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

Interview with Norma Cox

March 25, 2004
Las Vegas, Nevada

Interview Conducted By
Shannon Applegate

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Shannon Applegate*: First off, could you briefly describe in about five to ten minutes, give us your name, your date of birth, where you were born, and how you came to be employed at the AEC.*

Norma Cox: OK. Well, my name is Norma Cox and I was born, I hate to tell you the date but July 18th, 1925 in Las Vegas, Nevada. And I went to school here and then I went to college in Long Beach at the junior college there. When I completed that I went to Occidental and got my degree in economics. My mother had a stroke—my intent was to go into the field of merchandising—so I had to return to Las Vegas to care for her.

And in looking for a job I first went to a bank, and then to Nellis Air Force Base. I was with a group that provided the logistical support for the first AEC people that came out. There was no permanent contingent here to do the testing at the test site. And I thought gee, wasn't that exciting, what those people were doing. And then I—my husband convinced me I should leave Nellis and go to work for the AEC because they were paying better pay. So I left a GS [government service]-4 to go to a GS-5 job at the AEC. Actually I started July 1951 and I worked for the first logistical support contractor at the Nevada Test Site, which was the Haddock engineers. I worked for them for a couple of months until my Q-clearance came in. And since I was the first person that was cleared in Nevada, the first person hired in Nevada, my Q-clearance is NT-1. So I have a very easy number to remember.

I think the reason they hired me was they were looking for people obviously that they didn't have to spend a lot of time chasing their background. Since I was here locally when I went

to work there were two other women in the office, on loan from Los Alamos. I don't remember whether it was a field office or what, but it was Lois Craig and Pat Hammel. They worked here for a couple of years.

Our first office was on Third Street, Third and Fremont, over Bond's Jewelers. We moved from there, and at that time it was a field office and the manager was Kennor Hertford. He was a colonel. Well, most of the people came out of the Manhattan Project. And then he was replaced by Seth Woodruff. And Seth Woodruff came on the scene not long after I went to work for them.

And they were growing. Largely the offices—two things. Security and a group of engineers that actually built the Nevada Test Site. It was Ed Althaus who was in charge of the engineers.

Who? Ed—?

Ed Althaus.

Yes. And anyway it got too big so we moved. We rented some space over on Main Street, and I think the address is 1231 South Main. And we were there for some time.

Well, I had to leave because in those days women weren't allowed to get pregnant and I got pregnant. And so I left in 1952 to have my daughter. And at the time I left I was working for a gentleman by the name of Craig Voorhees. Craig Voorhees was the chief of the administrative branch. And actually the person that had interviewed me was Stanley Froistad. He actually did the hiring of me but I worked for Craig Voorhees.

And I left, as I said, in 1952, and then after my daughter was born I went back. And they had filled my position but Craig and I got along well. He decided—there was an administrative officer that had left—so he took the position and broke it down to an administrative clerk so that I could go into it as a GS-6. And I was in that office—they actually created a job for me. My

function was to stay in town while they went out to the test site to do the operations. My responsibility was, one, to supervise the receptionist. We had a whole group of public information people come in. Because in those days you had a lot of the top journalists from not only the country, but the world, out to see those atmospheric tests. We also had a lot of Congress people, and so, too, my responsibility was while they were in town I was to provide whatever they needed.

Oh OK. So you met a lot of different people.

Yes, I really did. Yes. For example, I met Robert Oppenheimer.

Oh, did you?

But earlier I had met him.

What were your impressions of him?

Actually it was just a casual thing, and I was impressed by everybody because in those days they were really very remarkable people.

Well, still are.

Yes. And so anyway that was my job. Well then I worked there until it was 1955, and my husband had an automobile accident and I had to care for him. So I asked for a leave of absence and I wasn't permitted the leave of absence, and I think there were two things. By this time the field office had been broken down to a branch office, so I had been the administrative clerk. In order to protect my grade they put me as the secretary of the manager, who was Joe Sanders. And so when I was working for Joe Sanders—I asked them and he wanted to give it to me—but in those days there was a lot of prejudice against women. In fact the personnel officer said to him, `There will be no women administrative officers as long as I'm personnel officer of Albuquerque`. They provided all of our personnel services in Albuquerque. And so

I think that was partly the reason. The other reason was Craig had left by this time and, Sherm Sullivan came on board. He came from Oak Ridge and had a secretary that he wanted to bring out with him, and so I wasn't given the [position]. What really pleased me—Joe Sanders said to me shortly before he died, the biggest regret of his life is that he hadn't been able to give me that—

Oh, that's nice.

Yes, that was really nice. It was really nice. But anyway, so when I wanted to go back to work, which was in 1957, they didn't have a job for me. So while I was working for Joe Sanders there was a man named Oliver Placak. He was in charge of the Public Health Service people. And in those days the way they used to run the off-site radiological safety program is that Ollie Placak and his assistant would have coming to them on loan people from Washington, from other Public Health Service offices, and state health officers from all over the country. And we ran through usually, as I recall we had one operational period where they ran through three sets of these people. And there were about twenty-five people assigned at the time. He had been encouraged to hire a secretary, and actually I had been doing his secretarial work while I worked for Joe Sanders because they were very close. And so he talked to the people in Washington. Well, the grade became an issue. They wanted him to hire a GS-4 and so I said well, I wouldn't take that. But anyway, he said, `Well here, you write your job sheet and we'll see if you can get it`. Well, I was given my grade back. Went to work for him and I was most fortunate because those two gentleman talked about everything on the test site. And they did me the courtesy of taking me to coffee with them. And so I know it made Ollie's deputy kind of irritated because he wasn't taken but they took me.

Made who? The deputy?

The deputy for Ollie Placak. He had a deputy and then he had some other people but he took me.

Now why did they take you?

They seemed to like bouncing things off of me, and the other thing about it. I was the alternate top secret officer back when I was working for the AEC, because I was the one that knew how to operate the teletype, and when the top secret information came across it was encrypted and somebody had to get it copied.

How did you learn how to do that?

I learned on the job.

Did you just figure out the machine or—

No, when I mentioned the two gals from Washington, we always had classified information coming in, so because I was to fill in for them, why, they taught me how to do it.

How neat. Now what was that machine like?

Well, it was a big thing like this, but it worked like a typewriter. What you did is, it had tapes in it and when you typed it made codes on the tape, and the news went over the wire and was sent to someplace else. So there was a lot of classified information coming back and forth. What you did with the classified information, if you were sending it, you had duplicate tapes with Los Alamos, with Washington, with Albuquerque, the different offices, and what you did is you took the tape that they had the copy of and you put it in and it would actually scramble your message.

Oh, how neat.

Yes. The only unfortunate thing about it is I couldn't keep a watch because my watches got magnetized and I was constantly trying to get them repaired. I'd take it down to a jeweler and they'd say, `Oh, we got it fixed`, and they'd have somebody in the shop wear it for a half a day and, `Oh, it's fine`. I'd put it on—

It's gone.

Gone. But anyway—

Was it complicated to learn how to use it or was it like a typewriter?

Well, it was complicated in that you had to know where—I mean there were different things about capitalizing. It wasn't real complicated.

OK. OK. But now why didn't the deputy learn how to work that machine?

Well, I'd learned when I was—I was no longer the top secret officer when I worked for Ollie Placak because that had to stay within the AEC. But anyway, actually I'd learned, I think—who was the manager? I learned it under Seth Woodruff. Then of course he was replaced by, oh, what's his name? [Max Smith] Anyway there were several managers and they were always the top secret officer and I was the alternate because they didn't know how to operate this thing.

Right. Did they just not want to learn it or was it time-consuming?

It took time and it was a clerical function so probably a little beneath them so they didn't learn it at all.

Now, becoming the alternate top security officer, was that like a promotion or did that give you a different status in the office that you knew all this top secret stuff or—?

No, what gave me status—Craig Voorhees, when he was there, was not married; the man saved every nickel he ever made. He asked me, because—one of the things I'd had to do—I simply did it because as people come and go I guess they thought they could depend on me—I had to show everybody how to operate the safes. We had a whole room of banks of safes with all this classified information, and Craig asked me to keep his bank books.

Really. So you knew all of his finances.

Well, I never looked at them but all the girls wanted me to look at them, all the single girls, and some of the married girls.

Oh really? They had designs on him, huh?

Yes, because he was a very smart man and he was quite attractive and single.

Did he romance anybody in the office?

No. No. No, he moved from there. He followed a fellow that was manager of the total AEC, and I don't remember his name right now, but they moved to Buffalo, New York. The fellow that became the manager of the whole AEC became the manager of Buffalo operations office, and he and Craig moved there. And a fellow named Quidor took his place.

Now the AEC, did they have offices all over the country, is that how that was?

Yes, they had offices in Oak Ridge and Savannah River. Now I don't know when the ones in Richland, Washington, or, the ones in Idaho came on. But you had Albuquerque, you certainly had Los Alamos, and most of the people that initially manned this office came out of Los Alamos, the security officers and, as I say, the engineers. But each office had individual responsibilities.

Was there a lot of communication in between the offices or—?

Yes.

Did you rely on each other for different aspects of your job?

No, it was mainly the transferring of test information and classified information. There were test plans for every test and we had a lot of scurrying around to get congressmen cleared and journalists cleared so that they could come out and view the—so there was a lot of that. And when they set up the visitors' center, they would bring people in from all over their offices and

they would help with the information and providing services for the visitors. But I had the fortune, good fortune of seeing almost every atmospheric test.

Did you really?

Yes.

What were your impressions of the first one you saw?

It's awesome.

Really?

Yes. It's awesome. And of course you wore big black glasses. And the funny thing about it, not much was known about seismic motion at that time, and so I remember one time they told us that we all better sit down because this was going to be a big one. Well, we felt nary a thing. And then another time they said, `This isn't going to be big. You don't have to worry about it.` People were falling down.

Really? Is it like a gust of wind?

Yes. It's more than wind. It's heat.

Really?

Yes, there's tremendous heat. Nob Hill, we went and saw it there and we were pretty close. I don't know that we were as close as the [Camp] Desert Rock people but we were very close.

Now, was there a smell, like, was there—?

Not a smell. It was the rumbling of the ground underneath you and this sense of light and heat that was just—

Were you afraid for your safety at all, or did you think it was just really safe?

I really trusted them that they knew what they were talking about, and they were there right with me. And I wasn't the only one. I probably went to more than anybody else because of the responsibilities I had. But I thought it was exciting.

Now why were you there? Why did you get to go to the tests?

Because they were something to see. It was a new experience for people. When I say my responsibilities, particularly when I was arranging for the logistical support for the visitors' bureau and that.

Oh, OK.

In fact, before I ever left the AEC they had gone to the underground tests and so there were no more of those. But I remember when I was pregnant, I was taking a tour—I don't remember who was taking me on the tour of the test site—we went to one of the towers, and the men wanted to climb it up and they encouraged me to climb it up, and I was pretty far along.

How far along were you?

I think I was about six, seven months.

So you were showing.

Yes. Oh yes. They knew I was going to—

Oh wow. And you didn't climb up.

No.

Now what was the tower? Was it just—?

Well actually it was metal and then on the top of it, it had a little cage, and that's where they would set the device, and they would drop the device from there.

Ohhh. Now was that one of the towers that had already gone off or was this before? Well, I guess it would be before because after it would disintegrate.

Yes, it would be before because later it was gone.

But when they climbed up, was the device in there?

No. No. Now there was one gentleman by the name of York. They had one that didn't go off.

Were you there at the one that didn't go off?

No, I wasn't there. Actually I went out and they told us it wasn't going to go off, but they had to disarm it and this gentleman went up and disarmed it. There was a big story in all the newspapers.

Who went and disarmed it? That would—

His name was York.

OK. That would be scary.

Yes, that was scary.

So were there any mishaps that you can remember at the atmospheric testing, or did everything go off according to plan and—

Well, as I said, seismic knowledge wasn't very good but they developed a lot—if they set it off here and then it gave them some indication of the nature of the underground by the way the motion went.

But anyway, so I'm now working for the Public Health Service. Part of the deal was when they hired me that I was to still provide the local procurement and to provide the personnel services for the AEC people, but I was to work for the Public Health Service.

Now when was that?

That was in February of 1957. So I started with them, and they later became the Environmental Protection Agency. But I worked until I left there in 1974. Because we had a very large reimbursable contract, we provided, as I said, all of the off-site radiological safety monitoring.

We had the aircraft that now are, I guess, are with EG&G, I'm not sure where they are, but we acquired the aircraft and did the monitoring. By this time I was moving up, finally.

Yes.

Yes, I was moving up. In fact, when I left here I was the highest paid, highest grade woman in Nevada.

Now how do you move up? Is it based on seniority or do you have to take a test or—?

Well, I did have to take a test at one time, which made me mad because later they did away with that; as long as you had a college degree and a "B" average they could hire you and I certainly had that. But actually what it was is that it just seemed like people kept asking me to do more and more and more, and so my job just sort of grew. And anyway my principal contact with the AEC was with the budget and preparation of all the cost estimates and supervising the accounting crew that kept the records. It was interesting because EPA had its own cost accounting system and DOE had its own, so we ran everything on a dual system, which complicated things a little bit but—

So was it like a dual ledger book, is that what—?

No, by this time we were into computers.

Oh, OK. So you had to learn computers.

Yes. I never actually worked a computer but I had to learn them because I had to know how to set up a system because we had to set systems up, and the computer specialists we had were all technical. I mean they were for the monitoring side and the technical information, so we had to help them design the system.

So the other thing that I was very proud of—in fact since I retired I became a member of the League of Women Voters and I was asked to serve on a committee that was looking at the

strategic management plan for the high level waste repository. At one of the meetings someone came in from Nevada and very proudly announced that they were the only operations office that had a form of funding called Basic Capability. And I thought, My God, if they only knew, because I had designed that.

Did you really?

I designed it for EPA because when I left our reimbursable contract was about a million and a half [dollars] and it was difficult because the DOE was facing cuts and it was difficult to get money for any projects. But I worked on that. In fact, you talk about what it is. Here I am coming over with my assistant, and he was male, to present to all this roomful of men this thing, and they didn't get it. And they thought I was nuts. And anyway, I walk in and they almost asked me, `Will you bring the coffee?`

Did they really?

They didn't believe that was the sense of things. What are you doing over here? And a lot of them remembered me back when I was a secretary over here. Anyway, we went back and forth and back and forth and I don't know how many meetings we had. That was when they were on Highland. And finally the then-manager of the DOE, oh, what was his name? [Robert Miller] He's dead now. But he said, `Well, you tell her to bring me some briefing material.` So I sat up most of the night working on that, and I took it over before I went to work and gave it to him, and by that afternoon the word came out: `Give her Basic Capability.`

What year was that?

Oh gosh, well, I left in 1974. It's got to be around 1972, 1973, something like that.

And what evolved where you created this? It's like an accounting system?

Yes.

What led up to it?

I mean it was more of a budgeting system. Well basically because the DOE funds were being cut and they wanted to give us enough money—then they would spring tests on us—and we didn't have enough money. And so what we wanted was to be able to be sure we kept a certain cadre of people that could perform the work. And so we said, You give us this much money for a basic capability and this will pay the basic salary and we'll distribute their costs as they go into an operation and give you the cost information. But we need that funding to be able to hire them and to keep them, and then when you have a test you ask us how much overtime, how much travel time do you think it'll take, how much additional expenses, and we'll give you that but keep that separate. The other is the basic capability. Now I don't know whether they've adopted exactly what I had but I was so pleased to hear that because I had fought so hard to get it. It was just really something. But anyway, what else was interesting about my time there?

You mentioned your GS-4 and GS-5. What was that? Was that just a different grade or—?

Yes, in the federal government every job has a grade level assigned and they range from GS-1, although I've never seen a GS-1 or have I seen a GS-2, but they range from that to a GS-18, and now they have a senior executive service. In those days the managers of DOE were [GS]-18s and I don't know what they are now in the Senior Executive Service.

So it's better to be at the [GS]-18 level because that's a—

Yes, very much better.

And how do you move up that ladder?

Most of my moves were that I created my own jobs.

OK, so it wasn't like you put in a year-and-a-half and you were moved up or—

No, no. There was no automatic anything. Actually I didn't get into the competition world until—with the EPA we had four research centers, and we had one in Cincinnati, one in Durham, North Carolina, we had one in Corvallis, Oregon, and we had one here. I was called a management officer, and my three counterparts were male. Two were GS-15s, one was a GS-14, and he didn't have any authority. We did all of his contracting, we did all of his personnel work for him, which the grades are based on, on your level of responsibility. And he was a [GS]-14 and I was a [GS]-13. And I left because they kept promising I would be the same as the Cincinnati and the Durham, that that's where I could go. Finally the head man in my field, which was administration, came out from Washington and said, `Yes, we're ultimately going to have one out here. Whether you get it, I don't know.`

How did you feel about that?

Oh, I felt terrible. I mean I felt mad. I was really mad because I had been promised that for about two or three years.

That long.

Yes, it was a long time. And so I went in to the director of the lab and said, `Find me a job that I can sit in while I look for another one.` Fortunately for me I found one in six months and was able to move. I moved into the Bay Area and then I moved from that job to another one and I got my [GS]-15.

Did you really? So the highest you went up was [GS]-15?

Yes.

Does that affect your pay?

Oh absolutely. Absolutely.

Oh, OK. OK, so that's why you wanted to move up.

Oh yes.

OK. So that was the only way really, it sounds like, to move up, would be you'd have to move to different offices.

Yes, you'd have to move to different offices.

How'd your husband feel about that, and your kids?

By this time my husband had had a couple of automobile accidents. He worked at the test site and he could no longer work. He had cancer. And my daughter, we tried to get her to go with us when we moved up. My job was in Berkeley. I became the regional administrative officer for the Agriculture Research Service of the Western Region. And we tried to get her to move with us and she went up and in those days Berkeley was a—.

Was this in the 1960s?

In the 1970s. Late 1970s. She took one look at it and said, `This isn't for me.`

She wasn't a hippie.

No, she wasn't a hippie. So she stayed here and we moved up there.

What did you husband do at the test site? I didn't know he worked there.

Yes, he worked there. He started out in supply, as I recall. At one time, I think I can say this, he was the assistant manager out at Groom Lake. And that was when he had his second accident. And from then on they were very concerned about medical claims, so he had kind of an on-again, off-again, and then he was in and out of the hospital a lot.

Did you all meet through the test site or had you met before?

I had met him when I worked at Nellis Air Force Base.

OK, and then you both just worked for the test site together or—?

Well actually he stayed with the Air Force and then I went to work for the Atomic Energy Commission. Then he quit the Air Force and—I mean I knew the top people—so they were able to help him get a job.

So did he know them through you? You were his connection.

Yes.

Oh, that works good.

Yes. But anyway it was a fun time, a lot of very nice, interesting people.

Did you meet any reporters?

Oh yes.

Any famous—?

Yes.

Who did you meet?

Gladwyn Hill was the one name I can remember, but that's really the only one that's like a memory.

And then you helped them get out there and see the testing and everything, so you were kind of their coordinator, is that—?

Yes.

And it sounds like you moved through all sorts of different aspects of jobs.

Yes.

Now when you moved up all the way through to the GS-15 level, were you still under the umbrella of the AEC or—?

No, no.

This is just moving throughout the government.

No, actually as I said, I had moved to the Public Health Service which became the EPA but my relationship with the AEC, they used me to do a lot of the—if we had a contracting problem, for example, we needed a telemetry system so they could telemeter the radiological data—so at that time REECo was the support contractor and it was a problem. So I worked with their contracts people to try to get that straightened out.

What was the problem?

Well, it was just that the specs hadn't been that good, which in those days that was very common because there wasn't anything off the shelf that you could go out and buy. People designed it and they thought maybe this will work this way and then work that way. And then as I said I did all the budgeting and then I worked pretty close with the personnel people over here, and the legal people when we were getting into a contract dispute.

Now when you were working for the EPA and you were getting all this radiological data, did you have to learn the scientific jargon and—

Oh absolutely.

Was that intimidating or—?

Yes. When I first was hired, there was Ollie Placak and Mel Carter,. Then he brought in two additional—they were all commissioned officers, which is they carry a rank like the Navy. And anyway then they brought in all these people to help in the time of an operation. So I became the secretary, I became the radio operator, because they were all out in the field and we had to maintain communications with them, so they'd call in to me and tell me they were here, there, or what. And so because I had to type all the reports of all their data, I certainly learned something about the—

And you had to do it on a real typewriter.

Yes, a real typewriter.

With no backspace and delete.

No, and if you made a mistake—and I don't know how it is now—but I had to type up—and I don't remember how this is and whether it was just for our organization—but everybody had a plan for every test and they didn't like any errors, so you had to be a pretty good typist to do that. But had some interesting times because they used to do security sweeps.

At the test site?

At the test site, before a test, to make sure that there was nobody out there that shouldn't be out there.

Oh yes, before one of the bombs went off.

Yes, yes. And so one time I was out there—we worked in an old warehouse out at Mercury—and the boss hadn't come in and someone said they had to fly Bill Adair. No, he came later from the fellow I'm trying to think of. But Bill Adair, who was also at one time a manager, they were going to fly him down to look at some cattle because they had to get these cattle out of the way.

And so they said, `Do you want to go with us?`

And so I said, `I don't know, I should talk to my boss.`

And they said, `Oh, he won't mind.`

Mind! He wouldn't speak to me for a week.

Why?

Well, because if anything had happened and I'd been out in that airplane…. But it was real interesting. They used bush pilots from Alaska and they would be flying along and `Oh, I see some cows down there.`

How big was the airplane? Was it just—?

It's just a little plane, maybe a three-seater.

Why, you're adventurous! So were you nervous at all about getting in that little plane and—?

No. No, I thought it would be fun, and it was except with all this up and down and up and down. I guess there were four of us because Mr. Adair was there too. And they were dropping him off, I believe, as I remember it was Alamo.

What a fun job! So it sounds like you just were, through the course of working at this position, you were thrown with a lot of different things and you had to adapt and—

Yes.

How exciting you were exposed to all this. So did you go through the whole test site in this little plane? Is that what they would do?

No, they flew around the test site. They flew around. Now I have flown, as I said, the group I was with at EPA did the off-site radiological safety monitoring and much of that was done from planes later in years. And so one time before they even had the planes they needed a monitor for Mercury so they gave me a Geiger counter and out I went.

Really!

Yes, I was monitoring.

Through the whole test site?

Well, just as much because I was walking and it really wasn't very big anyway.

So what would you do? You'd just record the—

Yes, record the readings I got. But they needed another helper on the plane so I went up with them and operated the monitoring equipment, some of it that they had.

So they had monitoring equipment in the plane?

Yes.

And would that calculate the radiation?

Yes.

So you would just be up in the plane and taking notes on what the readings were, is that how that—?

Yes, well you're checking the equipment and getting the readings and then sometimes the equipment would get out of adjustment and you would change it.

How did you feel about radiation? Did they know much about it or—?

Well, what I did know. No, we were taught to respect it and we had film badges. I guess I gave them a lot more confidence than I have in recent years. But I think they were a lot better then. They were a lot better. Over the years I just saw a lot of degradation in the program.

Oh really? So they were more careful, you think, in the earlier years?

Oh, very. The men that were involved in this, now they didn't have knowledge but they had some pretty impressive men. The man that wrote the very first radiological health book, and he came out of NIH, was with us.

From where? He came out of where?

National Institutes of Health in Washington.

Oh, OK. So you had the experts.

Yes, we had the experts. We really had the top men in the country. And people that designed equipment. And I had a lot of confidence in them. But what I saw later is they all retired or died or whatever and a lot of people came along that didn't have the same concerns or knowledge. And for example the commissioned officers that came to work for us. It was I guess during the Korean War, and so we only accepted master's [degrees] and they had to have a very high grade average, so we got people out of Harvard and Yale and all the good schools.

So did the standard just get lower or do you think—with the education it did?

Yes, it just got lower.

And do you think that people just got more accustomed to the testing so maybe they weren't as—

Yes, I think that was it. I think that was it, yes. I'm not sure I should even say that.

Well then, don't worry about it. We can go somewhere else. Going back to when you first were hired, you said that you went into this office and there were two other women working there. Did you have to set up any procedures or did you get direction as to how this office was going to function?

Well, they left, and they had certain procedures—

Actually I learned how to use a teletype, I learned who the people were, but by the time we moved to Main Street I got so tired of hearing my name.

Oh really?

Norma!

How many people were you supporting?

Well, it wasn't that I was supporting anybody but I got to teach everybody how to do their jobs. And when there was a problem they called on me, and maybe I became a little resentful, but I really enjoyed the work so I didn't fuss about it too much.

But is sounds like you came up with a lot of the procedures for setting up the office and how to do things and—

Well, I certainly did with the Public Health Service. I set up the whole administrative manual.

Well, you studied economics. Are you just an organized person? Is that something that you're just good at?

Well, I hope so.

Because it sounds like it's just a natural talent to do that.

Yes, well, I retain things. And like I was telling my daughter—I'm having a blood pressure problem and the gal said relax and think of something pleasant—I tried to think of the ocean but all my senses are so alert to everything that's going around me; it's very hard for me. I mean I could never just concentrate on one thing.

You like being spread all over.

I like being in everything and I like looking at the whole picture, and when I said I went to coffee with those two gentlemen, I think that's what they liked about me because as I said they bounced ideas.

What kind of things would you guys talk about?

Well, I was mainly listening. They might ask me what I thought, for example, they would hire a contractor for the test site like Los Alamos and they'd do their job and then they'd start to get a little sloppy. So, `Well, it's time to pull it away and give it to Lawrence Livermore,` and so they'd pull it away and give it to them. And talking about that, they talked about people and the things that were good about them and bad about them; when they had a problem I knew about that. So I learned. That's where my learning came from, was those two guys talking to me.

Really? You learned more about the overall organization, the business, and things like that, is that—?

Yes, management and that sort of thing.

What was the best thing you think you learned from them? Or the most vivid?

I'm not sure I learned anything. Oh you mean—

Yes, I know that some techniques for managers are learned just by watching them, like how they deal with people and problems. Is there anything that you learned, how they dealt with a situation?

No. I'll tell you where I learned that. I learned that from the people later that I worked with or worked for. For example, with the EPA they decided they needed a, quote, "management officer". So Norma wouldn't do; she was a woman. So they hired a fellow and I think I learned as much from him about what *not* to do.

I've learned that way too.

Yes, I learned more about what not to do. I learned a lot of good things from, say, Mr. Placak and Joe Sanders. And then over the years you work with people and you see where they err in your mind and so you try to adjust your own behavior for that.

Did anybody in the office treat you different because you were having coffee with—who were the two gentlemen?

Placak and Joe Sanders.

Did they treat you different like—?

Well, here's a—we went out to one operation and when we came back—we were on Main Street—and when we came back into the office—we'd grown quite a bit by then and they got more permanent people—

How big were you now?

Well, right after I was hired they hired two gentlemen so that was five of us, but by this time there were quite a few more. Not a whole lot more but quite a few more. Anyway, when we came back in the office—and we were given new space by the AEC. We started with just a little office right in with the AEC, and then they gave us space right next door to them, where

Reynolds had been. And anyway, when we moved back Mr. Placak talked about how people were going to sit. So the deputy naturally thought he was going to share Placak's office and, oh no, they took Norma. So he was kind of upset, but he's a very dear friend and I've always felt like we kind of grew up together. But the one thing about Mr. Placak particularly, his great pride is in how he was able to develop people.

Oh, that's interesting.

Yes, that's something that made a real impression on me.

Yes, because you don't see that very often.

Not anymore you don't, at all.

Yes, you really don't.

And so I learned as much about management, although he was a very laissez-faire manager. And people that needed direct supervision couldn't handle it. A lot of people disliked him immensely but I adored him because he really did give me a lot of information and taught me a lot of things, good things, I think, because I think it's extremely important, to the people that you have working for you.

Now, did the AEC ever become the DOE, is that how that worked or—?

Yes. Yes.

Now, were you around during that conversion or—?

Well, when it became DOE I was with, I think, it was still the Public Health Service. And so they didn't become DOE until they moved from Main Street to Highland and they became a DOE there. But I came over and, as I said, I presented all the budgets and did the negotiating on some of the contracts and things like that.

Did the people stay the same or did the organization still pretty much stay the same or—?

No, it changed. It changed. It changed dramatically.

How did it change?

It got much larger, of course, and it became an operations office. I don't think it became an operations office while it was still called the AEC.

OK. Did you still have some of the same contacts?

Oh yes. Yes.

Oh, OK. So a lot of people stayed.

A lot of the people stayed, they were the same people, but they hired a lot of others.

OK. And then when you were working for the AEC, did people stay in positions or was there kind of a revolving door?

No, they pretty well stayed. What they did is they stayed in the system. Like I said, a lot of them, they moved from Las Vegas and went to Hawaii.

Nice!

Yes, and they moved over there because they had—I don't remember whether it was a field office or what. It wasn't an operations office. But they moved over there. So a lot of the people that were around are still there.

How come you didn't go to Hawaii?

I did but it was—

Oh you did?

Yes, because my husband was in the hospital over there.

Oh. He was in the hospital in Hawaii?

Yes, he had gone over to work at Christmas Island when they were doing the tests over in the south Pacific. What had happened to him, he picked up a staph infection on one of his surgeries and so he was in and out of the hospital.

So what did he do at Christmas Island?

He did administrative work. He was moving fairly rapidly before he had his first accident and that kind of stopped everything.

It was a car accident?

Yes, coming in from the test site.

Was it strictly an accident or did somebody hit him or—?

Somebody hit him, yes, came across the road and hit him.

Now were there roads at the test site or was it just open field?

No, actually you had a two-lane highway going out there, and they used to call it "the Widowmaker".

Really? Why?

Because so many people got killed going back and forth out there.

Is it because the road's treacherous? Because I imagine this empty, vast, nothing road.

Well, the one thing about a road like that, it's mesmerizing you.

Ohh. People go very fast, I would think, too.

Yes, it wasn't so much—I think they more than anything just got mesmerized and maybe got drowsy.

Really.

Yes.

How long is it? Is it five miles or is it—?

No. Actually they have a four-lane highway out there now. It's been out there for some time. But inside the gate it's sixty-five miles.

Yes, it's not a short little—did your husband drive that a lot?

Yes, he drove every day.

So he got really used to it.

Yes, he did.

He had to drive that every day?

He did. He drove out to the forward areas at times.

That would be tough.

Yes, it was tough.

I used to have to commute but that would be really tough.

Well, he didn't like staying out there and it was pretty wild out there in those days.

Wild, like just a lot of animals or—?

Oh no.

I'm picturing all these horses and stuff.

But there were people and a lot of drinking and a lot of romancing and it was pretty—

Did you ever go out there and visit some of those sites?

Oh yes. Well, I worked out there during the operational periods when I was with Public Health Service.

So how often would you go out to the test site when you worked for the AEC? Because it sounds like you were in the office on Main, but then when a bomb was ready to go you'd—

Well, I would go out in either a car with some of the engineers, the manager or somebody. I think there may have been a couple of time we went out on the bus. They took various people

out. And the tests were underground when I worked for Public Health Service, so I didn't go out to see those. But one of the jobs I had was if any visiting dignitaries came from Washington or someplace else and they were in my line of work, I took them out on tours. Oh, I have to tell you one interesting thing. We were going out and I was with the EPA which had been Public Health Service and I had made arrangements to take a tour of one of the underground testing places. And women weren't allowed out there.

Oh really.

Yes, because it was bad luck.

No!

Yes.

That's what the workers thought?

Yes, so all the workers left the mines so I could go in.

No! Oh how funny!

Yes. Yes.

It's like a woman on a boat or something, out on a ship.

It was something.

Where did that come from? Were they Navy people or something?

No, most of the miners were hired from around—there's a lot of miners up in Pioche and Caliente. You have a lot of miners in Nevada.

And that was during the 1960s that you—or was that 1970s?

No, late 1960s.

So they all evacuated the mine and you got a private tour.

Yes. Well, we went in. I was the only woman in the group. But we went in at lunchtime and it wasn't real inconvenient for them to get out.

Oh how funny! Did they have a reason why? They just think it's bad luck.

Yes, they thought it was bad luck, yes. But I'm sure lots of women have gone in since then. But it was an interesting place. I don't know if you've heard about Area 400.

No.

Well, Area 400, they were going to develop a nuclear engine for spacecraft and they actually developed it but nobody could see the need for it so it was just all mothballed and sold off. But it had some really interesting features in that they had an assembly room where everything was done by remote control and you had these huge walls where it had oil in the windows to protect the operators from the radiation. And they actually disassembled it after the nuclear engine was tested and it was radioactive. It went through. They had a big structure with showers. Washed it and then they disassembled it. And I can remember one thing that always stuck in my mind. They had an underground air conditioning system in the sort of their administrative building. They had two main buildings. But this air conditioner had long, ceiling to floor, wall to wall, filters, and they rotated all the time.

Really? Because of all the dust, is that—?

Yes, dust and then because when they had this engine, the way they tested it is they had a railroad track and they rode it around the railroad track.

Was that in the building?

No, it was outside.

Oh, it was outside.

Yes. But I think they wanted to keep it cool out there. But the problem is that when they decided to stop the program they sold off everything, which was fortunate for me because even when I was with Agriculture we were able to pick up a lot of neat stuff because I still had contacts down here.

So why did they stop the program?

Because they really couldn't see using it, a nuclear engine to go into space.

Oh. So other than just the atmospheric testings it sounds like there was a lot of other stuff going on at the test site.

Oh yes. At one time they went through the phase for program Plowshare, and that was to determine if there was peaceful uses of nuclear energy. In fact they were going to make a new channel down in the Panama Canal and they were going to use a nuclear device. I was with the EPA at this point and a number of our people went down there to work on that project and they were down there for a couple years, I think. But they never went ahead with that.

Well, I think I'm going to change the CD.

But as far as that goes it was the best thing in the world for me to get out of here.

Out of the AEC?

Well, out of the EPA.

Oh, out of the EPA?

Yes, I probably would've still been with AEC if they'd ever offered me a decent job, even as I said allowed me to take my leave of absence to take care of my husband, but they didn't. I probably would've been still with the AEC.

But you look at it like it was better that you moved out and got these other experiences.

Yes. Oh, I had some marvelous—working for the Park Service and I worked for Agriculture and we had about forty-eight research stations all over the West—so I got to do a lot of traveling.

Oh really? Where'd you go?

Well, let's see, we went back east as far as Wyoming and New Mexico and then we went to the West, actually to Hawaii. Then when I went with the Park Service we had, what was it, about forty-four parks and I spent a whole week in Hawaii doing a management review.

Oh really? What's a management review? What did you do?

Well, a group of us went. They have a number of parks in Hawaii and so you would look and see how they were managing their people, how they were managing their budget, and—

So you were kind of like an auditor?

Well, we were more than an auditor. We actually provided assistance. Say they were having a personnel problem. We provided some assistance in redirecting. I went with a fellow that looked at the technical ends of the park and I looked at the human relations and the budgeting, all of that.

Now how did you get that job with the Park Service?

Well actually, it's really funny, because I had a girl when I worked in Agriculture and she was in my personnel office and she got an opportunity go to with the Forest Service. So she called me one day and she says, `They are going to hire somebody in the Park Service and I have the announcement. Would you like to see it?` And I said yes. So I—

It's who you know.

Yes. Well, the other one, when I left EPA I just applied for a job through the Civil Service Commission system and didn't know how much of a chance I had but it came through. I was in the new job in six months. And that meant I had to go up there for an interview and—

Go where? To—?

Berkeley.

To Berkeley. Did they pay for you to go?

Yes. Yes, they paid for me to go and they—

How much of your economics degree have you used in your job?

Probably an awful lot, because we had to study statistics. But math has always been one of my best subjects and so statistics was very easy for me and I was teaching fellows in my class, really, helping them to understand what it was. So I think it played a real important role. The one thing about it, I'm fiscally very conservative. Socially, I'm very liberal.

Well, that's a good balance.

I've become very much of an environmentalist.

Oh really.

Oh yes, I've had probably the most interesting times in my life since I retired.

Oh, so what have you done since you retired?

I tried to help protect and restore a wetlands.

Really! Where?

It's out in the Las Vegas Wash.

OK. How'd you get involved with that?

Well, as I said I joined the League of Women Voters and they needed somebody to sit on a committee that the county had formed to advise them on what to do about that because there had been a number of people that said, `You got to protect that wetlands.` So I got involved in that and what it did, it gave me an opportunity—I mean I've testified before Congress.

Really! Was that nerve-wracking?

No, no. When I went, I went as the representative of the local environmentalists. And the first time we were arguing against a utility line crossing the wash, and protecting the wetlands. And then another time I was arguing for keeping Del Webb [developer] out of the northwest. And on that one the Republicans paid for me and the prior one it was the Democrats.

Oh really!

Anyway it was interesting because, well my favorite, up in California my congressman was a fellow named George Miller, and I don't know if you know that name or not.

Sounds familiar.

But he is a tremendous environmentalist and I had an opportunity to talk to him for an hour while I was there and I was really tickled with that. The other thing is that I became the chairman of what they call the Wash Development Advisory Committee and when Lake Las Vegas was being planned we took a position. Most of the town was against it. Big waste of water because of the evaporation which is ludicrous. It's a small three-hundred-and-something-acre lake sitting next to Lake Mead. Don't tell me there's no evaporation there. But anyway so we supported it. Got in trouble with all the other environmental groups but they've all come around now. See the reason we supported it, you needed to put some grade control structures to protect that [Las Vegas] Wash and they put in two. The very first important one is a mile long. And the other thing about it, we thought once those people get out there they can't trash them. And so that's been real interesting for me because they are spending a hundred million dollars to restore that wetlands.

Are they really?

Yes. And my daughter who works for Channel 10 was telling me that it's been recommended to the JASON [Program]—are you familiar with the JASON Program?

No.

The JASON Program, it was started—in fact a fellow that's one of our trustees for our friends' organization, Peter Zavatarro, he was I guess president of EG&G at one time—he told me that he was responsible for starting the JASON Program. What it is, is they take—to begin with it was undersea. You have these scientists working undersea and then you have these connections with schools, and it's televised right into the school, and the students can help the scientists with their projects. Well, the [Las Vegas] Wash has been recommended because they are going, I guess they're going to, in the next year concentrate on our disappearing wetlands.

So that's going to get a lot of publicity and notoriety.

Yes. Right.

Now what drew you to that, to environmental—?

Well, the one thing when I got with particularly the Park Service, because that is a macho organization—

Oh really.

Oh yes.

Very male. Well yes, I would think so because it's outdoorsy—

Yes, it's male and the only reason I got the job is they put in a token woman.

Oh really!

No, that's what everybody thought, but they didn't know. When I went over to interview, the boss, we clicked like that and he's become very dear friend, although he has Alzheimer's now. But anyway they thought that I was being put there because I was a woman. Where was I going with this?

Oh, how you got involved with environmental work.

Oh yes, so one of the things I told Howard—one of the things I was proudest of when I worked for the Park Service—I convinced him to put six hundred thousand [dollars] into Grand Canyon.

Oh really! How'd you convince him to do that?

Well, because they were all so concerned about police work they weren't minding the resource and the Grand Canyon is one of our most world-famous and I said, `You're going to be ashamed of yourself when you're criticized because you didn't protect that canyon.`

Now, who was this? Howard—?

Chapman. He was the regional director.

OK.

So he put in the six hundred thousand.

That's quite significant.

Yes. Yes.

Now what did he put that into, just—?

Well, basically what it was, because they hire a lot of temporary employees, particularly during the summer, and the quarters they were staying in didn't even meet migrant workers' standards.

That's horrible.

Yes, it is horrible. But when I said I was so happy to meet George Miller, the only thing I didn't like about meeting him, he's a Yosemite man.

Are there rivals between the parks?

Yes, very much so. Very much so. And Yosemite is a beautiful place but every environment can be beautiful.

Oh, and so that would skew where the money gets poured.

Yes.

Oh, I didn't even think about that.

Oh, you'd better believe it does.

So there are camps, huh? Oh, how funny! So he would put all of his resource into Yosemite and not even think about the Grand Canyon or the desert.

Yes, or like Death Valley.

Yes. I can see that though, how people get their favorites.

Yes, they get their favorite. I know a lot of people say, Why don't you join the Sierra Club? They couldn't see the wetlands as being important at all out there, and they were just mountain people. Well, they're coming around because the whole country is now realizing how important wetlands are.

Well, why are these wetlands so important?

Well, they're very important because they affect the water quality.

Ohh. See, I think too it's just ignorance. I wouldn't know anything about wetlands.

Well, and this can be off the record.

Do you want me to pause it?

Yes.

This isn't really germane to the test site.

—that had become specialists and they looked like this and there's nobody—

To see the whole picture for the environment.

For the environment. Anyway, I don't want to get on my soapbox.

Oh no, that's interesting. That's really interesting. OK. Oh, I know what I was going to ask you. When you were working at the AEC did you ever encounter any protesters or anything about nuclear energy that—?

Actually the biggest protest that happened during the time, the start of the protests, was probably on Plowshare. They were going to do a test in Grand Junction, and there was a group of protesters that sat on ground zero and they wouldn't move.

Oh really!

Yes, and so I know that Placak and Mel Carter, his deputy—Mel went up there and Placak stayed in town. They were very concerned and they tried their darndest to get those people out of there, and they finally just told them, `If you don't go, we're going to blow anyway.`

Really! So they left.

So they left.

What year was that?

That was, oh gosh, probably in the late 1950s or early 1960s.

And how many people went out there to protest?

I don't really remember, but it was a big thing. Later this group that goes out on Easter started out. But there were no protests. In fact the town loved it.

Yes, I've seen a lot of things. Miss Atomic Energy and the pageants and everything.

So did you feel any kind of little celebrity for working for the—

Oh, I felt important.

Oh really?

Yes, I liked it, I really did. It was exciting.

And when people heard that you worked, did they "ooooh"?

Yes, but anyway I didn't really have a lot to tell them but—

Oh, how was security? Were you allowed to tell people about the tests that were coming up or about different aspects of it or—?

No. No.

It was heavily secured?

It was very secure initially. Later it got to be kind of ridiculous because as I said we were doing the off-site monitoring and that meant you had to deploy the fellows out so they could go to Alamo or up into northern Nevada or wherever. People would see them in their cars waiting and they knew there was going to be a test. So the security thing got to be kind of a joke, really. I think that had the people been around that were there with the program originally, that would've never happened.

Because they valued security more or—?

No, not security more. I think they were more commonsense. I mean if you'd all these people waiting outside the gate, it's a—

Right. Right. But you were able to talk to your husband about things that were going on in the office, since he worked for the test site, right?

Yes, except I never talked to him about anything—and he never talked to me. As I said, he was the assistant manager at Groom Lake and he never talked to me about—and those fellows were flown in from Burbank, from what they call the Skunk Works.

The Skunk Works? What was that?

Well, it's where these people connected with, what's the other name for it, it's not only Groom Lake. Area 51. One of the interesting things I had to do is I got all of the, and they weren't called top secret documents. Of course I didn't find much out about it but you could get a little glimmer of what was going on because the security classification was for eyes only. But they had lots of little cutouts in the pages. Since I was responsible for top secret stuff, why—

You got to see it.

I got to see that, and then of course he worked out there so he had to have an additional clearance.

But you never talked about your jobs.

No. Well, we talked about the people. Didn't talk about classified information or anything like that.

So did your office, when you were first here, it sounds like it was a small, kind of tight-knit office?

Yes, it really was.

Did you have Christmas parties or—?

Oh yes.

Oh, did you really?

Yes, we were a very close-knit group. In fact even though I spent four years with Agriculture and three-and-a-half with the Park Service, I still feel the people connected with the test program are sort of my family because I spent so many years with them. And after the operations they had a big party.

Oh really? So after a test?

Well, not after a test because we weren't that big yet, when it was an above ground test. But when they had an operation, what they would do is Los Alamos and Livermore—and in the early days there was a group down in UCLA—they would prepare their recommendations for tests and then everybody would go out to the test site for the test period. Well, after those test periods were over there were big parties.

Where were the parties at?

When I say they were big parties, they were big parties for the groups that were involved in a particular thing. They had a rec hall out there and there were a lot of parties out there. I remember the one for Hardtack [II]. That was the last testing before the test ban treaty was signed, and people had been up for hours and walking around and really dazed but—

They were still able to celebrate after.

Yes, they still celebrated afterwards.

So would the party have music and food and drinking and—?

Yes. A lot of them were down at Indian Springs or Cactus Springs. I think the Hardtack one was at Cactus Springs, at least for our group and mainly who was in our group were the EPA folks and some of the AEC people that we worked closely with.

How many hours did you put in a week? It sounds like you worked more that a normal forty-hour week sometimes.

I did. I did, yes.

Especially with a test coming up or—

Oh yes, because when I was with Public Health Service and had to go out for the operation, I stayed in a dorm out there.

Oh really? How long would you stay in the dorm?

By this time my daughter was growing up and a friend of ours kept her and both my husband and I stayed out there. He had the male quarters and I had the female quarters.

Even though you were married. That's funny.

Yes. And we would go home on Wednesday, and we were out there for Monday night and Tuesday night and Thursday night and then we'd come home on Friday.

How were the dorms?

Ehh.

Oh really. Were the women's dorms at least a little bit better than the men's?

No. No.

Did you have to share a bathroom?

Yes.

Was there a cafeteria that everybody ate at?

Yes, there's a big cafeteria that everybody ate at.

How was the food?

Ehh. No, it was all right.

Cafeteria food.

Yes, cafeteria food.

What would you do for entertainment?

You went to the rec hall and they had pool tables and they had some games and people played cards and danced.

Oh, how fun! That sounds neat.

It was a lot of fun.

Has your attitude towards nuclear energy changed at all from when you first started to now—?

Yes, very definitely.

Very different?

Yes.

How so?

Well, first of all I have come to the belief that there are other ways of settling arguments than going to war. And as far as nuclear power, I'm very much against it because you still have the

waste problem. I think there is an answer. But one of the things this country has done is they have really deviated, gotten rid of a lot of their scientists and I think we're going to be very sorry for that. There is a scientist out at UNLV working on transmutation [Dr. Anthony Hechanova], which makes some sense because you can produce energy while you're transforming the plutonium into another element. But I'm just against nuclear. Against oil. Very much against oil because I think it's a finite resource. And this started when I was with Agriculture because that was during the Carter years and we got significant sums of money to upgrade our electrical systems and research stations. We had one research station in Cheyenne. That was a hundred-year-old Army base and so we spent a lot of money putting in new power lines and retrofitting the buildings and that sort of thing. And nobody gives Carter credit for that but he saved this country a lot of money for power. But anyway I think we just have to find another source, and we've got the people to do it and the need to do it. We need jobs. I just don't understand why we don't do it.

How do you feel about the current administration's take on parks? Have you kept up with that at all?

Yes, I've kept up with that and well, if I'm a real environmentalist you can guess which party I belong to. But I think a lot of theirs is lip service. One of the reasons I left the government is I had an opportunity to be considered for regional director. Well, that all ended with Ronald Reagan.

Why?

Because most of the women that stuck around are no longer there.

Really.

Yes. He was not very receptive to using many women.

Was that the administration or do you think that was Reagan? Well, I know it was Reagan—

It came down from Reagan and I could see there weren't going to be any more opportunities for me. And then my daughter was pregnant and I wanted to be here with her.

So your job would really go with the tide of whoever was in office.

Yes. It hadn't up until the time he was elected.

Oh really.

No.

That's interesting.

Well, it really started with Nixon. I was with Public Health Service and I can remember talking to people in Washington and they were so frustrated. They'd walk into the office and there would be somebody there and they'd say, `Can I help you?`

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Well, you can tell me where I'm supposed to work.
Well, who are you?
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And this is the guy that had all the human relations responsibility asking the questions.

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Well, I've just been told to show up here.
Well, what are you supposed to do?
I don't know. I'm going to be a GS-14.
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So there was a lot of that. I mean there's some of it when you're Democratic but there's a lot more when there's Republicans. So anyway.

Well, is there any memory that's cropped up that we didn't touch on or anything that you think would be pertinent to this study?

No, I really—

Feel like we've—

I feel like I've talked too much.

Oh no, it's been really interesting. Thank you very much.

Oh well, it's OK but if you don't stop me I get started on the wetlands.

[End of interview]