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

Interview with Robert Nelson

June 30, 2004
Las Vegas, Nevada

Interview Conducted By
Mary Palevsky

Oral history is a method of collecting historical information through recorded interviews conducted by an interviewer/researcher with an interviewee/narrator who possesses firsthand knowledge of historically significant events. The goal is to create an archive which adds relevant material to the existing historical record. Oral history recordings and transcripts are primary source material and do not represent the final, verified, or complete narrative of the events under discussion. Rather, oral history is a spoken remembrance or dialogue, reflecting the interviewee's memories, points of view and personal opinions about events in response to the interviewer's specific questions. Oral history interviews document each interviewee's personal engagement with the history in question. They are unique records, reflecting the particular meaning the interviewee draws from her/his individual life experience.

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

Mary Palevsky*: OK, we're going.*

Robert Nelson: I was born in Evanston, Illinois, July 8, 1941. And my family lived in the Chicago area, on the north shore of Chicago, and so all of my early years were in Wilmette. My family lived in Winnetka, Kenilworth, in that area. The church I attended in those days was Holy Comforter in Kenilworth, which turns out was the most affluent parish in one of the most affluent dioceses of the Episcopal Church. Much later, like today, I have gone back to that church as a priest and actually done a service there, a memorial service for my cousin's husband who died of cancer. I learned at that time that the gift that that parish gave to its diocese, that one little parish gave to its diocese, was about equal to the entire budget of the diocese of Nevada, something over $300,000 a year. So it is a very affluent parish. I never thought of that as I was growing up. But I was very active in the church as a child. Went every Sunday. My parents were of that type that took me to church and dropped me off, along with my brother and sister, and then came and picked me up. They weren't regular attendees, but the family was, and much of the family went to that parish, and still today obviously some of the family who's still there goes to that parish.

During World War II, my father was in the Navy, was an officer in the Navy, served on the USS *Hancock*. And my uncle was in the service, and I honestly don't remember what branch. But my mother and her sister lived during World War II with their mother in a very lovely house in what I believe is Winnetka, adjacent to Wilmette where we lived. But what that meant was

that my cousin and I are about the same age and grew up during those war years pretty much as brother and sister. And what that's done is it's made us very close all of our lives. We're still very close.

There was a third child that my uncle, who was also in the service, and as a result of becoming a casualty, at least severely injured or possibly killed, as a result of that he became an Episcopal priest and was the rector of a parish in the Chicago area, in what's called Western Springs, Illinois. And his children, although not growing up with us in the same manner as my cousin Susie and I, also have been very close.

So that branch of cousins, if you will, remains close even today, and we have an annual family reunion which rotates around the country, wherever any of us are. This last Thanksgiving—we do it over that Thanksgiving weekend—last Thanksgiving it was in the Chicago area. This next November, it will be here in Las Vegas, and I've actually arranged for a bus and I'm going to take the entire family—there'll be close to fifty people who come to that—**[00:05:00]** to the test site. This is kind of—I've seen other families of people at the test site do this. I look at it as kind of the transition. You kind of turn things over to another generation of people and talk about what you did and why you did it, and in my family now, the family has grown, of course, and there will be about fifty people we're expecting.

And my work, of course, involved a lot of security stuff through the years. My sister, who is just three years younger than I am—I'm the oldest of the three—my sister along the way married a Russian, which caused some consternation when I reported that in my security background stuff. And there were questions about whether or not he had family in the old country, which he did not and was a long-time American citizen and actually served in the U.S. Army. But it was always interesting when I reported things that my sister's name was Provokoff

and usually it used to raise some eyebrows at times. But anyway, one of the children from that family, a child of a previous marriage of Vladimir Provokoff, who is just probably only ten years younger than I am, is also Vladimir Provokoff, and he is obviously born in the United States, U.S. citizen, no ties to Russia, but tremendously interested in the history of the test site. So he is a great proponent of this family reunion this year and is helping to organize the tour of the test site.

So anyway, I grew up into—I was just about a teenager in the Chicago area with that background. We moved to Phoenix, Arizona for my family's desires. My dad at that point wanted to open a business of his own and did so. And so we worked that, in sheet metal work. I learned a lot about sheet metal work at that time because I used to work summers while finishing sixth and seventh and eighth grade and then doing high school in the Phoenix area.

About my senior year of high school, we moved to Los Angeles, in Glendale actually, the Los Angeles area of California, and I actually graduated from Glendale Hoover High School, and went a year to UCLA [University of California, Los Angeles], and at that point decided school was not really my great desire in life. So I enlisted in the Navy and got into a wonderful field. I was what was called a communications technician. Communications technicians were the spooks of naval service, and my responsibilities included maintaining equipment. I was an electronics maintenance type. But I served in some really interesting functions, doing electronic intercept work for the Navy on things like Soviet submarines and other naval targets, if you will, of interest.

Let me just interrupt for a second. This would be the late fifties?

Yeah, I enlisted in the Navy in 1960, so my high school, I graduated in the class of 1959 and went in the Navy in 1960.

And then where were you stationed in the Navy?

I was stationed first—I went through boot camp in San Diego and then electronics school on Treasure Island in the San Francisco Bay area, and then I went to some special crypto kinds of **[00:10:00]** schools in Virginia Beach, and then did a tour on Adak, Alaska, which was way out at the end of the Aleutians, and for me a wonderful tour. I enjoyed the electronics. I really loved that stuff. I loved the work we were doing. It was really exciting. It was spooky and very high priority kinds of things, and really enjoyed that.

Along the way, while in the Navy, I decided that college really wasn't so bad after all, and applied for a program called the Naval Enlisted Scientific Education Program, NESEP. And went through a lot of interviews and examinations, and in 1962 was selected for that program, which meant I was taken off of Adak a little early and went to San Diego for the summer for a prep school. What they did was take sailors and marines out of the fleet and send them to a prep school which was really intensive, hard work, so that when they then went to college that fall, which would be the fall of 1962, they were really ready to go to college. And they had such a good track record in this program that if the Navy said the person was qualified, the schools accepted them, even if they in some cases did not have high school diplomas.

That summer, as I say, was very intensive, and we went to the prep school, which was staffed by naval reservists who were professors in college. And we would have—let me think about it—one English class, one physics class, and two math classes every day. Five or six days a week, I guess, and lots of homework. And when we went to college, we were ready. I mean the normal college freshman who's been a senior in high school and kind of goofed off a lot were ready for an easy semester. We were really ready for hard work, and consequently most of us

who went into this program—they selected roughly four hundred that year—most of us were able to test out of things like beginning English. Some would test out of the mathematics.

It was a requirement that we take math or science. That was part of the program, Naval Enlisted Scientific Education Program, and my selection, because of all the good times that I had had as an enlisted man on Adak and in the schools and all before that, was electronics. So there were four schools that focused on electronics engineering, and one of those was the University of New Mexico, and that's where I was assigned. And so for four years, I went to the University of New Mexico while on active duty, being paid as an enlisted man and given the opportunity for promotion. So when I graduated from the University of New Mexico, I graduated with distinction, meaning I had pretty high grades. And I was a first class petty officer, a senior sergeant, if you would, equivalent in the Army. And then on graduation, I went directly to Officer Candidate School [OCS] and got a commission, so I was discharged as an enlisted man and re-signed up as an officer, as an ensign.

At the time of graduation, we were given what we called dream sheets, what assignment would you like to have in the Navy, and I had applied for river gunboats. Vietnam was a big **[00:15:00]** action at that time, and I just figured that that's where the advancement would be, and I had done some significant sailing in the Chicago area in small boats as I grew up. And I thought, well, river gunboats is going to be exciting and probably good advancement, and so I decided to take that.

But there was a little block on that dream sheet that said, `Would you consider submarines?` And I said, `Sure, advancement is known to be good in submarines,` so I said yes. What that triggered was an interview with Admiral Hyman Rickover while I was at OCS. And you hear lots of horror stories of interviews with Admiral Rickover, of having to wave

a flag, and sitting on a chair with uneven legs, and all kinds of harassment things. I tell people that all of those horror stories happened to me. He called me in three different times and threw me out three times. One time I got to sit in a closet for an hour while waiting to be called back again.

But at the end of all of that, he selected me for his staff. So I became an officer in the Division of Naval Reactors in Washington, on Admiral Rickover's staff. And I was initially assigned to Reactor Materials, which means the metallurgy-type of work having to do with nuclear reactor design and maintenance and operation. And after a while of working in that division, I went into the refueling work, and again really focused on materials and equipment design for the refueling of submarine, principally, but all of the naval reactors. I spent a lot of time really *on* submarines, never on a crew. I worked at one of the prototypes in Windsor, Connecticut. I spent some time at one of the shipyards, Electric Boat, in Groton, Connecticut. And would go out on sea trials and crew quiz kinds of things on submarines for Admiral Rickover. So submarines for an engineer are just a wonderful example of good engineering, and so I learned a lot with that, and most of what I learned was how to get something done. Admiral Rickover was very good in making his staff learn how to be effective in getting things done, and that has paid off a lot through time.

Let me ask you one question here, because I'm just curious, a question is raised in my mind. Nuclear powered submarines. In your education up to that point, had you learned about nuclear energy, nuclear weapons, things like that? How did that sort of fit in your—?

Yeah, that's a good point. When I went the one year to UCLA, I didn't do very well but I got a number of classes behind me, which meant that when I went to the University of New Mexico, I had four years to go there and I didn't need to fill four years. So rather than just take a slackened

course, I filled all the opportunities that I could in that, particularly the upper class years, with nuclear engineering courses. So I had had a fairly good background in radiation and nuclear theory, but also I had gone—one of the things that Admiral Rickover did for all the new engineers, at least in the years I was there—was send them to a reactor engineering school, a six-month, very intensive school at the Bettis Atomic Power Laboratory near **[00:20:00]** Pittsburgh, in West Mifflin, Pennsylvania. Run by Westinghouse, which was big in the nuclear world [and] continues to be big in the nuclear world, so I had had a pretty good background in that, and went to work again in the naval reactors program.

After about three or four years there, Admiral Rickover selected me to be *his* representative at the nuclear power station in Shippingport, Pennsylvania. Shippingport was the first commercial electric generating plant powered by nuclear energy, and it was built with the reactor by Admiral Rickover, with basically a submarine-size reactor, to demonstrate that electricity could be generated using nuclear energy. So it was basically a Navy reactor powering a commercial steam plant. And I became qualified as a reactor operator, an engineering watch supervisor kind of position, engineering officer of the watch, if you will, for a Navy thing, except this wasn't Navy at all. It was really in the commercial world. And the reactor was operated by the Duquene Light and Power Company under the supervision of a group of Navy people. I was the officer in charge of that group of Navy people. All of the staff under me were—and there were up to eleven, I think, at one time—all were senior enlisted or warrant officers in the Navy and very well-qualified in the submarine. And we oversaw the operation by Duquene Light and Power to assure the safety of the public and the employees there. So I had a lot of experience at that.

In 1974, I guess—I'm trying to remember the years—I left naval reactors—well, along the way, my obligated service ended six years after my graduation in 1966. So in 1972 my obligated service to the Navy was up. And the negative of working for Admiral Rickover was that he didn't let us do the practical things necessary for promotion in the Navy. So our naval careers were limited in terms of promotion. Although the technical side of that outstanding, the practical side was limited.

What would that have been? I just don't know what that would be, the practical side for promotion.

Oh, to become a senior officer in the Navy, you need to drive a ship.

OK. That's obvious.

I mean I'm a line officer. I have a star on my sleeve, which means a line officer, and if you can't drive a ship, you just never—and there are lots of little nuances of doing that. Qualified as officer of the deck underway and those kinds of things. If you don't do those things, you're never going to get much promotion. Now, to get around that a little bit, he made us stop being what were called 1100 series, meaning the line officers, the ship drivers, to be a 1400 designator officer, which means an engineering duty officer. And that means you have a little bit different career path in the shipyards and you can go farther as an officer, but still the promotion potentials are very limited.

So my choice at that time, after a couple years of—well, when my obligated service was up, I chose to get out of the Navy because I could continue to work for Admiral Rickover as a civilian, same desk, same job, overnight, and double or triple my pay as a civilian employee. **[00:25:00]** And under Admiral Rickover were two civilian employee paths. One was with the Navy Department, where I could become a civilian in the Navy Department. The other was in the

Atomic Energy Commission [AEC], which was more the technical side of that. And since I was at Shippingport, which was an Atoms for Peace place, it was decided that I should go in the Atomic Energy Commission side rather than the Navy side. It would just look awkward to have a Navy civilian responsible for the commercial nuclear reactor plant at Shippingport. So I then overnight became a civil service employee in the Atomic Energy Commission at Shippingport, and continued to do the same things. Had a staff of Navy warrant officers and enlisted men, but reported to Admiral Rickover directly for all those years up there.

So I then left that program in 1974 and went to work for the Federal Energy Administration. Some other people had left Admiral Rickover about that time and were senior people in the Federal Energy Administration. That was a temporary agency formed to deal with the oil embargoes that were established by the Arab countries. And my part was power plants and how to obtain the best efficiency in terms of energy usage out of both coal-fired and nuclear power plants. So I went to work for some people I had known in the naval reactors program, but in a civilian agency, and got a lot of experience in both nuclear and coal-fired power plants in those couple years.

In 1977—I think that's the right—the Department of Energy [DOE] was formed and the Federal Energy Administration was eaten up into and incorporated into the Department of Energy. And so whenever that occurred, I became an employee of the Department of Energy. But I was in a part called the Economic Regulatory Administration part of DOE, but a part that was almost solely political, and it had to do with establishment of regulations, but there was another part that dealt with a very similar subject called FERC, the Federal Energy Regulatory Administration, which I believe still exists today.

It does. FERC does.

Yes, FERC does. But ours was the Economic Regulatory Administration and it had some overlapping areas, but in my mind was not a place for a hardware kind of engineer. It had no hardware. You didn't do anything other than manipulate paper and studies and regulation proposals and things like that, and I felt very uncomfortable as someone interested in hardware and operations, which was my background.

So I started looking for opportunities to move. I'd grown up in Phoenix, felt very close to that, gone to the University of New Mexico, and so I started looking at radioactive waste disposal jobs. The Albuquerque Operations Office [ALOO] of the Department of Energy—I was now a Department of Energy employee, and the Albuquerque office of DOE had a project called the Waste Isolation Pilot Plant [WIPP] on the drawing boards in those days. It's now an operating facility in southern New Mexico. And I applied for that and other things out west where I really felt more comfortable, but that was a principal interest of mine and I managed to **[00:30:00]** get an interview with a man named Don Schueler who was the project manager in Albuquerque of the Waste Isolation Pilot Plant. Don had been a senior person here in the Nevada Operations Office [NVOO] but had moved over to Albuquerque to take on that job with WIPP. Had a good interview with Don but did not get the job I was seeking. And Don, kind of with his knowledge of the situation in Nevada, really, without even my knowledge, had sent my résumé, the government Standard Form 171, to Nevada, who was also looking for someone to become a branch chief and lead the effort in this, the southern Nevada area, to build or to look for a site for a radioactive waste disposal site. And lo and behold, I got a call while in Washington: Would I be interested in a job in Nevada? And I said yes, and I was selected. So without really ever applying for it, I was offered a job here in Nevada. I was at that point in the government civil service situation. I was a GS-15 in Washington. I took a downgrade to a fourteen to come to

Nevada and become the branch chief for radioactive waste studies. It actually made me money because, while it was a fourteen, they gave me a very advanced step, so I didn't lose any money in making that change.

So anyway, I became a branch chief with a very small staff, and we began the project that today is Yucca Mountain. And so went through a lot of search efforts for a site.

And you're located at this point here in Las Vegas.

I moved to Las Vegas. Spent a lot of time each week out at the test site, but my office was downtown in Las Vegas.

And what's the status of your family at this point?

Oh, well, I had gotten married while in college. I didn't mention that part.

Well, we can go back and get some personal stuff but—

Yes. I was married in 1964. My wife went with me all the various places and she came out here with me in 1978 when I was selected for the job with the Nevada Operations Office. Lived in Las Vegas. Began going to the church that I'm still a member of today. Kind of a humorous part of that, in the years I went to the Federal Energy Administration, starting in '74, I'm sure, something like that, I started becoming very active in the church in Gaithersburg, Maryland, Ascension Chapel, now called Church of the Ascension. And [I] was elected by the church folks there to be senior warden at a time the rector or the priest in charge of the parish died. And when that happens in the Episcopal Church, the wardens become the authority in the church, and so it was like taking on a second full-time job, being responsible for that church and having my own regular job. When I moved out here, the junior warden became senior warden and probably has never forgiven me since that. I moved out during that year, and my wife and I really were kind of burned out from doing church things. And my wife, whose name is Kathy , would every week

when we would go to this parish, All Saints Parish here in Las Vegas, she would introduce herself with a different name so that no one would remember who she was and ask her to do something. And people still call her Priscilla or—I mean she did that for a while. **[00:35:00]** Then I got active in that parish and ultimately was a warden and vestry member and search committee member and ultimately was ordained to the priesthood through that parish.

So anyway, we came out here, and [I] got very involved in radioactive waste disposal work. Did some big projects that have national significance. Storage of some spent fuel underground and studies of how the spent fuel elements would interact with the rock and the radiation and heat and stuff. Some really noteworthy studies.

In 1981, I was moved by the manager of the Nevada Operations Office, at that time Mahlon Gates was the man, Ink Gates was what he was called, who was a retired brigadier general in the Army. He was the manager. He moved me into the defense world, away from waste management, and I became the assistant manager for operations at that time, following a man named Bob Newman who had really grown up, I think, with the Manhattan Project, at least the latter parts of that, at Los Alamos, and had come to Nevada and become an assistant manager. So I replaced him in that role of assistant manager. And he really taught me how to fire a nuclear test. As assistant manager for operations, he was the senior what was called "test controller," responsible for firing a test, and really took it on himself to be my mentor and teach me how to do that. And I spent about a year doing that.

About that same time, I had been elected in the Church to the diocesan council. The state of Nevada is the diocese of Nevada, and there is kind of an elected board of people who are responsible for the program, and that's the diocesan council. And I had been elected to that and through that had met and become pretty friendly with the bishop of Nevada, whose name was

Wesley Frensdorff, probably the most anti-nuclear person I have ever met. Wes was—let's see, we don't—we have pictures of him here somewhere, but he was a real visionary in the Church. And [he] saw the Church, particularly in a rural area like Nevada, moving back toward the type of church that was encountered by Saint Paul in the very early days of Christianity, in which Saint Paul went out and effectively developed leadership in each parish and then turned them loose to be in charge of the parish, and he went on and did other things. So Wes Frensdorff and a few other leaders of the Episcopal Church got that style of authority, if you will, really dating back to probably the period of greatest growth in the Christian faith, authorized for places like Nevada. And what that did was allow parishes to identify from within their congregations people who would be their leaders and be ordained as clergy. And my parish went through that very intense process of kind of Christian education and understanding of really what they were doing, and then identifying people, and I was identified. And I was absolutely blown away by the call I got from the bishop, who I saw as really almost an adversary in terms of the work that I did, both on weapons and waste, and nuclear power that I had been involved with before. Wes called and said **[00:40:00]** I had been commended and he thought I would make a great priest and did I feel that calling? And I responded, I was almost speechless at the time, but I said I'd call him back, and I did and said, yes, I did. And so under his tutelage, I went through about a three-year process and became ordained actually in 1987 as a priest in the Episcopal Church.

Through that period and parallel with all the work I was doing really on my own time to study and learn about what it meant to be a priest, and all of the theology and the other things that I had to go through, I became the lead test controller and was very active in firing many nuclear tests at the test site.

Could I ask you something? And in as much detail as you're able to give me, but it's such an interesting thing that you just said, because here you have the man who was your mentor, has this model for this Pauline, or whatever you want to say, Christian development in this state, which in itself is fascinating and would be really interesting to talk about, and there the person that's chosen from the parish sounds like maybe it might be someone who he wouldn't choose because of his anti-nuclear views. And obviously deeply held, and then he mentors you. So the question arises for me that—I have to think a second on how I want to say this. There's something essential in both your minds about [what] that calling is and what Christianity is that is not in conflict when it comes to this very deep and troubling question about weapons and weapons development and nuclear weapons, and I wonder how that plays out.

Well, and I think it comes down to I can say it in one little anecdotal perhaps kind of story. But it becomes important to me over and over and over, even as I mentioned last week, when I did a tour of the test site for a bunch of Church people from around the whole country. I think kind of the key concept is Jesus never spent His time with Church people. He *always* spent his time with the others. I mean if you really look at what he did. And there's a great story of Cornelius, the centurion who was baptized by Paul. Again, not what you would think of as the wardens of the Church or whatever. That was not the focus of early—of any real Christian effort. It's really Middle Ages before the Church got very exclusive. And certainly what Wes Frensdorff saw, and we have tried to embody that, even now two bishops later, is an inclusive Church that is open to all.

And I think the role I've played in that is a bridge builder between people of differing views that really tries to focus on the *issues* involved rather than the *people* involved. And an example of that, again I used last week, when there were protesters at the test site, the parish I

came from seemed to have half its people either working at the test site or in defense-related or casino kinds of things, things that some people think are wrong. The other half were protesters. So when I would go out to the test site and there were protests, I would go walk both sides of the **[00:45:00]** line. Really, my view was that we ought to focus our protests and our protection, if you will, focus at the national policy of having a nuclear deterrent, not at the people who are carrying out the policy. And so what I would do is, I'd put my badges away and walk with the protesters, and then I'd take the badges out and go walk with the security guards and the sheriff's office people who were on the test site side, really in an effort to defuse the personal conflict and focus the issues on the *real* issue, which is should there be a national nuclear deterrent? And I think to a certain extent I was successful in defusing those things. Those are very transient and when you have protests like that, you tend not only to draw the what I will call responsible protesters, who are concerned about the direction the country is going, from those who want the spotlight and are willing to do anything, whatever the cause, to get the spotlight. And so we had the crazies too, but we also had some really good, responsible groups who felt that the country was going the wrong direction. And I worked very hard to *honor* that and show them the respect they deserved to do that. And one of those people who protested when I was out there is another priest in our diocese here and is a very good friend of mine, and he came with me last week and gave *his* views on the test site. I encouraged him to do that when I took this tour out last week.

So anyway, through this period, on the one hand I'm actually the test controller who gets an authority through a chain that starts with the president authorizing a test program and goes to the department [DOE], and there's a chain of authority that comes down and really gives that person, that test controller, the responsibility for the United States to detonate that nuclear explosive. And I did that many times in '82, I think, or maybe '83; I've forgotten exactly when I

started that. Through most of my period, even as I moved up into other jobs, I kept that job of test controller, and so ultimately, totally, I fired quite a few tests.

So along the way, somewhere along the way, Wes Frensdorff retired, moved to Arizona, became an assisting bishop in Arizona, principally for the Navajo Reservation and other remote parts of the diocese. And we elected a new bishop, Stewart Zabriskie here in Nevada, who came into being the bishop about, oh, ’87, I think—maybe ’86, or ’87. I was one of his first ordinands. He actually ordained me to the priesthood, although I was pretty much ready through that process when Wes Frensdorff left. And actually I had gone down to Navajo land in northwest New Mexico, which borders into Arizona, *with* Wes Frensdorff along the way, so I knew some of the things and people that he was now part of in the later years.

Anyway, I was ordained in 1987 and continued as a priest, not the priest in charge, the rector of a parish, All Saints Parish here in Las Vegas, but as an assistant priest, and worked at **[00:50:00]** that for quite a few years, like fourteen or something. And anyway I, on the work side, continued to fire the shots in—boy, I’m really forgetful of the days, of the years. Mahlon Gates left and man named Tom Clark became the manager in the early eighties. And Tom became really a mentor to me. Just in the last few months, Tom has died, and I went over to Albuquerque and officiated at his funeral. He and I were very good friends. I was kind of co-officiant along with the person who had become his rector, the rector of the parish he attended in Albuquerque. He had retired and moved over there.

And he took a real interest in my becoming a priest. He was an Episcopalian. Actually had me go over and talk to a priest friend of his who was dean of the cathedral in the diocese of the Rio Grande, which is centered in Albuquerque. And so I had had some really neat dialogue with that priest.

And Tom Clark had really become a mentor to me. And he wanted me to do something that I thought was just absolutely terrible. He wanted me to give up my wonderful job as assistant manager for operations, where I *really* enjoyed doing the operational work at the test site, and become the assistant manager for administration. What a terrible job for an engineer. I had to go through all kinds of coursework to become warranted as a contracting officer, which I did. I mean it was like it was an offer you can't refuse. He assigned me to do that.

And so I became the assistant manager for administration, which in hindsight was a wonderful thing. Getting your ticket punched, if you will, in those administrative areas is very important to promotion in the government service. When I became the assistant manager for operations, I was promoted to the Senior Executive Service, kind of what used to be called super grades, if you will, above GS-15, but even that was limited to the low end of that spectrum in a single job. But by becoming the assistant manager for administration, it really opened up new opportunities for me. And I spent a lot of time in Washington with the director of administration for the Department of Energy, and did some assignments in Washington as a detailee for three months at a time, all of those very good for future promotion because you get recognized and seen as someone who can handle broad things.

Anyway, and I got warranted as a contracting officer with an unlimited warrant. I signed contracts for *billions* of dollars, literally *billions* of dollars, for the government and administered those.

Literally billons. Wow. So those would be to the major contractors, then, at the test site.

Yes. Yes. REECo. I was the contracting officer for Reynolds Electric and Engineering Company. And EG&G, which originally was Edgerton, Germeshausen, and Grier. And for Holmes and Narver. Helpless and Nervous, we used to call them.

[Laughter] You'll have to tell me why later.

No, that's one of those secret things. You can't [laughter]. Classified. But wonderful contractors, really dedicated people, all of them. And so that was a good couple years I spent in that job. Don Schueler had become the deputy manager. Tom Clark had retired while I was in that assistant manager for administration job. And Nick Aquilina—so this must be '86, roughly—Nick **[00:55:00]** Aquilina became manager. After about a year, I would guess, Don Schueler had come back to Nevada and become the deputy manager, probably while Tom Clark was there. I'm kind of forgetful of those—

Those things we can always look up.

Yes, that's easy; those are in the records. [Clark was manager from 1983-1987]. But Don was the deputy manager, and they decided to make a change, and Nick Aquilina ask me to become deputy manager, probably in, oh, '87-'88 time frame. And so I did that, which was great again for me because Nick was a *wonderful* manager and just the ideal of what you'd expect, what you'd want, in a manager. And Nick focused a lot on doing all of the things necessary to the outside world for the office, both in town here—in terms, he served on the Chamber of Commerce—and also in getting the funds we needed in Washington. Just a tremendous background that he had in the financial side. My background was on the technical side. So I took the responsibility of the day-to-day kinds of things going on at the test site, with my technical background. And I thought we made a great team. He had come up through the administrative areas and he had been the deputy manager at the Idaho office and came down to Nevada. And had started in Nevada. Gone up to Idaho to be deputy manager. Came back down here as manager. And he had actually worked for REECo in his early years, and that's where he met his wife. They were both employees of REECo.

So anyway, I became deputy manager, but continued to fire the shots and continued to do a lot of the things that dealt with the office, and would get involved where appropriate in assuring that all of our employee selections were done above board and those kind—which is why I've been called as a witness on other things. I was never sued for that, but I have been sued a number of times.

Anyway, I had left the naval reactors program in whatever it was, '74. In 1989, they put a lot of effort to have a reunion of naval reactors folks in the Washington area, and I thought, what a kick. A lot of really good people that I hadn't seen for many years. I'd talked to a few of them in work-related things over the years. So I signed up for that reunion. My wife and I went back and had a great time. At this time, '89, Admiral [James D.] Watkins had become the secretary of energy, and Admiral Watkins had worked for naval reactors at the time I did. I didn't know him in that context, but he had three or four people who worked for him as advisors, had come to the Department of Energy as advisors. And I ran into—well, there was Bob Brodsky and Murray Miles and Bill [Wegner]—I can't think of his last name but it'll come to me. Anyway, they had come to Department of Energy as advisors to Admiral Watkins.

And I ran into them in this reunion, and one of them said to me, `Gee, what are you doing now?`

And I said, `Oh, I'm still with the DOE. I'm out in Nevada.`

And he said to me, `Gee, you've hidden out pretty well, haven't you?`

And about ten days later, I'm sitting at my office in Nevada, so this is now mid-January of '90. So I don't remember whether that reunion was in December of '89 or early January of **[01:00:00]** '90, but in that time frame I got this call from the DOE headquarters that said, `I'd like you to come to Washington and I can't tell you why.` So I thought, `Oh, boy, they're going to send me to Savannah River. I just know it.` In that time frame,

they had fired the manager of Savannah River [plutonium and tritium production plant, South Carolina], Billy *Something-or-other.* And I knew they needed some help there, at least in a temporary basis. So I started assembling all the stories of why I couldn't go to Savannah River. And that isn't what they wanted at all. Admiral Mike Barr who was the director of military application in the department of headquarters, he was an admiral, a very senior position *under* Admiral Watkins, called me, and he is somebody I worked with day-to-day in the Washington side. And Mike said, I want you to come to Washington and I can't tell you why.

OK, so I went, prepared to argue against going to Savannah River. And what happened was I got sent up to Admiral Watkins's office and interviewed for becoming the manager of Rocky Flats [Nuclear Weapons Plant, Colorado]. In June, D-Day, June 6, 1989, there had been a raid of the Rocky Flats plant by the FBI and EPA [Environmental Protection Agency] and others over the allegations that the facility was using the waste incinerator illegally after hours to dispose of radioactive waste. The fact was the incinerator was disassembled. It was not operable at all. But the raid happened and various people had gotten fired and moved and one thing and another. And because they had discovered me, if you will, if that's the right word, at this reunion, they knew that I had the background of the naval reactors' style of intensive, getting work done in a harsh environment. Admiral Watkins literally put his arm around me and said, I'd like you to go up to Rocky Flats. I think it'll be a three-month assignment, but figure on six months to get the plant back working, and then you can go home. And I said, OK. For that, I'll go. In the Senior Executive Service, you are very much like a military officer. You sign all the papers and you're subject to being sent. I mean he didn't even have to ask. I could've just got orders in the mail. But he did and I said okay.

So almost overnight, I went to Rocky Flats. I said to them, OK, well, if you're just going to send me for the six months, would you keep me as the deputy manager

of Nevada as a permanent job and assign me on detail to Rocky Flats, and that's fine? And they said, Sure. Not a problem. So I continued as deputy manager. Turns out when I had started in the Senior Executive Service and gone through whatever promotions and things, I was what was called an SES-4. The lowest is SES-1. About the most senior you make in the field is an SES-4, and as deputy manager, that's what I was, an SES-4.

And so they sent me up to Rocky Flats. And a number of interesting things happened. When I was ordained as a priest, this program, this process that we had in Nevada really was aimed at identifying clergy from within a congregation, but then restricting them to stay with that congregation. You weren't really looked at as a priest for the whole Church. You were really locked to that congregation. Well, I went up to Denver, became the manager, and made a **[01:05:00]** courtesy call on the bishop of Colorado to say, Look, at some point the press is going to find out that the bomb factory, Rocky Flats, is the place where all of the what are called physics packages or pits of a nuclear explosive are made. The primary, if you will, the thing that initiates the nuclear reaction, were all made at Rocky Flats. And I said to the bishop, whose name was Dub [William H.] Wolfrum—it was an interim bishop, actually. They were between diocesan bishops. And I said to Dub, You know, at some point the press is going to find out that the bomb factory is being run by an Episcopal priest, and I just want to assure you, I don't wear my collar to work and I'm not going to be up on some soapbox, embarrassing you. And so, anyway, I made this courtesy call and he was very gracious and he asked about my background, and it turned out in *his* career he had been the parish priest in Los Alamos. And we had a number of common friends, people I knew that attended church in Los Alamos.

So he asked me Where was I going to church during that time?

And I told him, At the Holy Comforter in Broomfield, Colorado.

And he said, Well, would you like to do priestly things there?

And I said, Oh, sure, but, you know, I'm a Canon Nine. That's the title of the authorities for this local ordination. I said, I'm a Canon Nine priest and so, you know, that's abnormal.

And he said, But *I'm* the bishop.

And so he licensed me to officiate, which is what the right term was, with the approval of Nevada's bishop, Stewart Zabriskie. So I was really outside the box because I was a *local* priest but was now licensed to officiate in another diocese. But in *my* life, that became very important. I would work *really* intensive hours at Rocky Flats. A hundred hours a week was not abnormal. And that parish really became my refuge. I would do services there with the rector of that parish, Bill Grissom, who has subsequently retired, and they were really good to me. They became my refuge. They really protected me from being subject to all the hassle of Rocky Flats all day long, all week long.

And so it turned out I spent three *years* there, not three months or six months. But I had left my wife behind, and in the first year I'd only gotten to go home—like, I only saw her like five times in the whole year. And then after that, I told Admiral Watkins, you know, I can't continue doing this. I need to be able to spend some time. I have two kids and dogs and family and a wife, and I need to spend some more time with them. Turns out Admiral Watkins's *son* is a Roman Catholic priest, and he said, I understand. And so he gave me the most unique set of orders that I'm sure anybody in DOE had ever seen. He had assigned me to spend one day a week at Nevada and four days a week at Rocky Flats. So what I would do is I would fly to Denver on Sunday night and fly home here Thursday night, spend Friday and the weekend here in Nevada, which meant on Sundays I often did church services at my parish here.

So for two years, then, I would do mid-week services in Broomfield, and weekend services in Las Vegas. For two years, I went through that kind of thing. Got to see my wife and **[01:10:00]** family on the weekends. And that turned out to be a very good time for us. We really learned to appreciate one another much more than when you take each other for granted. And that was a good time. We talked every day on the phone, and really learned to *listen* to one another.

So that turned out to be a good time. Lot of work. Lot of emotional things. I mentioned being very difficult to separate pastoral kinds of things in the office from work-related things in the office. And one example—I tell this story, it's kind of humorous—occurred up there. Well, let me back up just a little bit.

Well, let me stop you for a second.

OK.

[01:10:56] End Track 2, Disk 1.

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

UNLV Nevada Test Site Oral History Project, interview with Robert Nelson, disk number two, conducted on June 30, 2004 by Mary Palevsky in Las Vegas, Nevada.

[00:00:16] End Track 1, Disk 2.

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

All right. I was going to say that when I started in the early eighties in the process for ordination, I tried very hard to separate the two worlds. I thought they were different, and so I didn't talk about the Church things with people at work and *vice versa*. And I failed miserably at that. People learned what I was doing, were very supportive, and asked me to help them deal with pastoral kinds of issues. And ultimately, I just threw in the towel as far as trying to keep them

separate. It's interesting also because I talked to another person who's a priest who works for the federal government as a ranger at Lake Mead, and she tried to do the same thing and found she failed miserably also. A person is a person, and you are what you are, and if you are a pastor or whatever, that's what you are, and you can't be something different.

So you're saying that when you were at work, you tried to say, Well, this isn't my pastoral job. This is my—

Right. Right. I'm just a boss here, or an operator, manager, whatever. And I enjoyed that and I tried to do that job very well, but I was often called on for pastoral kinds of things. And one example occurred at Rocky Flats, and there were many, many examples. Even today, I'm called on to do baptisms or funerals or whatever for employees. But at Rocky Flats, I had hired a woman from Washington who was just an outstanding employee in a certain technical area, safety issues. She had a boyfriend and she and the boyfriend lived together and had a house together, and so her one request to me when I hired her was, Could you hire my boyfriend too so we can sell the house together and move out there? And so I found a way ultimately to hire him, and they came out. And I must say I worked on her—she was more senior than he, but I worked on the two of them for some period of time, and they got married.

And one day I'm in my office, and one day she comes in and closes the door, and this very serious look on her face, and I said to myself, Oh, boy. This is going to be a problem.

And she said, Can I talk to you in private?

And I said, Sure.

And she said, Can I take vacation at the same time my husband takes vacation? They're in different divisions. You never put spouses in the same division, so they really have nothing to do with one another at work.

And I said, Sure. But why? And as I mentioned, we'd been working these eighty-to-a-hundred-hour weeks, just really intense.

She looked at me and she said, I want to get pregnant and my husband is always so tired.

So they wanted to take vacation. So they did, and she got pregnant, and I baptized the baby when the baby was born. I had come back here to Las Vegas after my tour up there, and so they brought the baby to Las Vegas and I baptized it at my parish. So I mean the pastoral kinds of duties, that's where you are. That's *who* you are.

So anyway, the Rocky Flats period was very intense, and yet it was good work, and it was recognized as credible work. I had spent a lot of time dealing with the public, and my major accomplishment in those years was helping to turn around the very negative public opinion of **[00:05:00]** the plant to one of respect and support going into the future. I mean those who were opposed to weapons continued to be opposed to weapons, but at least they developed a respect that we were being honest about what we were doing, and that was the value, for me, of my time there. I spent one whole day being taped by *60 Minutes.* Now, I knew that *60 Minutes* was out to get DOE in their spectacular show-how-bad-the-government-is kinds of forums, and I managed during that time not to say anything stupid, so that when they got through with eight hours of taping me, *zero* time showed on their show. So, to me, that was total success. I did some humorous things. I travel. When I travel, I have a little stuffed rabbit whose name is VR, Velveteen Rabbit, and VR travels with me. It was a gift of my wife. And my staff there at DOE had even made a security badge for VR, and when *60 Minutes* came in and did their photographing, VR was in every shot of me. It was on a shelf behind or something. And when the show aired, we were going to show my wife VR on national TV, but [it] never showed. So that was successful. They showed a lot of the stand-up footage of the plant, but they never caught

me in something that looked negative. And I mean that's not what I call always a news show. It's got a lot of propaganda rather than news. So I was very fortunate in avoiding being shown on the TV.

But anyway, so that whole period went through, and we did ultimately get the approval of the Defense Nuclear Facility Safety Board to resume operations, and with that I saw the opportunity to come home. Had been there about three years, and I couldn't ever get anybody in Washington to focus on my going home. They just didn't want to talk about that. So I mean it sounds silly, but what I did was schedule a farewell party and invite them to come, and when they agreed to come, I knew I could go home.

That's hilarious.

I mean it was. And that's exactly what happened. And I bought the cakes for the party and everything. But when I got headquarters people to sign up for my party, that was the acknowledgement that I could go home. So being the manager, I just made the orders happen and came back here.

That's great. Now, what year is this, then?

This would be '93.

So in this time that you were at Rocky Flats, we stopped testing, is that right?

We stopped testing *during* that time. In '92 was the last test. I had actually come back in, I think it's September of '92, we did the last test. Jim Magruder was the test controller for that test, and each of us that *wanted* to be there had an assigned place to be in the control room. I was there. I was in the control room, but Jim was the test controller. We fired that test.

Big event was in 1988. I think a lot of us will—and Jim Magruder was the test controller for that. We fired a joint test with the Soviets [Joint Verification Experiment, JVE]. That was

probably the biggest event of all of our things going on. Probably the most significant, and something in my mind the American public does not realize the significance of because it was through the two tests we did, the one in **[00:10:00]** Nevada and the one in the Soviet Union—

Kearsarge, and what was—?

Kearsarge was the one here, and I've forgotten the one over there [Shagan]. I did not go to the Soviet Union, but I had some responsibilities here in dealing with the Soviets and the preparations and all for dealing with them. But a great outcome of that was being able to have a common language with our counterparts, and there were some interesting things that happened in that. We had done through the intelligence agencies; we had done all the homework. We knew what each of the academicians or the people who came on the forty-man party from the Soviet Union, we knew what each of them had done in their histories and what their expertise were, and we knew then there were some of their party that were introduced as academicians but who hadn't any record of publishing anything, and we assumed those were the KGB people, and they probably were.

An interesting event happened. There was an encounter in one of the parking lots with one of our employees and I, through that, got asked if I could get a Bible in Cyrillic for one of their party to smuggle back into the Soviet Union, which I was able to do in the twenty-four-hour period.

How did you do that?

Through the Presbyterian Church. They have a function that they have those and I got it—

Here?

It was actually in Los Angeles, but they got me the book in a day. And it told me that they had probably done their homework on us, too. Anyway, I often thought that would make a wonderful

made-for-TV kind of movie. Here is the technical expertise of the United States and the Soviet Union, the guys who are building bombs to blow each other off the map, working together to smuggle Bibles into the Soviet Union. I thought it'd make a great story.

It's a great story.

And it happened, and it was successful.

Well, it's so human.

Yes, well, and the other thing that was very human out of that, we had a banquet after the Kearsarge test was conducted, and I sat there at dinner with my counterpart, a man who was a test controller in the Soviet scheme of things, a similar position, probably not exact. But he said to me at dinner, `You know, all my life I wondered who the "other guys" were. And I never thought in my wildest dreams that I'd be sitting down to dinner with the "other guys."` I mean just very human kinds of things. And I mean there were many of those. We found we had a lot of camaraderie with our counterparts, and we *all* wound up thinking that our own state departments, or their version of that, were the bad guys. I mean we got along with each other much better than we got along with other parts of the government, you know. Because of the technical skills and experience and expertise.

I wonder what you think about this. I've thought about it some because I know something about the JVE and we actually have a student, master's degree student, working with us who's very *interested in it. She's a European scholar, so she's talked to Nick [Aquilina] and Troy [Wade] and other people about it. But I've wondered, when that camaraderie's been mentioned, there is a long tradition in science and technology of international collaboration, naturally, historically, and that was one of the issues that happened with World War II, when those bonds had to be broken between Germany and the Allies. But it seems to me that there will be a natural coming-*

together, regardless of borders, because of the nature of science and technology and that kind of development.

[00:15:00] I think that's quite true, and particularly in a very specialized area like this, where you're—I mean bomb designers typically—you don't go to college to become a bomb designer, but what you do is you major in astronomy because that's where the high-energy physics is taught. We had a number of our people with background who were in experts in things like black holes in their other world. And consequently it's a very narrow area of expertise and people tend to *talk* to one another and *relate* to one another. And while there were all of the normal political things of pressures to do this or that, or not do this, or don't let them see this, or whatever, there was a lot of sharing of information and experiences and things through that process. Which I think, again, no matter whether people follow the rules or cheat or whatever, there's certainly a better understanding of where *they* are in terms of science and where *we* are in terms of science as a result of the JVE. And I think it's something that's been severely missed in looking at history, just because it kind of went by without a lot of attention to that aspect of that. And you get people like Nick and Troy who were very heavily involved at different levels. I'm not sure they saw that technical sharing and camaraderie and stuff. But I mean everybody has great stories, and Nick's experiences both here and in the Soviet Union are just outstanding. And really, his relationship with his counterpart, the head of the Soviet test site at Semipalatinsk, is unique. So, you know, great effort, but I think *all* of the people, Jim Magruder's work, all of them had really good experiences. And there's a guy named Chuck McWilliams. Have you talked to Chuck?

Well, our student is going to next week, I think.

OK. He goes by the name Chay. As a matter of fact, I did his marriage, one of those—

I think we're going to interview both the McWilliamses.

Oh, good. OK. Now, she has a different background. Worked for us and worked for one of the intelligence services, too, at some time in her past. But he developed such credibility with the Soviets that [Viktor] Mikhailov, the head of their thing, specifically asked for him in some subsequent things when Mikhailov became the director of whatever—their secretary of energy, if you will, and trusted Chuck—Chay—so anyway, a lot of really neat experiences out of that. And he got the job of—just an anecdotal story—of taking the drill rig that we had taken over there, which we had taken over in parts like an erector set in C-5 aircraft, he took it across the Soviet Union to the *east* coast, Vladivostok, and put it on a ship to come back to the United States, during which time he got sick. And they took him to a—he got pneumonia or something. I've forgotten the disease, but they were going to use leeches on him as medical treatment, and some radiation, that he declined the medical treatment, but he survived the thing. I mean some interesting stories of being sick in the middle of nowhere Russia, not the populated areas, and so he's got some tremendous experiences.

[00:20:00] *What was the actual—I'm sure I can read this somewhere but since we're talking about it, what was the actual device, as much as you can tell me, being tested? Was it a weapon that was being tested?*

No, my recollection is it was not. At the Nevada Test Site, very few nuclear detonations were actual weapons. Almost all were test devices, which means a lot. A non-weaponized test device means that there are no protective features. It's generally not packaged in a weapon bomb casing or whatever. It's the physics stuff without the weaponry around it. Because the department's [DOE] interest is looking at a few hundred nanoseconds—a few hundred times ten to the minus

ninth seconds—of what's going on in that period of time. That's where the developmental interest is.

When someone says, I'm going to go conduct a nuclear test, it usually took eighteen months to put all that together, a year-and-a-half, roughly, for the designer to think about, OK, I'm going to design this and I'm going to whatever, and a lot of people taking those concepts and making working drawings and then getting the parts fabricated, and in parallel with that a hole drilled and the diagnostic equipment put together. We were pressed to do that particular test in less than a year. And consequently that device had been started for a technical purpose other than a joint test with the Russians, and consequently we were able to do it in the nine months or so that we had, and it was a test very near the treaty limit of 150 kilotons, so it's a large size, as far as that goes, explosive, but one that is purely a test device.

I didn't go to the Soviet Union, so I don't know much about that one. I do know that we had to send the drill rig over from here because they felt they were unable to drill a hole straight enough. The concept is that you put the emplacement hole down to whatever depth. For us, a 150-kiloton test generally meant something like two thousand feet down. You put that hole down and then at a precise distance away from that, you put a small hole with some equipment in it, which gives you a good indication of the yield of that major test. The distance is very critical. You don't want it too close or it can give away intelligence on the physics of what's going on. If it's too far, it won't measure the yield properly. So there was an agreed-upon distance of the two apart, and the Soviets said they did not have the capability to drill it that accurately, so we said, Well, if we have to, we'll bring our own drill rig over, and with three-dimensional modeling and computer capability we have, we will know that it's at the right place. And we did that.

Yes. It's really a phenomenal—

Oh, yes, yes, but there were other very humorous things which I'm sure you have or will hear of things like the home country was responsible for feeding the other guys. The Russians came here and just about got steak and lobster every night for months. But our guys went over there **[00:25:00]** and got lard sandwiches for breakfast, and actually on one of those C-5s, put lettuce on it, and the Soviet cooks had never seen lettuce. They tried to fry it; they tried to boil it. They had to be taught what a salad was. That was something outside of their experience. So lots of those kinds of cultural things happened in this period of time.

So anyway, I came back in '93 from Rocky Flats, spent a few months in the office, and a dear friend of mine, Linda Smith, had been first the assistant manager for administration, and then when I went up to Rocky, even though my permanent job was still deputy manager, she acted as deputy manager. Actually while I was up at Rocky Flats, Nick Aquilina *did* get sent to Savannah River for a period of time, and so both the manager and deputy manager were gone. Linda had to act as manager. Anyway, well, in that '92 to'93 period, the Yucca Mountain project was without a leader. Their leader had been transferred away from that. And so Linda agreed to take a year as the manager of Yucca Mountain. And I had come back in '93, and they twisted my arm and asked if I would relieve Linda after her year was up and take that manager job for a second year while they finalized the search for a permanent manager for the Yucca Mountain project. So I did. I agreed to do that. And so that's the second point in my career. I had come in '78 and we had actually picked Yucca Mountain in that period. I was there from '78 to '81, or whenever it was, '82, whenever I went over to the defense side. And I came back in '93 and was manager from '93 to '94. Must've been probably August or something thereabout, the time frame, August or September, because I came back to the DOE office when Nick Aquilina and Linda retired in August of '94, and relieved Nick as manager.

From a personal standpoint, Hazel O'Leary was at that point the secretary of energy, and she had some views about security and other things that I was really opposed to. In my mind, she was really giving away the store. And again, personal opinion, whatever, right or wrong. And so I really worked to retire. I retired early, and so I retired at the end of January of '95, so I'd only been the manager for about six months in that environment.

Were your concerns with Hazel O'Leary related to this Openness Initiative?

Well, you know, openness I was really for because that's what I had done at Rocky Flats. I mean I had really worked to make the public able to ask the hard questions and get the answers. I felt that Hazel really was going too far in declassifying stuff that I thought would be useful to bad guys and would be used against us and that. And some of the personnel policies really led me to want to get away from being accountable for those things with the department [DOE]. So I worked very hard and was able to retire in early '95.

Now, the bad guys at this point are still the Soviets? Are you thinking forward now?

No, no, we're past—I'm thinking Arabs in—

[00:30:00] *You are. That's what I'm asking. You're thinking—?*

Yes. No. Yes, maybe not Iran, Iraq by name, but certainly Third World countries, Libya for example, who even then had designs or thoughts of nuclear weapons. One of the kind of collateral things that was very important to me, from the day I became assistant manager for operations, from the day I got in the weapons side of the business, I was responsible in one way or another for what we had going as the Nuclear Emergency Search Team. And so [I] was heavily involved with exercises and preparations for things like the '84 Olympics, the '86 Pan-American Games, in doing major exercises and other things after that to prepare this country for the event of a nuclear terrorist scenario. And we made up countries. In one exercise, we called

the bad guys Saharians to make an Arab kind of sounding thing. So that, to me, was always a threat and something I had spent a lot of time trying to assure we were prepared for. I often wound up as exercise director for really major things where we would have fifteen hundred players. And really exercises played all the way up to the level of the real National Security Council with real U.S. ambassadors involved and real intelligence agencies in a scenario and those kinds of things, and real military forces who would come and assault. Our concern was that we would—we didn't carry guns and we knew that should one of these things happen, there would be bad guys with guns. So we worked with the Federal Bureau of Investigation closely and their special units that deal with that kind of problem should it be in the U.S., and we dealt with the various special elite commando teams that the U.S. has should the U.S. be called upon to deal with that in a foreign environment. And so I spent a lot of time in those years dealing with those other agencies and trying to assure that *we* as the technical expertise for what was inside of a bomb, explosive, we would be able to adequately support that. But we were never in charge, but were always the technical aid on what to do about it, and anyway I spent a lot of time doing that.

So just to understand this better, there would be an exercise that would go forward in which you would simulate some sort of scenario, and would there be a physical component to that?

Yes.

Would that have been out at the test site?

Sometimes we did them out at the test site. Sometimes we did them in Albuquerque on the Kirtland Air Force Base facility. But we always had all of the aspects—well, in the major ones, we had all of the aspects—we actually did one down in Camp Pendleton where I was a staff member on the team that responded, but had previously been exercise director, kind of the

dungeon master for a massive game of Dungeons and Dragons. But in laying out those exercises, we worked *years* on those, and actually the play of the exercise went through months. One of them involved getting intelligence injects in a system *months* and *months* before there was a **[00:35:00]** physical site located and people had to respond. So we actually would inject things like an inject from the Royal Canadian Mounted Police that something might have been smuggled across the border, giving a heads-up, and injects from a police department in some town that somebody had been caught in a traffic stop with this kind of stuff, which ultimately led them, you know. So they were very involved and involved *many*—well, as I say, fifteen hundred type people, and the actual exercise itself on site might've lasted ten days. I mean, so—

Wow. And this must be something, then, that it continues, the high evolution of it, I imagine, since September 11.

I don't know what they've done. Since I retired, I haven't been—well, I don't think they've done it in those magnitudes, and I think DOE's role has changed. DOE started out really in a prominent role in that, both with search capabilities—we, for example, would train our administrative staff as volunteers if they wanted to be searchers. Women who were secretaries, even, would be trained to take something that was mounted in a bag that appeared to be a woman's handbag and walk into a bank and, without raising any suspicions, be able to go around that and determine if there was a nuclear device in that bank. Men with briefcases, hippies with backpacks, would be able to go around and do those kinds of things, very low visibility, and we of course had helicopters and other fixed wing aircraft that could do certain searches. But all of that was done big time in those years, in the eighties and early nineties. I think they have gone away from that. Now, I know that in the homeland security world today, there are threats, and I'm sure that people today are responding with the technical gear that the department [DOE] has

to support those, but I'm not involved with any of that. But it makes sense. I mean they've got the hardware.

So anyway, I retired in '95 and almost immediately was picked up to do security work as a consultant, and also some test readiness related things. Even today, I've continued to work for [DOE] headquarters. When you read that security at Los Alamos is terrible in the newspaper, I'm part of a team that goes around to all the facilities and checks out security. My part is really in a management sense, but I'm part of that team, and I tell people this: I've been at more DOE facilities since I retired than in thirty-four years of federal service. And I enjoy that. It's something that I really like doing. And just in this month of June, I was at Hanford and in Washington, so I go around doing those things.

And you're sort of evaluating how good the security is at these places and making recommendations?

Yes. Right. Yes. I retired, I was an SES-6, which is the highest level of that under presidential appointees, and so I went in the federal service from being a seaman recruit to an SES-6 in forever years but you know, that's kind of the boundaries of the story, and there are hundreds of anecdotal stories. One of the things I like to tell people is that the public has an impression of those people who deal with nuclear explosive as the Doctor Strangeloves of the world, if you remember that movie, but I found it to be really just the opposite. I really think a lot of people **[00:40:00]** of very high moral caliber not only found it technically challenging but sought that out because they knew those kinds of things had to be in the hands of people with high moral values. I mean one of my scientific advisors when I was a test controller was a lay minister in the Methodist Church and—

Who was that?

Roger Ide. Actually, he has a cover story on the Methodist national magazine at one time in the past. But wherever I went and whatever faith, I mean Jewish, Christian, Muslim, whatever, the people involved in the program had very high moral and ethical standards. And I think that's one of the reasons this program worked so well, frankly. The program was very much like a family, and again one of the things that I felt was wrong, really wrong, under Hazel O'Leary's leadership was that we were forced to take what was a very close personal relationship between the federal staff and its contractors, with those very high standards of moral and ethical—that existed, and we were forced to *separate* the federal role from the contractors and put ourselves in much more of an oversight rather than hands-on basis. Now, I can understand, and I had been through that in a large part in Admiral Rickover's program, where the federal staff and the contractors *do* maintain a separation, and we maintained a separation. But we were really driven and continue to be driven today—it started under Hazel, it has continued today—to put the federal staff almost to the point where they don't know what's going on. I mean they are so separate from the technical details of the work that they are administrators. And some are proud of that, and that's the way of the world today, but I liken what worked so well for us to what you saw in the like NASA [National Aeronautics and Space Administration] in the Apollo program, where there's a very close integrated operation of federal staff and scientific contract staff, with clear leadership and clear accountability but not, `You're a contractor. Therefore, I can't talk to you.` *This is very interesting to me because I think it, as you obviously know, it raises this sort of fundamental question about integrated, as you describe it,* versus *inbred, where there are these special relationships the contractors have with the government, that whole thing that some people say is troubling in a democracy. And yet you're also saying something very interesting*

because you're saying something dynamically happens when the relationship is closer that's sort of key to good operations is lost.

I think that it's possible. It takes work. But I really think it's possible and we *demonstrated* it, that there can be a federal-contractor relationship that is a *team*, really a team, with a clearly-established mission that can be accomplished without some underhanded dealing or money laundering or all of those things that we get accused of doing. I've challenged several people to **[00:45:00]** do this and no one has at least acknowledged to me that they've done it. But I firmly believe that if you look at what *we* did with, let's say, Reynolds Electric and Engineering Company, or with EG&G, if you say, We had a contract with them where the work statement was little more than a page that said, "Do what the government asks you to do". And then we gave them what we would call CPAF, cost plus award fee, one of those schools I went to, where we would give them, based on how well they did what the government asked them to, we would give them a fee, an award fee. People latched on that as a bonus. The government, really starting with Hazel, was forced to change its way of contracting to get rid of that very imprecise work statement and get to a much more—where the contract says, You will do this, this, this, and this and we will pay you this, this, this, and this, and if you do it this well, we will give you x-dollars. Get away from that award fee. What I challenge people is, take the total cost to the government of the cost plus award fee and look at what's happening today. The total cost to the government, I firmly believe, is *far*, *far* greater. I mean almost orders of magnitude *greater* today than what it was then, but we're not giving bonuses. The money's hidden elsewhere. What's happened is, and in a situation like a test program, it's important. In a situation like running a laboratory, it's *not* as important. And so there's probably room for both. Probably both are appropriate. Under the old system, the government assumed the risk and the government was self-insured. I mean it runs

the printing presses, so it's self-insured. Should something go wrong, the government takes the responsibility. What that meant was, the contractor's cost was relatively low, and all we paid for was the cost of the work plus that award fee. *Now*, we make the contractor assume the risk. The government is not at risk. *But*, in order to do that, what the contractors bid for the work, they have to bid commercial insurance to cover the same things that the government was self-insured for. So the cost to the taxpayer of doing the same job is probably ten times today what it was then.

But you're saying there's also a deeper problem, which is the government is more hands-off in a way that you think is not good.

Much more hands-off, and what I see today as I go around now in my oversight role, particularly in the area—I get involved with security and emergency management things for what's called the Office of Independent Oversight in Washington, of DOE, and that's who I'm working for, through a contractor. But what I see is the federal staffs backing away under this from the technical details and strictly looking at did you submit the right paper, and did you get the right approvals, and going forward. Now, that isn't to say there aren't areas where there's wonderful technical oversight. I mean there are. But I'm trying to look in the *general* case. The overall general knowledge of the federal staff, to me, is far less today than what it was in this kind of program and what it was by NASA in the days of the Apollo program. Now, I don't keep track of NASA today. I don't know whether they're still—I don't know how they are doing their **[00:50:00]** business, but I *do* know that on the DOE side, *I* see a void between what the federal staff is really on top of and the way it used to be. And there's a pitfall there, too. While the contractor assumes the risk, the contractor can convince the government sometimes of things that are technically unsafe, and I'll give you an example.

Now, again, here's an example of the kind of thing that can happen. I was not involved and I don't know how this happened. But there was a laboratory at the test site subsequent to my departure, so I don't know, again, the details of this, but this is exactly the kind of thing that I worry about and have tried to use any influence that I have to try to avoid. But there was an incident where there was a project to develop the hardware for an earth penetrator weapon. And the laboratory involved developed a concept where a rocket would be launched from the Nevada Test Site, it would go up very high, and it would turn back down, and as it pointed at the ground, it would fire a second stage which would then impact the ground at very high speed, and then you would go dig up the pieces and see if it stayed together. No real explosive in it. It's just to see if the pieces will withstand that impact on the earth, which the scientists have calculated *will* withstand. Tonopah Test Range, which is north of the Nevada Test Site, is a target impact area. It's been used for many years for targeting of all kinds of things and has all the facilities to track and dig up the ground and all those kinds of things. So the idea was to launch a missile at the Nevada Test Site, probably sixty to a hundred miles south of the Tonopah Test Range, which would then come up and impact. The laboratory convinced Department of Energy technical staff that they did not need a self-destruct mechanism on this rocket because loss of control of the rocket was a non-credible accident. The obvious story is the missile impacted right near Goldfield, Nevada, a populated area. Went up, they lost control, it fired at the ground, and went the wrong direction. Nobody was hurt. Nobody really ever heard of the story. Magically, Goldfield, Nevada got two brand-new fire trucks from the government. And nobody said a thing. Now, had it landed in downtown Las Vegas and hit some building or landed in downtown Goldfield even, or landed in Tonopah, or landed in Beatty, or whatever, even landed in Mercury, Nevada, and killed twenty people, obviously it would've made a lot of news.

I put that in the context that that's the pitfall of the change for our research program, that that's the pitfall of separating the government federal technical staff from the project. Now, I'm sure there are a hundred people who would say, Oh, well, in that case, that isn't true because . . . And I'm sure they can make that case. In my mind, it's an anecdotal story of the flaw I see developing when you go *too* far in holding the contractor at arm's length and step *away* from the world. I mean we used to have twenty or thirty people in the test program days who were full time *on* the Nevada Test Site, federal staff, who oversaw everything that was being done. A federal staff person was in what's called the OCC, operations control center, which was **[00:55:00]** where the day-to-day—that office knew where every barrier was, every road that was closed, every road that was open, where every worker was. That's now being done by a contractor. And again, what that means is, when there *is* an emergency, the federal staff may be the last to know. And that puts the manager, the DOE manager, in an awkward position because when the bad things hit the fan, so to speak, somebody's going to turn to the federal manager and say, Why didn't you know this? And it's not going to be an acceptable thing to say, Well, I turned the test site over to the contractor. If somebody gets killed, you just can't step away from that.

So I see in a hazardous duty program—which this is. I mean there's mining going on in Yucca Mountain, or there may be work going on in tunnels. There are things going on at the test site where the Air Force will fly an armed bomber over and drop a bomb on a particular target for a test of something that the DoD [Department of Defense] is working on. There are just drill rigs and there's hazardous things going on. Where those kinds of things happen in a federal environment like this, *I* think it's very important to have a *very* close control by a federal staff.

And I argue that all over, so this is nothing new and there's nothing overly sensitive. The things I've said have not bridged classified stuff.

But anyway, that was something I had real difficulty accepting that was coming through in the Hazel O'Leary time frame. Certainly in a Washington environment where it's an office building with lots of telephones and fax and computer ties, in the energy center—I've now been to some of the energy centers in part of my consulting work where it's a laboratory, even particularly like an Argonne [National] Laboratory in the Chicago area, which is not doing nuclear hazardous work, I can see that style of work being very efficient. But I would say some parts of the Los Alamos lab, where they are setting off explosives, not nuclear, not those kinds of things, but things with great hazard, I've seen things go on that I would question that the federal staff in the area office doesn't know about.

Safety issues.

Safety, yes. And yet the documentation, the real paperwork for safety reviews is far better today than we had before, but what we've *given* up is the *personal* responsibility and we've moved that, to me, in a way where the *personal* responsibility is eliminated in favor of better documentation. So somebody can always point, `Well, you know, the safety analysis, they did it and gee, it was inadequate.` Or whatever. `It wasn't my fault.` And I've got to say, I see—I'll give one—do we have time for another personal story?

We do. We do indeed.

Somewhere along that career, and I've forgotten the year now, maybe '85, that vintage, there was a test called Midas Myth/Milagro. It was a joint DoD test, therefore two names, Midas Myth. Milagro was the Los Alamos name. So it was a joint Los Alamos/DoD—and in those days DoD would've been Defense Nuclear Agency [DNA]—test. In those days, Milagro, if you are

into the wonderful history of New Mexico, there was a book called *Milagro Beanfield War*, **[01:00:00]** which is a *great* book and a great movie. But Milagro was the code name for Los Alamos. They were using New Mexico towns or something in those days for tests. I was the test controller, and we fired the test in a tunnel, small test. And in the tunnel there had never been a collapse on the surface. During the time of re-entry, there were a number of people that went in to get stuff, and the ground collapsed, and ultimately one person was killed and nineteen or twenty were injured. In those days, the manager of Nevada immediately went to the press and took responsibility. I was the test controller and was responsible for recovery, and I mean in that immediate time frame, we must've got ten thousand phone calls. I mean *literally* ten thousand phone calls. And we couldn't deal with them. We were trying to deal with getting injured people out and all of that, medivacing and stuff like that. But the manager took responsibility, and the *department* [DOE] took responsibility, and we dealt with—there were lawsuits from probably all of those. They were all settled and the government took responsibility for those. Took a lot of time. But the key is, an incident happened and the government took responsibility for it.

In today's world, I take the case of Savannah River, when Nick Aquilina went down there, and Billy [Kasper]— had been the manager—bright young man—there were allegations that he had misused federal funds, not for personal gain or anything but that he had taken money out of one box and spent it at the site for another purpose. He was immediately fired, and Nick was sent down to be the manager while they did an investigation. So the manager was fired before the investigation, which ultimately showed that he had really not done anything wrong at all. But he was fired. That was by Admiral Watkins.

That set a precedent that *managers* are unwilling to take risks. Your whole career goes down the tubes, if you fire the manager or the person involved as soon as there's an allegation.

The consequence of that in historic terms is that we have moved to a no-risk DOE—probably a whole no-risk United States, but there's indications that that's not the case—when in fact our *heritage*, if you look at the long-term view, is that of risk-takers, whether that be financial—you look at the Union Pacific Railroad. I mean people can always find greed and corruption and whatever in any of these stories. But the fact is we have a history of a country of risk takers who were able to produce a lot of good things. And yet we're moving to a society that is totally risk aversive, and I think it's a real loss. You know, I parallel my case where I could've been fired. I was the test controller, the obvious person to fire, and immediately people stepped in and not only protected me but protected me in a way that I could get the people dealt with, the emergency brought to a safe condition. Now, the legal system allowed for, you know, I was sued by every one of those people, and [had] the government lawyers, because it was in the context of my work, I never had to get a lawyer. The Department of Justice defended the Department of Energy in all of those and ultimately settled them. But I had to do depositions and court appearances and various things and testify as to what we did and why we did it at the time frame. And nobody **[01:05:00]** ultimately found fault with the logic we went through. There had never been a collapse, there was not a history, it was not expected, very small test. But the fact is I was the guy driving the ship when it ran aground or whatever. But we've moved to a world where today's managers really want to have arm's length. They really support this so they're not responsible, and there's lots of paper between them and the events that are going on, and the result is, to me, a real lack of knowledge and a real change in the dynamics of the country in terms of that. And now, I'd have to say I can see examples where that's *not* happening. I don't think it's universal. And in some ways, again, when you're working at an office kind of facility, it probably makes a lot of sense, but it's kind of battalion punishment for the rest.

Battalion punishment? What does that mean?

I mean one guy does something bad, so the whole battalion has to march all night or something. So anyway, I mean that's kind of a broad view of how I see things changing. I certainly resist that, and I'm actually seeing in my security work some efforts out of headquarters now to go the other way and say, Why can't we be a team?

Out of Energy.

In the security world, out of DOE headquarters. So people are starting to say, Well, why can't we be a team? Why can't we work together? [And I say] Well, because you made it be that way. But the political entities turn over with every administration, so there's no corporate memory except for people like me that have been around a while. I'm really pleased to see that in hindsight—I mean as I look back now—I can see some elements. I don't know what will happen to the contracting. I would *love* to see somebody study the *cost* to the government per hour of work, and then tie that to inflation. We haven't been in a bad inflation time so, you know, a 1990 thing to a 2004 probably—you could adjust for inflation. But my guess is, many times the amount of money, actual dollar-per-hour of work, because all that risk has had to be assumed by the contractor and paid for in one way or another.

Well, I think what you just said, what you've said for the whole period, raises a lot of really interesting questions for what I hope would be a future discussion. It's sort of almost like a negative. By your telling me what you see as the issues here, it would be really great to go back and talk about—because that's one thing I'm curious about and we need to understand better for the project, is the relationship between the government, the labs, which are another portion of the government, and the contractors, and how that was interwoven through the history that you lived.

One of the things that you or a student might find an interesting study is to look at length of employment per person in this program as compared to the community at large or the country or whatever. We have a *tremendous* number of people, and you'll be talking to many of them, probably already have, who spent an entire career—

No, we are already seeing that. We've been to a few of the REECo breakfasts—

Right. People got into this. It was—

—and people say, I came for six weeks and stayed—

And I stayed thirty-five years. Yeah. And that's another kind of key background element that enabled us to really develop the kind of personal reliability without giving up *accountability*. Because we knew how dedicated people were in the key positions to getting jobs done. And it gave us a way of relying on them. We *knew* that people who had been around for twenty-five **[01:10:00]** years were not going to be the ones as we face in the world today who, on a three-year cycle, change jobs and are out for personal interest.

I mean you'll find, for example, another key thing for a federal employee. Most of us that went through the test program were in the federal retirement system known as CSRS, Civil Service Retirement System, which happens to be the same system that the congressional staffers are on. That's a key item because *they* appropriate the money and *they* make it survivable or not. Long about, golly, twenty years ago now, maybe nineties, I've forgotten exactly when, all of the federal administrations, the executive branch, moved as a cost-cutting whatever—not only cost-cutting but a recognition that people didn't stay in jobs a long time—to a thing called the FRS, the Federal Retirement System. I think that's what it's called. Those of us who were vested in the CSRS had the choice of staying or leaving. I decided right off, I mean in about two seconds, that if the congressional staffers are protected by CSRS, that's where I want to be, because their

bosses are the ones that appropriate money and they're not going to shoot their own staffs. Then I went through all the calculations that really showed to me that if you had more than, I think, something like nineteen years in the one system, it was financially appropriate—I mean you were crazy to leave it after a certain number of years.

But what we see today is a system that recognizes that employees only stay three years, allows them a lot more control of their money, but it allows them to make bad investments with their retirement money, where *we* just paid a flat 7 percent of our money and then we got back an amount based on our high three. I mean it was a simple system. And of course, I stayed—my high three was tied to that SES-6, which was the highest salary you could get, and I figured, that's a pretty good place to start. But what you see today is a recognition that people *aren't* going to stay forever *and* a retirement system that really doesn't *reward* them for staying forever. Both acknowledges that they're going to maybe want in and then out, and gives them some latitude in terms of taking things with them, but certainly doesn't have what we had in the past of clearly you get to nineteen years or whatever, it *really* makes sense to go for retirement.

Right. OK, we've got to retire this.

OK.

[01:13:25] End Track 2, Disk 2.

[End of interview]