see if we can't go to Christmas Island to do the big stuff?

And Jim says, My, what a marvelous idea!

And I said, Well, that's the first thing that comes across my memory.

Because you still had an option to go there, if Great Britain—

If we could negotiate with Great Britain. And so we started the negotiations with Great Britain in late August or early September, and we finally got the approval to be able to go to Christmas Island in early February of 1962.

In the meantime I'm still in the accounting department, but every lunch hour, five days a week, I go back to the Test Division and eat my lunch. And it's an hour's lunch hour, it's not a half-hour, and so it gives you adequate time to mull over what's going on.

So you would just keep current on the gossip and what's happening.

Keeping current with what's going on. What's Great Britain doing? What's Russia doing?

You were a fly on the wall, weren't you?

Well, you know, I just took an interest. And Jim says, We're working with the Secretary of State through appropriate channels to see what we can do for Christmas Island. We *did* get that approval in early February 1962, and when that happened, we anticipated it was going to happen, and so Joe Sanders had left Albuquerque on travel status. He went to Honolulu, was trying to get an office set up in Honolulu because we knew that hopefully we'd be able to do atmospheric testing at Christmas Island. The word was verbally that it was going to get approved.

And Jim says, I guess you know, you're not going to be working over in accounting too much longer.

And I said, Yes, I know that day is coming but, I said, it'll probably be a while yet.

[00:35:00] And he said, Well, we don't know when we're going to get the final approval.

Well, we finally got it in early February. Well, and I say "early February," it was about I want to say the fifteenth or sixteenth of February of 1962. And on the twentieth of February a message came in from Joe Sanders in Honolulu and it says, Request Ernie Williams report to Honolulu ASAP. Well, I got the message at three o'clock in the afternoon and I cleared my desk. And of course I had a lovely new bride at home and we had one little girl. We'd been

married probably about eighteen months and I went home to give her the sad news that I was going to Christmas Island and I would be gone for a period of at least ninety days. And anyway, the thing that happened is you got to remember the fiscal year in the government used to be June 30 and not September 30, and Mr. Frank Abbott looked at me and Merle Turner and said, Ernie, we can't afford to let you be gone that long.

I need to back up just a little bit. In December of 1961 the manager of the Albuquerque Operations Office – and the Nevada Operations Office didn't exist in those days yet – the manager of the Albuquerque Operations Office put out a memo in December and said if you were listed by name, your department would not be able to keep you, that Operation Dominic had priority.

And so when that message came in with my name on it, Merle Turner come in to me and he said, Ernie, I want you to read this. And he said, But we got to fill your position because we got to close the books for the end of the fiscal year. And he said, So I've got to hire another person to put in your position.

And I said, I understand that. And I said, You and I and Jim Reeves need to talk a minute.

And so I called Jim on the phone and he said, Come on over.

So we went over and Jim assured Mr. Turner, he said, Mr. Turner, I recognize you got to fill the position because you got to close the books. He said, And I will assure Ernie that at the end of this test series, I will find him another job someplace else.

And so Mr. Turner said, That's fine.

And so I cleared my desk at three o'clock in the afternoon and I was on an airplane the following morning, headed for Los Angeles. We had the approval to do testing now at Christmas

Island. And I arrived in Los Angeles. The first thing I did in Los Angeles was get with the Holmes and Narver office, which is a contractor to the AEC, and I'm starting to look at the manifests of what's being loaded onto the ships. I know I'm going to Christmas Island. I've had probably a thirty-minute briefing about Christmas Island, that it's an old atmospheric test grounds for the British. They've not tested since 1958, and so it's been sitting there for '59, '60, '61, so it's been three years. And most people don't understand when you're out in the islands with a lot of salt content, things deteriorate extremely fast. And so I said, oh my. So I want to make sure what's going on the first ships that's being loaded in Los Angeles because there's stuff being put on the ships that I don't need. I need this first that's coming. I need beds; I need food; I need the necessary things to start a camp. And I need vehicles; I need hammers; I need the construction trade tools. And I'm going over this manifest and of course people in Holmes and Narver in Los Angeles have never worked on previous test operations out in the Pacific. They're all new people, because they all got laid off in '58, so we don't have any talent, basically, left in Holmes and Narver. They're all new people.

That's a real problem of having these gaps here.

You bet.

And so these people looked at me and they said, Well, you know, we're trying to get the stuff out.

And I said, You got to remember, I'm going to an island that has nothing on it, so what do you want first? Do you want to ship me the TV set when I don't have a house to put it in? I said, I need the house first and then I'll take the furniture.

And the people looked at me and said, Oh my, we didn't know that. We thought you were going to an island that was already established.

And I said, No, I'm going to an island that has nothing. It has buildings but it was used by Great Britain. But my guess is they're in pretty bad shape.

And so I left then after three days and I'm looking at the manifests and says, This is what I need on the first ship coming in.

[00:40:00] And I left for Honolulu and there's where I met Joe Sanders and we chatted for probably that evening, because I arrived there late in the afternoon. You got to remember this is again we're still in the propeller-type aircrafts in these days yet – we're not in the jet age – and so it takes a while to get from one place to another. And I met with Joe Sanders over the evening. And the next morning I got on the British airplane for Christmas Island, even though they left in 1958, they have a complement of probably thirty to fifty military people living at Christmas Island. A very austere-type program. Those people that are down there don't have much to look forward to. There's not much for recreation. I realized that when I was headed for Christmas Island, that I had probably fifty natives on the islands.

And so I caught the British airplane from Honolulu down to Christmas Island. We didn't have a United States military aircraft yet assigned to take us down there. I caught what was called the British Hastings flight – it was basically a C-47 aircraft, in military terms – and I arrived on the island. And they loaned us one Jeep, the British did. They took me up to where we thought we were going to live and I started to walk into the dormitory when I fell through the floor, the wooden floor was so bad. And I said, oh my. And so I had had sense enough when I was in Los Angeles that I told them, you know, we needed to load on lots of plywood to start with, I said, because the buildings may not be in good shape.

You have uncanny instincts of common sense, don't you?

Yes, I do. And so I started walking through the area and I said, Oh my, my, my, and the British guy says, We haven't done anything to these buildings. Well, by this time you realize

that the floors are rotten, so the roofs are bad, so we got to re-roof the roofs and start over. Now the structure of the building is in pretty good shape but the siding, the roof, and the floors are in pretty bad— Well, he said, We have a bunch of mattresses—

What's there left after structure? I mean if the siding and the roof—I mean what structure is left?

It's only the framework itself, and the framework is in pretty good shape.

OK. They would probably have bigger timbers there, wouldn't they?

Oh yeah, they're big timbers. We're talking about two-by-sixes and two-by-fours, nothing less than that. And so he said, Let me take you over to one of the buildings where we have all of the mattresses and the beds. And I said, Fine. I need to go over there. Please bear in mind, when we got on the Hastings flight and flew down to Christmas Island, I'm the AEC man and I have forty-five Holmes and Narver contractor people with me. Basically we have a few hammers and we have a few pliers to do electrical work with—

Are they the construction people?

Yes, the construction company Holmes and Narver, and I took forty-five of them with me. Well, we get on the island and we know we're going into an austere thing. We've got C-rations with us. Got to tell you, we lived on C-rations for three consecutive days. We then decided we'd go and eat at the British mess hall. Well, it didn't take us long to realize that we weren't going to eat at the British mess hall very long. You know, they had scrambled eggs but they were powdered and they were runny and oh, they were terrible. But the British guys, you know, they were used to it. And of course we went back to C-rations. Well, in the meantime this is day one we arrive, we really start looking at all the facilities and what do we got to do to get this camp up and running? And I recognize that this is the twenty-second of February now and on the first of April I know that I've got roughly four thousand people that's going to be on the island.

Not much time.

Not much time. And so the guys that I worked with were just outstanding. I'm not a construction engineer but, as you say, the realism sets in. And so we started in. We looked at the mattresses and, oh, they were straw-filled.

Kind of buggy, probably.

Well, water had leaked onto them. Well, we took them out and we got the beds. We set some of [00:45:00] the beds up in the dormitory and of course we did manage to get a few boards from Great Britain, because we knew the ship wasn't going to arrive for another couple of days yet. And so we borrowed some boards to put just across where the legs would be sitting on one end of the bed and on the other end, and I said, You got to be careful when you walk on these floors, guys. So we managed to get forty-five of us bedded down that night, and we slept on these straw mattresses. Well, none of us really thought about it until we woke up about ten o'clock at night. All this musty smell was coming out of these mattresses because they'd been wet. And you got to remember, Christmas Island again is another island that probably gets close to fifty to a hundred fifty inches of rain a year. Well, I can hear us yet, you know, some of us at midnight and said, Gosh, these things really stink!

It took you till midnight to realize that?

It only took us from about ten o'clock until about one o'clock in the morning.

It was too close to the nose at that point, wasn't it?

Well, I got to tell you, laying on your stomach and looking at a mattress that's musty, it don't last very long. And so I said, Well, we got to figure out what we're going to do tomorrow.

I'm curious, was the smell worse of a problem than the bugs?

The bugs weren't too bad.

Really?

No, we didn't have that many bugs to really bother us. But anyway, the next day when the airplane from the British comes in, I catch the pilot and I said, Look, I need you to take this message back to Honolulu. I need a freight military aircraft and I need three hundred mattresses flown in. And I said, They're going to be the most expensive mattresses the AEC's ever bought, but I need three hundred single-bed mattresses bought. And I said, I don't really need the bunk frames or anything, I said, they're adequate here, but we're going to have to have more as time goes on. But I need those mattresses in the next two to three days. And so the guy very conveniently—bear in mind, now, we have no communications with the outside world. The only communications we have is putting notes with the pilot and shipping it back to Honolulu. That's once a day.

And this is your urgent message with one of these pilots. Oh, was it flagged in red? Did you have neon signs on it?

Well, I had told the people at Honolulu when I left, I said, when that Hastings airplane comes in, you meet it, every day, because that's our communications system. I said, It's the only way I can get messages to you.

Well, by this time the military has brought in some military people. And I got to tell you, we have the Seabees [construction battalions] there and the [U.S.] Navy guys and they're stretching wires from one palm tree to another and we're trying to get radio communications, and we aren't getting anyplace. And I said, Look, guys, what frequency is he on? Well, frequencies is how much power that your unit can put out and how far the wave will go. And I looked at the frequencies and I said, Oh man, these frequencies are not going to get us to Honolulu. They're not high enough. And the guy says, Well, that's what the

Navy gave us. So again I send a message on the second evening with the pilot back to Honolulu that I need Jim Sugden, AEC communications engineer, *now*. And so that message got up and Jim, gosh, Jim arrived within twenty-four hours.

You had good response, then, didn't you?

Yes, I did. Jim arrived in Honolulu, and I had made him a comment, I said, Frequencies are bad. We need something that'll reach out and get us to Honolulu. So sure, when Jim got there and looked at them he said, Oh my God, no wonder Ernie can't talk to nobody. These guys, they've got wires from one palm tree to another and they're doing their best to try to get us communications but they're just not adequate.

Probably military standard.

So anyway, in the meantime us forty-five guys, we're working, we're working the electrical—well, the first thing, the second day we recognized, is in America we have 110 [volt], 60 cycle. Great Britain is 220 [volt] and 50 cycle, not 60 cycle. The U.S. is in hundred and ten volts, 60 [00:50:00] cycle. They have 220 and 50 cycle. Now when you put a clock on 220, you can get a transformer to convert it up to 220, but the 60 and the 50 cycle are not compatible, so the clock runs slow. And so all of the instrumentation that we got coming in is the power system that we have which has been provided by Great Britain for their tests is not compatible with what we need. And I sent a message again by the aircraft on the third day saying, We need transformers to convert electrical and get it up on equal kilowatts so that our instrumentation will work properly. In the meantime, I said, you better start looking for a 2,500-KVA generator. Now a 2,500-KVA generator is a huge generator that makes power. And we did get the British electrical power plants fired up. We were using some of the British fuel.

And you got to remember, Christmas Island is an island that lays kind of in a horseshoe. From one end of the tip of the horseshoe around to the bottom and back up to the top is about forty miles. In some areas it's probably two-and-a-half, three miles wide. Some areas it's not that [wide]. By this time I have borrowed three British Jeeps and we're trying to—because we know that we come in on the north end of the island and we go down about halfway, which is at the base of the horseshoe, and that's main camp, and that's twenty miles. And here's where we're going to live. And this is the old British camp, and it's not in the best of shape. And then another twenty miles downstream is where we're going to have all the atmospheric shots to be fired in the upcoming series. And at the base, or at the one end where the British live, which is called the port area, there is no formal dock, so you cannot get a big ship into the dock. Everything has to be taken off the ship, put on a barge, and then the tugs have got to bring it in. And it's also the camp where all the natives live and also where the British complement of twenty-five or forty Great Britain people are living.

And it's a new world for you because when you work in the islands in the Pacific, and I'm not here to say that people are not aware, but the ladies in the islands don't always wear anything above the waist. And so, you know, here you got a lot of new troopers coming in, and I convinced the British that they ought to talk to the natives. And I said, We'll furnish some clothing to them, but we need to try to keep them dressed. And so we finally accomplished that mission.

And at that same time, I'm telling the British guys that I got a ship coming in and the barges are behind them and they have found a 2,500-KVA generator and they've got that on the barge behind. Well, we have two British cranes on the island. They're not big cranes but a 2,500-KVA generator, the radiator alone is probably about twelve feet wide and it's about eighteen feet

high, so it's not a small piece of equipment. And so when that first ship arrives, the generator's with them, plus, you know, the bedding and things that we really need. We've got some vehicles on board. We got forty Jeeps that the Navy gave us out of Honolulu.

I was pretty sick that morning because when we unloaded, I went back to the ship and I looked at the vehicles and I said, Oh my. Don't tell me this is what the Navy shipped me.

And he said, Yes.

I said, Oh, I'll be lucky if I can get 50 percent of them to run.

[00:55:00] *Oh, they were in really bad shape, then, huh?*

They were in bad shape.

World War II issue, is that what they were?

Yeah, they were World War II-type stuff. But basically within the forty-five men – I've got electricians, I've got mechanics, I got carpenters, I've got plumbers, I've got electricians – we've got a good complement of people amongst us. And so a couple of the guys said, Hey, look, you know, I'm a carpenter but I know a lot about automobiles, so let us start working on this.

You had a good group, then, didn't you?

Well, I kind of planned it that way because when you go into an island, you better have your talent with you.

Had you been able to hand-pick these guys?

Well, I interviewed them just to say, What's your craft? What are you? And I said, When I get ready to leave, no disrespect to you and everything, but I need three of this, because I said—and you got to remember, when you work in the islands, the union agreement is that you

must work a man 52 percent of the time in his field. I can work him 48 percent of the time out of his field, which really is a nice thing to have. You can't do that here in America, in the States, I should say. And so the guys were saying, you know, I'm a carpenter but I'm willing to be an automobile mechanic.

So you deliberately chose people with two or more skills, then.

Well, I didn't realize all of them had other talent. But you kind of have to assume that most people have got a little talent other than what they do. And so the guys dove in, they really did, and we got the Jeeps off, got them on the barge, and we got them down, and we cannibalized those, and we got twenty Jeeps to run out of forty. And it worked great.

In the meantime we now got people on the ship that had been hired by Holmes and Narver that are cooks. We're working on the fifth day now. So we're now to the point where I've got people coming in and we've got fresh food on board, we've got everything we need to start feeding the forty-five of us with decent food, you know. Not that the K-rations are not good, I mean they'll take care of you, they'll keep you going, they're just not the most fanciest things to eat. But they do what they need to do to keep you going. And so I said, Look, we've got a place down in main camp that we've already got the electricity hooked up. It's on British power but that's fine. As long as it gets hot, that's all that's necessary. And so we gave a couple of Jeeps to the cooks, and I think out of the group of people that came in, we had another 100 or 150 people coming in, and we had mattresses on board and we had metal bedsteads, and so we really make a push for the next couple of days to get the camp set up so that we've got some halfway comfortable place to live, in, a place to eat [cafeteria].

And the next couple of days I'm the chairman. I said this is what I want this group to do, this is what I want this group to do, this is what I want this group to do. And everybody just dove

in. And I have to tell you, within ten days we had a camp up and we could bed down close to two hundred people. We had Tent City going. Now you got to bear in mind that we don't have enough quarters for 2,500 people to 3,000 people that's going to arrive at Christmas Island to start all the technical effort, and the scientific trailers are going to be starting to arrive—

Now how long were those 3,000 people going to be there?

They're going to be there from the early part of March and they're going to be there until probably the end of the test series, which is going to be June or July.

OK, so about three or four months, then.

And so in the meantime we now have communications. We now have the capability of a TWX [typewriter exchange] which is kind of like a Western Union wire. We have capability for communications. We have now radios where we can talk back to Honolulu. We finally have the telephones that are hooked up to radios and we can get back to Honolulu. My ham station has arrived so that we can start getting it set up. And so things are now falling in place to where we're going to be [01:00:00] able to be relatively operational. And, you know, as we need to change things or give a message out [that] says we need priority on this or priority on that, we're now in a position where we can do that without having putting notes with the pilots and shipping it back to Honolulu.

And you got to remember, yes, I'm only 32 years old. And Jim Reeves has told me, he said, *Ernie, it's all yours.* Well, Rollie Shaw did come down. He's an engineer. I'm a GS-9. He's a GS-14. So he then has taken over all of the engineering aspects of it and I'm dealing with the daily housing, administrative. I do the typing, I do the mailing, I'm doing all of this administratively because it's just he and I. We're the only two AEC people permanently on the island. Well, thank goodness I had been through a previous operation out in Enewetak, as

well as at the Nevada Test Site, and so that experience all really fell in and gave me what I really needed. And so Rollie had never been on a test at Enewetak. Now he had been at the test site in 1955, but he was in charge of all the visitors. *Distinguished* visitors, congressmen, senators—
Oh, that's a whole different world, then, isn't it?

Yeah. And so he didn't work as an engineer. He was an engineer, but they had him as the public relations man. And I remember Rollie at the test site, you know, with all the senators and congressmen and other distinguished visitors.

And there's no senators on Christmas Island, right?

No, we finally got them.

But not for the first little while.

Well, in the meantime I'm looking at the runway and the runway, you know, it's got some cracks into it, the weeds are growing up through the cracks, and we've got airplanes landing on it, and I said, You know, this ain't going to last very long, because somebody's going to say, *Hell, we can't do this.*

And I had one of the pilots in one of the airplanes and we walked over the runway and he said, Man, this runway is not in the best of shape.

And I said, I am aware of that. I'm not an aircraft man and I'm not an airport man. I need your *expertise*. What do we got to do to get this runway up to speed?

And he said, well, you need to come back in and you need to fill the cracks and we need to put another surface coat onto it because, **he said**, some of these pilots are going to tell you pretty soon, they're not going to land. They'll land that first trip but they ain't coming back, **he said**.

I said, OK.

So in the meantime I get on the telephone, which is by radio, to Honolulu and I said, Look, I need somebody that has airstrip capability, maybe from World War II. Well, by this time Buck Yelinek is in Honolulu. Now I know Buck Yelinek from the Nevada Test Site and I knew that he had been with the [U.S. Army] Corps of Engineers. And they got the message over to Buck Yelinek and said, Hey, you know, you need to go down and help Ernie.

So Buck comes down on the next airplane and he looks at the airstrip and he said, oh man, we got to improve this airstrip. So then immediately he gets somebody that's more or less of an expert in the field of—which is out of the Corps of Engineers in Honolulu. And he comes down and looks at the airstrip within a day-and-a-half, and he said this is what we got to do. And so him and Buck Yelinek go back to Honolulu, and I said, You guys need to press hard on this because we're now approaching to where we got lots of people coming in.

Well, in the meantime we're building tents. Basically there's ten men to a tent and we got to have at least tent capability to bed down 2,500 people. So now we're looking at 200 to 250 tents that's got to be built. We got to get the framework up. We got to get the tents erected on them. We got to get the second canvas on top of them. We're basically back to what we had at Enewetak, as my memory would serve me. And so from the twenty-second of February, and on the fifth of March we were ready to bed down almost 2,000 people.

And we just, you know, we worked at that. I have to tell you, every morning for the first ten to fifteen days, all hands on board and I would say to them, What is your plan? *These* [01:05:00] are some of the high points that we need to get done first.

A lot of teamwork. A lot of focusing.

It was a teamwork.

Yes. At least there was a lot of cooperation.

Oh, yes.

It doesn't sound like you were arguing or blaming anybody.

Nobody's being blamed. Everybody is very cooperative. Everybody's willing to work out of their field if they have to. They're willing to help. And I got to tell you that by the fifth of March we were really beginning to roll. I had to finally send a message back to Honolulu saying, Don't ship me any more people. Because I have laboratory people arriving, I've got some military people arriving, I've got Sandia Corporation [later Sandia National Laboratories], I've got [Lawrence] Livermore [National] lab. I said, Stop all the people for at least thirty-six hours. I need some time down here to get the facilities because I don't have any place for them to sleep. And I said, I need materials. I don't need manpower. And so they did, and you know that caused a little furor, I have to admit that.

Now why did it cause furor? Were the people waiting to come—?

Well, people in Honolulu said, Well, I'm on TDY [temporary duty]. I'm supposed to be at Christmas Island to start my project. But they didn't realize that they weren't coming—see, most people when they went back to Enewetak, Enewetak goes back to 1950 days. We built a permanent camp, then we used it year after year after year, so everybody was accustomed to coming into an already-set-up camp. We didn't *have* that privilege when we went to Christmas Island. And so when people finally arrived, they began to realize why I had stalled them.

Yes, that it had been primitive and you had to work from the ground up.

Now there's two more questions before we get into this right here. There's a book in the bookstore that says there is no snow on Christmas Island.

That's correct. That's been written by a Los Alamos National Laboratory man out of Los Alamos.

Now, is any of your story in that?

No, none of my [story].

So that's all before—I still have to get the book. I still have to get the book.

Yes. I've read part of it and it's a halfway decent book. I don't agree with some of the things that he has in the book. I've not read it entirely. I've scanned it. I've read a piece of it. And I'll never understand why he said no snow on Christmas Island but that's the way he put it anyway.

Well, and there used to be a song, How did you like to spend Christmas on Christmas Island?, and I was just wondering if that came out at the time this testing was going on?

Well, we didn't stay until Christmas, you know. We went in on the island in February of 1962 and we departed the island in November of '62. November or December. I wasn't there to close the camp.

You got to go home to your bride.

Well, yes, because I left knowing I was going to be gone ninety days. Well, I knew the ninety days was coming and then they were going to be gone. And so Jim Reeves would come in, because he *was* the test manager. Joe Sanders was the deputy test manager. You got to remember, we've all known each other since 1955. And Jim Reeves and a fellow by the name of Jack Coffee at the Nevada Test Site, which I used to work for—

Nebraska. Yes. Nebraska.

All three of us, we're from Nebraska. And there's a little bit of camaraderie there.

Well, Jim happened to be down for one of the tests and I said, I understand you're going to have Sedan crater at the Nevada Test Site fired.

And he said, Yeah.

And I said, Boy, I'd love to see that. And I said, Besides that, Jim, I have a message from Albuquerque.

Now please bear in mind, February of 1962. Nevada Operations Office [NVOO] gets established in March of 1962.

Oh, that's when it is! Oh.

And then there's a message that says, All personnel must be transferred by June 30.

Well, I'm at Christmas Island in the month of June and I said, Look, I got a message here that says that if you don't have your family transported by the end of June, it'll be on your expense. And I said, Hey, you know, the government owes me for—

And Jim says, Yeah. So Jim says, Look, why don't you go back and see the Sedan crater and, he said, why don't you leave the twenty-ninth of June or a couple of days early and get to Albuquerque and get your family. And we were living in a

[01:10:00] mobile home, so I knew all it took is one day to get my trailer pulled from

Albuquerque to Las Vegas, maybe at the most two days. And so I arrived in Albuquerque, we got a gentleman to pull the trailer right away. And I got the appropriate paperwork from the AEC for the transfer of my family, and we left in my car, and we arrived in Las Vegas here on the second or the third of July, and my trailer arrives. And there is no housing in Las Vegas in that time frame. You couldn't buy a house. They just wasn't available. So I parked my trailer over in Henderson in a trailer park, and that was the only place I could find to put my trailer. And then I went to the test site. We got my family settled and I went to the test site to see Sedan fired, and that afternoon I'm on an airplane back to Los Angeles and in Honolulu and I'm back to Christmas Island in less than twenty-four hours.

A lot of things are going on.

[01:11:14] End Track 2, Disc 1.

[00:00:00] Begin Track 2, Disc 2.

I guess we left off basically in Christmas Island yet. The main course of personnel started to arrive basically after the fifth of March of 1962 at Christmas Island. We were pretty well prepared now for the buildup to go from two hundred people on up to the 2,000 or 2,500 people, and eventually we're going to get to 2,500 people on the island. And of course as time goes on we're building more facilities: the cafeteria, or better known as the mess hall, we've got to get the laundry facility up and running. For *you* to come to Christmas Island and to have a bed to sleep in and your meals three times a day and your laundry is \$2.50 a day. That's what it costs you to live there. And you got to recognize, we all recognize, this is being subsidized pretty heavy but that's fine, you know. There's only two things that really gets people to work in the islands, or like you are as current day in Iraq, is conditions and payroll. Those are the two driving forces that gets people to come to these areas. And so you got to feed well and people are going to get paid pretty well because you don't see your families. You're isolated.

Hardship duty almost.

Hardship. Yes, OK. But anyway we're really rolling now and I've been told by Jim Reeves that probably by the tenth to the twentieth of April we will start the first tests at Christmas Island.

And he said, Ernie, by the middle of April you'll have 2,500 people on the island. And we did. And we had one airplane every day coming in from Honolulu, which would handle ninety-seven people plus whatever we had needed for fresh vegetables, fresh fruit—

That's a lot of logistics for feeding that many people, too, isn't it?

You bet it is. You bet it is. We fed well. We at least had steak two to three times a week. T-bones was always on Saturday night no matter—if you were a big man—please bear in mind, we didn't

have the privilege that we have today with women and men working together. It was strictly an all-clientele-male-type thing. I'm not saying that that's all bad or good. I'm just saying that's the way it was in those days. But if you were a big man and you wanted three T-bone steaks, you could eat three T-bone steaks. There was no limit to what you wanted. You just went to the cafeteria and you ate, or the mess hall. Some of us called it "cafeteria," some of us called it "mess hall." And the amazing part of it is, is we got that all running. We had to build some new buildings. We've had a lot of lumber coming in on the ships. We've diverted the U.S. Marines coming from Korea back to—beg your pardon, Vietnam, to the States, we diverted them by Christmas Island—

That would've been Korea, wouldn't it be? The fifties?

Sixty-two for Christmas Island. So it would be Vietnam. We diverted those some one hundred Marines because they were a tactical organization. They laid twenty miles of pipeline for us and they brought in their five-thousand-gallon, I'll call them "plastic bags," to put fuel in. Their storage tanks is what they really are. And we got to pump the fuel from the ship to the harbor, which is a tactical line two miles out in the ocean to pump the fuel off the ship into the harbor. And then from the harbor we got a tactical line for twenty-some miles down to main camp, which we got an area blocked off now to put the five-thousand-gallon tanks in. We now got to have aircraft fuel, we've got to have kerosene, we've got to have gasoline, we've got to have diesel fuel. And we're doing all this. And it was my first experience of getting into the oil products. I knew that they had pipelines to pump fuel through but I always wondered how do you [00:05:00] separate the fuel from kerosene to diesel? Well, there's such a thing in the oil industry that it's called a "pig." It's basically a round—I don't want to call it a "donut" because a donut has a hole in it. It's a plug, and they put that into the line. There's an opening in the line

just as it leaves the ship, there's an opening and you lift the lid up and you put this wooden plug—I'll call it a "wooden plug." It's probably plastic or fiberglass. You put the plug down in and that then will go through the line, and in the front of it will be the gasoline and behind the plug will be the diesel fuel. And when that gets to the other end it will stop and you shut the valves and you open up the lid and you take the plug out. You shut the line off to the gas and you divert your fuel into the diesel, and that's how you keep your fuels separated. Well, I had never heard the word "pig" before. Typical farm boy, that pig I knew wasn't what I thought it was. And that was a new experience for me.

But anyway we've got everything on the island. I talked about earlier, we had a 2,500-KVA generator coming in. I had a gentleman from Holmes and Narver that was an old retired Navy captain that worked with us at Enewetak. Fortunately I had put the word out that I wanted this guy hired again if we could find him, but I couldn't remember his name. But Holmes and Narver, fortunately enough, they had records that they could go back and look at. So they found him and he came down to Christmas Island. And he was a very dear friend of mine. And I said, Look, you're in charge of all the stevedoring at the port. I don't care what's being unloaded. You're it. You're Holmes and Narver. You get your orders from me, because I need somebody I know that knows how to handle stevedoring at the port. And so I said, You know, we got this 2,500-KVA generator coming in and, I said, boy, you know, that's a big piece of equipment and I don't know whether the two cranes here on the island, the British cranes, I hope we can lift that off the barge and get it onto the island and then get it up on a lowboy because we got twenty miles to haul this thing down to the main camp.

And I never will forget the old Navy captain. We went out and we went to the ship and we got off the ship and got down on the barge and we both had our snorkels and our rubber fins

on and life vests. And I got to tell you, we're measuring where we think the water is on the side of the barge down to the bottom of the barge which is down in the water. We were measuring the depth of the water that's on the side of the barge. And we get that depth. It's somewhere in the vicinity of about four-and-a-half to five feet in the water. And then at high tide at the port, when the water's at the highest point next to the island, we then measure that down to where the sand is at the port. We find out that we've only got two inches clearance to get the barge in at high tide. And there's probably at least five, six hundred feet that we've got only that inch-and-a-half, maybe two inches to get it in.

And I never will forget the old captain, because we had two tugs on the barge and I can remember him yet. And I'm not going to use the words that he did, but I can hear him hollering yet and he said, *Full bore ahead!* He used some other words but I won't repeat those here. And I got to tell you, those two tugs didn't back off. They drove that barge onto the beach just as hard as they could drive it. And we managed to get the barge in, and then we were able to lift off the 2,500-KVA generator. And it's huge. It's just a huge piece of equipment. And we got it onto the lowboy. And then we had another one come in later on, and we had one down at the test area. We basically had the port, we'd go twenty miles, we got main camp, we go another twenty miles, we've got the test area. And as I say, we kind of lay in a horseshoe but not a real sharp **[00:10:00]** horseshoe like you'd have on a—there's more space in the middle. It's broader than what it would be, and there's quite a big lagoon in the middle.

And so we have one 2,500-KVA generator out in the forward area and we have one at main camp to assist us in getting enough power to power everything and keep people with light bulbs in all of their tents and their lockers. Because we've got now 2,500 lockers with 100-watt bulbs in each locker, so you know it takes a lot of power to keep this all going.

At the same time we've got the distillation plant in to where we can make our own water and get fresh water. Again, we had to lay some additional lines so that we could get bathhouses, restrooms, whatever you want to call them, for people that's living on the island in the tent area.

So you did pattern all that after Enewetak, then, didn't you?

Oh yes. And you know Enewetak, when I went there, was all set and ready to go, so I knew what we had. And we got all this going. My memory serves me that the first test at Christmas Island was I believe the twenty-fifth of April, I believe. I don't know. [Sound of pages turning] Yes, the first test at Christmas Island was the twenty-fifth of April 1962. Operation Dominic.

So we then skipped over [Operation] Plumbbob and—

Yes, we've completely jumped over Plumbbob, and we'll go back and pick that up.

OK, let me just kind of look at this again. [Operation] Nougat? Is it—we're in '62?

You're in 1962 and you'll notice that it says—

[Operation] Storax. Lots of Storax here.

You're too far down. You need to come back to 1962.

That says '63 so I've gone too far.

Gone too far.

OK, Storax, '63 again.

You need to come back some more.

That's September. Sedan. You said something about Sedan, coming back for that.

Well, I did.

I don't know. Maybe it's not here. Dominic. Dominic. Right here.

Here's Operation Dominic. Christmas Island.

Christmas Island here, too. Nougat.

And we're basically starting at—Adobe is the first shot.

Yes, here we go. Adobe, right here.

Adobe. That's the first shot.

So these are the ones that we're talking about.

That's right.

Aztec, Arkansas, Questa—

Black, Questa, Frigate Bird, Paca, Yukon, Mesilla, Muskegon—

OK. OK, those are all of our Christmas Island tests, then.

So let's sort of wind up Christmas Island. We have the first test on April 25, 1962, Christmas Island. Please bear in mind, all of the events, atmospheric, that are going to be fired at Christmas Island are all going to be airdrops. There *will* be no towers and there will be no balloons. They were all going to be delivered by an airplane. And you have to remember that we have at Christmas Island, we got 2,500, 3,000 people on the island that are American workers, we have thirty to fifty British people on the island, and we have fifty natives. And when I first got to the island I said—and we have to revert to I mentioned earlier that the natives and the British lived down at the port. And I told Joe Sanders in a message that I needed approval to build an auditorium without any windows at the port so that I could make sure that I had all of the natives in the auditorium before shot time. Because, I said, we can't afford to get an eye-burn, a retina burn. And I said, No disrespect to the natives, but their intelligence is a little bit lower than ours and I got to be assured that I don't have any native out in the open when we do a test. I got to be assured that they're *all* in the building. And there's got to be somebody responsible, and I will designate a person to be at the port to make sure that all fifty of them are in the auditorium so they will not get an eye-burn.

[00:15:00] And we accomplished that without any problem. We did issue some 4.2 density goggles like we had at the Nevada Test Site to view an atmospheric test. A 4.2 density goggle is extremely dark glass in the goggles. It's a little bit darker than an arc welder's smoked glass in an arc welder's helmet. And that's so you can view an atmospheric test looking face forward with the goggles on and not get a retina burn. And it's spectacular, I have to admit that, you know. And as soon as the fireball's up, you take the glasses off and you then see the results of it.

But anyway we *had* to make sure that all of this. And then of course I did manage to get goggles issued to all of the British soldiers. And I didn't have any qualms about that because I knew the major that was in charge of the British soldiers; he would make sure that that all got accomplished because they knew what we were up to there.

Now the British had not done any nuclear testing?

Nuclear testing had been conducted by Great Britain at Christmas Island in 1955 through 1958. I don't know how many they tested. I've never been able to get any records on that. I'd sure like to know.

OK, but while you were there they had not done any.

No, they did no testing. You got to remember, in 1962 Great Britain and the United States jointly agreed that they would do their nuclear testing jointly, and that we did. We did it, and most of that was accomplished here at the test site. At Christmas Island, we had some people from the Atomic Energy Commission from Australia which were there basically to support Great Britain because Great Britain was interested in it. And I'm sure we were sharing some of the knowledge at the laboratory level for some of the nuclear tests that we conducted at Christmas Island. I have no knowledge of which ones they might've been involved in, but there's no doubt in my mind there were jointly some things together. As to which specific ones, I have no knowledge. I do

remember that the physicist from Australia was a very down-to-earth, common man. I got to be friends with him and he was just a pleasure to chat with. I learned a lot about Australia just through him. And he's always wanted me to come to Australia, but we lost contact and I surmise he's no longer alive because he was a much older man than I was. While I'm at Christmas Island, I'm the age of thirty-two; he's a man that's got to be in his fifties at the time I met him.

Anyway we finally get all the camp and everything running, and believe me, ladies and gentlemen, this is a horrendous job to get all of the minute minor details taken care of. You know you got to have laundry, you got to have feeding, you've got to have housing, you've got to have fresh water, you've got to have filling stations. You name it, we've got to have it. We've got to build a small city and we got to be operational. And I will tell you that if you don't have it all ready by the time the laboratory people get there, you're going to hear about it. And so we managed to get all that done from the twenty-second of February up through the mid-April period, and by somewheres around the first to the tenth of April we're now pushing 2,500 people on the island. We're now ready for the first test to be conducted on April the twenty-fifth. It's an airdrop at Christmas Island, and it's a 190-kiloton drop. It's called Adobe. And we proceed then on from April until I believe, if my memory serves me, around July the eleventh is the last event that we fired, and that was Pamlico, Operation Dominic. That was July the eleventh. Again it was an airdrop but it was one of the huge ones. It was 3.88 megatons. We also did fire one other large one at Christmas Island, and my memory serves me that it was somewheres in the vicinity of seven megatons. [Sound of pages turning] Here it is. It's called Bighorn. It was fired on June the twenty-seventh, and that was 7.65 megatons.

[00:20:00] *Oh wow. That's very large, isn't it?*

That's huge, and I will never forget Bighorn because Bighorn was an airdrop. You got to remember we're only twenty miles away in main camp. All of the people are not in the forward area. They are back twenty miles from where the device is being dropped. But when the device was fired, it created such a huge mushroom that it just seemed to get bigger and bigger. And I never will forget it because the heat on our faces just got warmer and warmer and warmer. I'm the muster officer at Christmas Island, which means that before a test can be conducted I have to certify to the test manager that *all* people are accountable. And so that's a task within itself, to make sure that you've got—and what it really turns out to be is a Christmas tree. You got the one at the top, and then you got the next two, and then it just keeps getting broader at the bottom, and one person may be responsible for fifty people. And those all have to come up the chain and report in to say yes, I've got my people all accounted for.

One morning the aircraft is on its way from Honolulu. I have communications with the aircraft. The aircraft through the Joint Operations Center is where the test manager and all of them—and that's about three miles from main camp—and that's where the test manager and all of them are sitting. I normally would not be—in every case I would not be in the JOC, the Joint Operations Center, at the time of a test. Most of the time I would probably be down in main camp with radio communications with them.

And one morning one gentleman says, I can't find one man. And I know the aircraft's on its way and I talked to the pilot and I said, we've got one man unaccountable yet, and I know you're approaching zero hour, and you may have to make a second pass.

"A second pass." Does that mean "wait"?

A second pass means that he's going to have to wait. He's going to have to come in and go back around and then come back in again.

The person who's missing, or the pilot?

No, the pilot understands that he may have to make another—.

Before he drops it.

Before he drops the bomb. He's coming in for his first bombing run, but I can't account for my people and I'm not going to let him drop that bomb. And so I said, Look, we're frantically looking down here. In the meantime I've dispatched Holmes and Narver security guards.

Well, about three miles from where we have a gate that you can't get into the forward area – we have a security guard there – well, just about three miles from the gate this man was one of the final men that makes sure that all of the test instruments that are in the scientific trailers is ready to roll. He's the last man out. Well, on his way out, the tie rod on his Jeep falls off, and naturally he can't steer the vehicle and he runs into a palm tree and he knocks himself cold. Didn't get hurt. Have no idea how long the man was out. We found him and he was just coming to. He doesn't remember how long he'd been out. Fortunately he didn't get hurt. He just knocked himself out. And we got him beyond the gate and I radioed back to him and I said, Number one pass is OK. Proceed on. And that's how close we got to stopping a test.

Wow! How important it is to account for every single individual, then.

We got everybody accounted for, you know. You got to make sure that *nobody* gets hurt in the test area.

And so the tests continued on. We finished up in July. Mr. Joe Sanders and Jim Reeves said, We need you to stay on the island. He left me on the island and they brought in another gentleman from Grand Junction [Colorado]. He was a safety engineer. And Rollie Shaw left the island and went up to Honolulu to become basically the man in charge of the Honolulu office. And Rollie and I were very dear friends, but Rollie and I at times didn't see eye-to-eye

because he had never been through an operation in the Pacific and I had been through a couple of [00:25:00] them. And let me give you one example.

When we first got on the island in late February or early March I said, I need all the cameras stopped in Honolulu. I don't need any cameras coming to Christmas Island. And in those days we had what we called JTF-8, Joint Task Force Eight, which was a military man basically in charge. Then we had 8.1, 8.2, 8.3, 8.4, 8.5. One of them would be Army, one of them would be Navy, one of them would be Air Force, 8.5 was the AEC. And I said, I need all of the cameras stopped in Honolulu. They got to go through Holmes and Narver to get on the airplane anyway, whether they're military or not. And Admiral Muston [sp] which was the JTF-8 gentleman in charge of Operation Dominic said, Not a problem. And I wrote a memorandum to the file, to Rollie Shaw and to him, saying, It is your responsibility because I can assure you that after the first test, that picture will be in the newspaper in Honolulu the next day. And I've now officially warned you that that is going to become a problem. And the admiral said, Don't worry about it.

Well, sure enough, the first event in April, the next day that picture of that event was in the Honolulu newspaper. A gentleman had taken it with his camera. He had caught the airplane that afternoon, flew back to Honolulu. I have no idea what this military man sold that negative for, but it's neither here nor there. The admiral came in the next day. You got to remember, the late afternoon, the next day after the event, is when it showed up in the paper. The admiral walked in my office the third morning and he said, Ernie, we got to stop the cameras. And I said, Don't talk to me about we got to pick up the cameras. I told you a long time ago to pick up these cameras and that you were going to have a problem. I said, Admiral, no disrespect to you, it's your headache. You take

care of it because I'm not going to touch it. I wanted to take action a long time ago and you overruled me. Now it's your headache, not mine. And I have to admit, I didn't make too good an impression with the admiral but—

Well, they don't like telling what they need to hear, right?

That's correct. And the admiral and I had problems later on. And so the admiral and I—later on I had a gentleman that had a possible heart attack, and I needed the airplane to leave. And he told me that when he was finished fishing, that he would be in, and I won't go into details of that because we don't need that on the record. And so we just didn't see eye-to-eye on some things. But we tolerated each other and we kind of evaded each other as time went on.

Anyway, you know, the series of tests comes to an end in July 1962 at Christmas Island, but we continued to maintain the capability because we're not sure that we don't need some other atmospheric shots yet. The laboratory people said, We got to diagnose all of our data and that's going to take us a few weeks and months. So we maintained capability.

In the meantime we're at Johnston Atoll firing rockets with warheads onto them. And history will tell you that we had some serious things happen at Johnston Atoll. We had one rocket that I think it got three inches off the deck and it blew up, and we had some real serious things that happened at Johnston, but I was not basically involved in that. I was *aware* that they were going on but most of the people that was involved in that—a fellow by the name of Richard Hamlin an AEC man, was over at Johnston Atoll, and Dick and I would talk to each other occasionally on the radio as to how things was going and did he need help or did I have something that he needed. Because Johnston Atoll and Christmas Island are—let's see, Johnston Atoll is eight hundred miles out of Honolulu, so we're between eight hundred and a thousand [00:30:00] miles apart. And he's basically on a camp that has been maintained for a long time,

but they are increasing the island by thirty-eight acres. They're taking and bringing coral up and building more real estate.

Well, there's something that you mentioned and it's been a question that's been in my mind.

When you talked about using some of the people who were headed for Vietnam to help with part of the Christmas Island [testing], maybe this is a dumb question, how much do you feel that testing had to do with Vietnam?

Basically it had, in my humble feeling, as a layman I would tell you that it didn't have a lot to do with Vietnam. We're basically now in the Cold War with Russia.

But they were resuming testing, and with them resuming testing we were resuming testing, and then we also have this little conflict going on. So is the real battle, then, the testing?

The real battle is testing, which basically is a controversy between Russia and the United States. At the same time we *are* fighting the Vietnam War but I don't think there's, in my mind, I don't think Kennedy ever envisioned in using any nuclear weapons in Vietnam. And I won't tell you that it wasn't thought about. You got to remember, it's sad because President Kennedy gets shot and Lyndon Baines Johnson takes over, and so there's a change of command. I don't think the controversy because of technology—and we don't want the Russians' technology to get ahead of us. And so I don't think that changes because we change presidents.

But it just, you know, it seems to me that even the story of the Vietnam War almost has to have a backdrop, the weapons development program between the two countries, and if you eliminate that, you're eliminating a crucial part of the story.

And you got a good point because you got to remember that North Vietnam is a Communist organization which is a piece of the Russians, and there's no doubt the Russians were supporting the Vietnam War. And yes, there's got to be a correlation to how much of that is I, you know—

That's not part of what you have personal knowledge of.

I don't remember. No, that's decisions, I guess I'd have to tell you, is out of the Washington level and the presidential level. There's no doubt about it. There is a resemblance between us. There is a piece of it that has to do with that.

Yes, and you're a fly on the wall, you know, watching things, I was just—

And when we diverted the hundred Marines from Vietnam because I needed the pipeline to get fuel in, I didn't have any way to get the fuel off of the ships, and I was advised that we had a Marine group that were coming from Vietnam back to America on board ship, and so we diverted that ship to Christmas Island. And I have to admit, you know, they weren't too happy because they were wanting to get home to their families, they were appeasable. I have to admit, you know, and I'm not complaining about anyone per se, I'm just saying—Marines are tough. They're trained different than the Air Force. They're trained different than the Army and the Navy. They have a core that just different than we are. And I never will forget them because, you know, you can't drink aboard ship, and so when I got them on the island, the first thing they did that evening was *hit the bar*. Well, I got to tell you, I had a hundred of them and I had a full bird colonel. And they were doing their job except about midnight when I said, The bar has to close, the Marines said, No, we're not closing the bar down.

They don't take orders.

And by this time, I got to tell you, *they* have sopped up a *lot* of suds and they are in a happy mood and they're ready to whip the world.

And they said, No, we're not closing—

And I said, wait a minute, guys, you've had a good time tonight. It'll be here tomorrow night.

And I have to tell you, some of them said, No, we're going to keep the bar open.

And I said, No.

[00:35:00] And the colonel was pretty well under the weather, and I have to admit I hollered , Attention! And I got them all outside the bar and I had them at attention and I was up on the hood of the Jeep and I said, Colonel, it's a direct order. You take these people back to camp, no ifs, ands, buts about it.

And he had to take your direct order?

Yes, he took my direct order.

Oh, that must've felt so good!

But he understood, you know, and he did. He was under the weather.

I also have to tell you the biggest problem we had at Christmas Island is we're on a British-controlled island. *Everybody* drives on the left-hand side of the street, not the right-hand side of the street, and it becomes a real headache. From time to time we have the Navy ships coming in to bring us materials. The Navy guys get off the ship, they come in, and of course again nobody can drink aboard ship. When they get on Christmas Island they *love* to sop up the *suds*. And the Navy guys had gotten a Jeep. They had been down to main camp where we were, they borrowed a Jeep from the military guys at the port – and we did have a complement of military people at the port. We had some tents down there for them to live in, because that's where their work was. Unfortunately the Navy guys came off the ship, borrowed a Jeep, came down to main camp where we were, twenty miles away, sopped up the suds, got in the Jeep, failed to remember that they needed to drive on the left-hand side of the road. They reverted back to the right-hand side. We had an Army guy that was driving a six-by-six, driving on the left-hand side of the road, and so they both were heading straight into—well, they both hit head-on. I'm very sorry to tell you, you know, four sailors got killed because the six-by-six military vehicle we had ran right over the top of the Jeep. And I got the message at two o'clock in the

morning. I immediately sent the guard over to the cafeteria and said, Freeze all of the ice. Nobody can get any ice. I need *all* the ice I can get. I got the carpenters out and got them down to the carpenter shop, the carpenters that worked in the carpenter shop, I got them out and I said, I need four wooden caskets made. I need the caskets made with lined plastic. I need that plastic when you put it together so that it won't leak. And I said, I've got to get them as soon as— And in the meantime we get them out of the accident. I bring them up to the cafeteria. We have one walk-in ice refrigerator, I should say deep freeze, and we put them in there because I have nothing else to work with.

Yes, it was just too warm.

And so I'm maintaining them at as cold a temperature as I can. I immediately get a hold of the captain of the ship.

It turns out there is an admiral on board and he said, We won't touch them.

I said, But sir, they're your men. They're not mine.

And he said, No, you have the responsibility to get them to Honolulu.

Well, I wasn't too happy about that because I thought the Navy should take care of their own people, but I didn't argue with him. I said, I'll take care of it.

And so we got the boxes made. We had an airplane on the island and so I said, Look, that airplane's leaving at eight o'clock this morning, it's headed for Honolulu, and I'll have all four sailors. In the meantime I've phoned all their names up to Honolulu and said, You need to meet this airplane most urgently. And of course everybody at the mess hall that morning had to drink warm water because when water comes out of a distillation plant it's warm. And so everybody didn't have cold water for breakfast that morning. They had to drink warm water, and everybody was moaning because they didn't have any cold water. And finally they realized what I'd done. As you came down

through the mess hall to get your tray, I hung a sign up above and said, Apologize for the inconvenience of hot water this morning to drink, but I needed the ice for four servicemen that lost their lives. And I didn't hear any more about it.

You really can't complain about that.

Never heard any more about it. Never heard any more complaints, you know. If you want to communicate with the people, you hang a sign just above where you get the steel tray to go to eat. That's a good place to put your data.

[00:40:00] *That's what I hear. Well, and a lot of times, being in the know is everything.*

And we managed to get them up to Honolulu, and I did get a message back later that said, Your efforts at the island were magnificent. And so we packed them in ice and shipped them off. I never heard any more about it.

Oh, that's great. Well, you want to talk about Plumbbob, and we do have thirty minutes left on here.

OK. Well, Plumbbob is a series of tests that's going to be conducted at the Nevada Test Site. Plumbbob probably starts in probably January of 1957. It has to be an operation that's going to be conducted at the Nevada Test Site. Yes. The buildup starts in January of 1957—

OK, and this is an underground test. Is that when underground tests—?

No, Plumbbob is still an atmospheric condition. Plumbbob is still atmospheric tests. It starts with Boltzmann, and the first shot is May 28, 1957. It's a tower shot and it's twelve kilotons. Now please bear in mind, at the test site the largest atmospheric shot that's ever been fired is seventy-four kilotons atmospherically.

And that's Hood and that part of Operation Plumbbob.

That's Hood, and that's out in Yucca Flats. Thirty-seven kilotons was fired at Frenchman's Flat, and that is in Plumbbob, and that's Priscilla. Those are the two largest atmospheric shots fired at

the Nevada Test Site. The largest atmospheric shot by the United States of America, or better known as the AEC, is at Enewetak, and that's fifteen megatons. Please bear in mind, one megaton is *one million tons* of TNT. One kiloton is one *thousand* tons of TNT. So they're huge, you know.

But for Operation Plumbbob I left Enewetak to come back to the test site. Basically, you know, I'm still single in this time frame. I basically go where the tests are being conducted. If it's at Enewetak I'm going to be there. If it's at the test site I'm going to be back at the test site. Between Operation Teapot, Operation Redwing, Operation Plumbbob, and Operation Dominic which is at Christmas Island, I've been privileged to be present for eighty atmospheric shots. At the Nevada Test Site, in Frenchman's Flat, as a volunteer, as a civilian, on the upwind side in the trench in Frenchman's Flat, I was a mile-and-a-quarter from ground zero when we fired it. And I'd do it again tomorrow. It just was a fantastic experience and I have no druthers, I'd do it again tomorrow.

But Plumbbob continues on for the buildup starting in January of '57 and we proceed on down. I'm now working with Jack Coffee again at the Nevada Test Site. I worked for Jack starting in January of 1955 when I first got hired in by the AEC, and Jack was just a pleasure to work for because Jack and I had a very good understanding. Jack knew if he told me something, that it was going to be taken care of, and if I knew Jack said he was going to take care of it, I had no doubts it was going to be done. And so we had a great working relationship.

I was basically in charge of feeding and housing and the motor pool at the Nevada Test Site. You got to remember, 1955, the cafeteria at the test site was a turnstile operation. You had one silver dollar. You put it in the turnstile, you turned the turnstile, and you went in and you ate as much as you wanted. Well, by 1957 we had gotten out of that mode of operation. We still had

two cafeterias at Mercury in Building 110 and 112, but we'd got to the point where you had to pay more than a dollar for your meal because prior to—well, up through '51 through 1955, it was [00:45:00] a one-dollar fee to eat per meal, and you ate as much as you wanted. Well, while I'm at Enewetak in '56, Olympic Commissary [Company], which is the feeding contractor at the Nevada Test Site, is not meeting the specs of his contract. And so he is eventually terminated and that is then turned over to Reynolds Electrical and Engineering Company [REECO] to do the feeding at the test site. At that same time, basically, we took the turnstiles out and we put a cashier in. And so as you got your food, basically if you had a heaping, and I mean a big heaping plate full of food, you probably paid maybe a dollar and a half for that. But we started making the price come up a little bit.

And previously it was a real problem at the test site because—as I was working with Jack in the engineering division, but he was basically the maintenance of the roads and things at the test site as well as feeding, housing, and motor pool. It was a real problem because as you came to—we had a cashier in each one of the mess halls to make change, because you needed one silver dollar to put in the turnstile. Well, people would bring out a twenty-dollar bill and they'd say, Oh, give me a ten and ten silver dollars. Well, the biggest problem we had was we couldn't keep enough silver dollars because people would get twenty dollars' worth of silver dollars and spend one of it in the turnstile, or maybe two of them in the turnstile, and then that evening they went to town. And they got back to the test site the next day and they needed another twenty dollars' worth of silver dollars because they left the rest of them downtown. And Olympic Commissary, I was over there every morning to say, How much silver have you got on board? And I got to tell you, *it* was a real problem. And it doesn't sound like it should be, but it was, just trying to keep enough silver dollars. And you got to remember—

Paper dollars wouldn't work? Paper dollars weren't good enough?

The paper dollars would not go through the turnstile.

Yes, but doing change, you know, twenty dollars—

Need to give you twenty dollars, we'd give you twenty dollars' worth of silver back in one-dollar silver dollars.

So it had to be a silver exchange.

It had to be a silver dollar to go through the turnstile.

Yes, but the nineteen dollars didn't have to be silver.

No, no.

That's what I—

But most people would say, Hey, I'm going to eat for the next two or three days here, so I'll take it all in silver.

Oh, a request. That was their preference.

Well sure, it was a legitimate request because, you know—

Realm of the coin, or coin of the realm, I should say.

Yes. And so it was kind of funny, you know, and I used to go every morning over to the Olympic Commissary Company. They were located in, oh boy, I want to say Building 108, I believe, as I remember, at the test site. Anyway I used to go in and see the manager every morning and I'd say, How much silver we got on board today?

And the thing that I always appreciated working for Jack Coffee was Jack Coffee and I both had a tablet that has a carbon in it. So the activities that you did for the day, we all wrote down in this tablet, everything we did during the day, providing it wasn't classified. And at the end of the day, the next morning I normally would take those and we'd put them in an envelope and Mail Stop Such-and-such and it went to Ed Althaus because then he knew what we were

doing. And I did the same thing as I got into the islands. I used to take a log every day and keep what was going on because I got to tell you, they'll save you once in a while because things'll come back to bite you and I'll say, No, in my log I contacted So-and-so and that was supposed to have been taken care of.

Do you still have these logs?

No, I don't have any of the logs. They were left at the various offices when I left. I wish I had them. [Laughing] I'd love to have those logs.

Yes. Yes. What a wonderful historical record.

When I went to work for Jack in 1955, and that was my first time to hire in with the AEC, that's the first thing he instilled into me. And I did that, and I still do it today. I buy an eight-by-ten [00:50:00] calendar book, it'll be three-fourths of an inch thick, and it's a nice book to write your notes in, and I still do that yet today.

Yes. It does. It keeps you focused on what's the most important things to be doing.

And there was a gentleman that worked for Sandia Corporation that did the same thing. In fact, Frank Shelton, he's the author of the book called *The Weaponeer*. And if I really want to know what happened in 1957 or '56 at the test site and if I haven't got the answers, I can probably call—and I have called Frank Shelton a couple of times in Colorado and said, Frank, I need you to bring out your notes and tell me what we did on this particular day. And he'll bring his notes out and he'll tell you basically what was going on at the test site.

OK. I'll take a note of that. Wonderful!

One of the things—it has nothing to do with this study we're doing here, but I really need somebody in the NTS Historical Foundation to really get a hold of Frank Shelton and see what he's going to do with those books when he passes away. Is the family going to keep them? Because they won't mean anything to the family.

OK. So he kept really, really good logs, then.

Oh yes. And I hope somebody that's in the system eventually can—

Now was this the Nevada Test Site logs or—?

Yes, it's a log of while he worked at the test site. Well, Frank Shelton's log—he's a Sandia employee so it will cover everything that he did as a Sandia employee, whether he was at the test site or whether he was at Albuquerque, New Mexico.

Do you by chance have his phone number?

I don't have his phone number but I can get it.

Yes, that would really be—

He's another man you ought to do some oral history with. You're going to have to travel to do it.

That's OK. I can go to Colorado. Is that where he was, is in Colorado?

Oh, I can tell you. I got his address at home. In fact I have his book, called *The Weaponeer*. It's \$112.00, and it's about that thick [indicating size]. He also has written another one but it's classified and you're not going to get your hands on it. I think Darwin Morgan [of the DOE] has a copy of it but I'm not sure. I've been wanting to get my hands on it to see. The second series of books that he wrote, it will talk about every nuclear device that was made.

OK, I'm going to put a star beside his name.

So anyway we commence on with Plumbbob. My memory serves me that Plumbbob has got a number of shots. I think my notes, which I have in front of me here.

Yes, there are quite a few here.

Plumbbob has a total of twenty-nine tests conducted from May the twenty-eighth through October the seventh of 1957. They consist of towers, they consist of balloons, and they also consist of some effort in shafts down in the ground.

Yes, Rainier is probably one of the better-known ones there, isn't it?

Yes. And we recognize in 1957 that there is the possibility of a moratorium coming up. We're also beginning to realize that we need to start to see what we could do to conduct a test underground and not have radiation floating around in the sky. And so there is some effort started in 1957 in Rainier, putting a drift back in the mountain and see whether we can contain a nuclear device that's being fired underground.

If my memory serves me, we did a couple of them in 1957. My memory isn't good enough. I can't remember whether it's in 1957 or whether it's in—I think it's in 1961 and '62. I think it's early '62. It's up in Area 12 and it's called the I, J, K Complex. It's behind Area 12 camp. We installed a nuclear device in the back of a drift. And I have to tell you, when we fired it the entire steel door and everything come right out the drift, it went across the valley about, oh, the valley's probably at least a half-a-mile wide [Des Moines, 6/13/1962]. If you can visualize the side of the mountain and you got a valley and you go up the side of the mountain on the other side, and that's probably at least a half-a-mile across the valley. And that door still lays at the test site, still lays up against the opposite wall of the mountain. And it was just like a bullet coming out of a rifle barrel, and what a shock that was to [00:55:00] us. But we continued on to do, as I say, twenty-nine tests in Operation Plumbbob. The last one was in October of 1957. And as soon as that's finished I go back to Enewetak because I know that in 1958 we're going to have a series of tests again at Enewetak, and I commenced the starting of 1958 at Enewetak.

And as I say, there were a number of tests within Plumbbob conducted at the test site. And if my memory serves me, we did not have any military troops in the trenches. The last series of military people in the trenches was in 1955. We had over six thousand troops involved in the 1955 Operation Teapot series. So we had a lot of military *participation* but we didn't have the

troops in the trenches. In Plumbbob we had a number of structures built again, but 1955 was basically the biggest time when we built the large city, I want to say in Area 1 or Area 4. And we actually built a small city and we obliterated most of the city but there is a lot of documentation on that. That's another subject sometime we probably want to talk about.

But anyway I leave Operation Plumbbob. In the time frame there's six of us. There's Bill Kinder, there's Jerry Johnson, there's Bill Warner, there's Donald Gravening, and Dick Rostentoski, and myself. And the six of us basically are floating between Enewetak and the Nevada Test Site, maintaining administratively the effort at Enewetak. Dick Rostentoski and I are both the office managers, but when I leave Enewetak Dick Rostentoski takes over. And then Dick will return back to the test site and he'll work a short period back here and then I will be in charge of all the administrative effort at Enewetak. Bill Kinder and the other three or four guys, basically, you know, they are the typists, they are the guys that prepare the mail and whatever you need to keep an office going. But all six of us rotate.

Well, I rotate back to Enewetak in 1958 and am preparing for the next series of tests that's coming up in 1958. But at the same time Jim Reeves, as I mentioned to you, realizes that the moratorium is getting more serious and he said, *Boy, you know, I'm going to lose all you guys again because that moratorium's coming on.* And he in the meantime started looking to see where he could place some of us at the end of the test series. And the requirement came for me early. When he went back to Albuquerque, you got to remember, there was not a Nevada Operations Office at this time yet, so when he was in Albuquerque he went back to the finance people and he talked to Frank Abbott about, you know, *Hey, I got Ernie again. Could you use him?* And all of a sudden here comes a message out of the Accounting Department in Albuquerque. A gentleman had resigned and went on to better things and Frank

said that he would accept me if I could come immediately. And so Jim Reeves said he would release me. He said, I know I need you for the series but also I want to see you be able to stay on the payroll.

And so I left early. I did not *do* the 1958 series of tests at Enewetak. I returned back to Albuquerque. And if my memory serves me we, and I don't know how many tests – I could look it up – we did in Enewetak in 1958. We did a series of them because we knew the moratorium [01:00:00] was coming. Then, as my memory serves me, early in 1959 we closed the Marshall Islands and everybody came back to the States then. And some of us got accepted back in Albuquerque. Dick Rostentoski got accepted in the Las Vegas field office. I was in Albuquerque at accounting. Bill Kinder got accepted at the Las Vegas field office. Donald Gravening and Jerry Johnson also got accepted in the Las Vegas field office. They created some other jobs for them. I don't know where Donald Gravening went, and Bill Warner. As my memory serves me, they both resigned from the Atomic Energy Commission. And I saw Bill Warner a few years later. A very young man under the age of forty had a very serious heart attack and he was never able to work again. And I don't know where Don Gravening went. I haven't the slightest idea. *Now at that time, was the public opinion still fairly favorable towards the Nevada Test Site?*

I have to tell you, you know, from the time I came to town—and I came to town in December of 1953 in uniform at Nellis Air Force Base. I'm a staff sergeant in the Air Force; I spent one year at Nellis Air Force Base. And from I guess I want to say January 1954 through 1959, and even later years after that, the whole city of Las Vegas was very appreciative of the Nevada Test Site. I have to tell you, the two largest employers in this city at the time was Nellis Air Force Base and the Atomic Energy Commission. The gaming industry wasn't that big yet. I'm not throwing any harsh remarks at the gaming industry. We didn't have near the hotels that we have today. They

just weren't available. And everybody was very supportive of the test site because they knew that was a place that they made decent salaries, and they were very appreciative of that.

I need to point out to you that from 1951 till we moved the building—well, we moved the AEC people out of the building at 1235 South Main Street, and that's two blocks south of Charleston and Main. There used to be a light on top. There are two bulbs on top of the building. One bulb was blue and one was red. And during the atmospheric test days when we were doing testing at the test site, if the red light was on you knew it had been cancelled. If the blue light was on you knew the test was going to be fired. And I got to tell you, people would drive by at two and three o'clock in the morning to see whether the blue light was on or the red light was on. And I also have to tell you that a lot of people would get up early in the morning to see that bright flash [that] came across the sky.

Yes, I've talked to people who remember as teenagers, you know, getting up and seeing that, and it was something that was very exciting. So it's kind of interesting to say, is there any marked time where public opinion began to change?

Well, it's amazing. I talked to Dina Titus, and Dina Titus will tell you she remembers watching the bright white light come across [Dina Titus wrote about those who experienced nuclear testing in Nevada but did not herself witness atmospheric testing]. And it's just most interesting. It's been a great program. It's been, in my humble feeling, a great effort for the defense of our country and a great deterrent for this nation. I don't think a lot of people understand the magnitude of deterrent that it's had. And I have to tell you, between the United States and Russia, billions of dollars was spent in the Cold War effort, and we finally just outspent Russia, in my humble feeling as a layman. I think we literally, financially, we broke Russia because they're trying to keep up and they can't finally do it, and we literally break them.

But it took a lot of years.

Took a lot of years. Again, as my career proceeds on, I come back to the test site in '62 after [01:05:00] Operation Dominic, the end of the atmospheric test days. We proceed to go underground at the Nevada Test Site starting in 1963. We stayed underground through 1992. But I continued to work at the test site until 1975, and in October of '75 I was asked to come to town and work in the budget shop.

Oh! So that's where you were, then.

And as I worked in the budget shop, I was a budget analyst, and then I started in on preparing the budgets for the operation of the test site. I worked from 1975 until 1983 as a budget analyst. I basically was on the reimbursable side, as well as capital equipment and GPP [general plant project] and line item construction. Then in 1983 Norm Pearson [sp] retired – he was the branch chief of the budget shop – and so then I took over as the branch chief. The budget officer of the Nevada Operations Office had 1.4 billion dollar operation. You're basically the comptroller, is what you really are.

Oh wow. Yes. Well, we've only got—oh, we do have five more minutes on here.

And so I proceed on to work in that position until 1986, and I now have thirty-seven-and-a-half years in the service with the Atomic Energy Commission. And I thought I was financially in a position to where I could retire, and so I proceeded to do that immediately. Tom Clark was the manager of the Nevada Operations Office and Tom says, I don't want you to go. You're not going to turn your badge in. And so I was hired by Reynolds Electrical and Engineering Company to come back and I worked part-time—shouldn't say "part-time." I worked full-time for six months back in the DOE office basically where I was when I was a fed. And then I was released in 1987 and Tom Clark said, Ernie, I don't want you to go. I

want you to stay with Reynolds Electrical and Engineering Company. And so then I got into the public relations side of the house.

Oh, that's where you were!

And so then he asked me to start conducting tours. And so I basically got my orders from the feds, but I was on the REECo payroll. And I've continued to do that from '87 through 1991.

And in '91 Nick Aquilina called me and said, Ernie, I need you to come to my office. So I went down to see him and he said, We got the Russians coming to the test site.

This is my specialty. This is mine.

And so that's when he asked me, he said, Would you be appeasable to being the senior verification representative coordinator between the Russians and the United States?

And I said, Yes, I guess I can do that. I said, That's a big task but I'll take it on.

And he said, I kind of assumed you would because, he said, I know the Russians won't get any more than what the treaty calls for and we won't get any more than what the treaty calls for. And he said, I'm going to send you to Washington and you're going to the Defense Intelligence School for three to four weeks.

And I learned a lot about the Russian government, the Russian leaders, what their philosophy was. And I returned from that and in May I came full-time on the books. I then was transferred from REECo and put on the Holmes and Narver books as an engineer specialist. Titles I go through like water. Anyway I then was to be at the test site when the first Russians arrive for the Threshold Test Ban [Treaty], TTBT. And basically I'm a logistical man. Whatever

we need to support the Russians with at the test site, I'm the coordinator that knows who to go to and how to get it done.

And that's the story for our next interview.

[01:10:00] End Track 2, Disc 2.

[End of interview]