

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

Interview with
Leonard Kreisler

April 20, 2005
Las Vegas, Nevada

Interview Conducted By
Suzanne Becker

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Produced by:

The Nevada Test Site Oral History Project

Departments of History and Sociology
University of Nevada, Las Vegas, 89154-5020

Director and Editor

Mary Palevsky

Principal Investigators

Robert Futrell, Dept. of Sociology

Andrew Kirk, Dept. of History

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Table of Contents

Introduction: birth (Brooklyn, NY), childhood (White Plains, NY), move to Las Vegas, NV to become medical director for Nevada Test Site (1973-1990), importance of atomic testing program in Nevada.	1
Becomes chief of staff, University Medical Center (1982), more on medical practice background (NY) and arrival in Las Vegas	2
Postgraduate work (University of Cincinnati) and board certification (occupational and environmental medicine, 1980).	4
Sets up drug surveillance and drug rehabilitation programs for NTS contract workers.	5
Leadership at the NTS and within DOE, and differences resulting in retirement (1990).	8
Involvement with worker medical claims at the NTS.	9
Organization of DOE/DOCS: specific interest in study of radiation exposure of NTS employees and Downwinders, and results of studies.	11
Creation of health track system to follow employee illness at the NTS, and discussion of incidences of cancers and illnesses in Nevada and their relationship to radiation exposure data.	14
Medical work at various REECo sites in Nevada, and community relationships.	20
Protesters at the NTS, experience with underground testing, involvement in Midas Myth/Milagro in 1984.	23
Opinions on Yucca Mountain Project and use of nuclear power plants.	27
Attempt to design physical fitness program for armed guards at NTS, reactions by guard force against program.	29
Guidelines and outstanding medical people who worked for DOE, and love of work at the NTS.	33
Discusses eight years of health track done on NTS employees and compares incidence of cancer to Clark County and Nevada.	34
Health hazards, accident rates, and safety measures at the NTS.	35
Misperceptions on the part of the public re: NTS, and opinions on political "image control" on various issues.	36
Radiation exposure (NTS, Three Mile Island) as politically contentious issues, and lack of correlation between exposure incidents and cancers at NTS.	42
Investigation and documentation of injuries and deaths at the NTS.	43
Development of Las Vegas Paiute Reservation.	46
Military service (ca. 1958).	47
Clearance required for medical work at NTS, signed off on all medical reports.	49
Conclusion: need for NTS medical history interpretation in the Atomic Testing Museum.	51

Interview with Leonard Kreisler

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

Dr. Leonard Kreisler: This is Dr. Leonard Kreisler, M.D. I was born in Brooklyn, New York, grew up in White Plains, New York. Came out to Las Vegas in 1973, in August, in the middle of the heat, to take over as medical director for the Nevada Test Site, which is the Department of Energy's [DOE] Nevada Operations Office [NVOO]. I was going to be the doctor for the whole shebang, but I actually worked for Reynolds Electric[al] and Engineering [Company, REECo], which was the prime contractor, a division of EG&G [Edgerton, Germeshausen, and Grier]. I was out there for approximately eighteen years till early 1990. So what I have here is my CV [see supporting documentation provided by Dr. Kreisler]. I was written [up] by the University of Nevada Greenwood Press, which is part of the University of Nevada, Reno [UNR], as one of four guys, and they picked me because I was a long-time director with the atomic test program, and that was an oral history. You have the chapter. This was given to me before they put it into the book, so this is essentially what's in the book. [See, Blachley, Annie, *Good Medicine: Four Las Vegas Doctors and the Golden Age of Medicine*, Greasewood Press, 2000].

Then I have a *Nevada Magazine* which was published in 1964, the centennial of the state. The state became a state in 1864, and so this was published in 1964. One of the main reasons for you looking at it [are the] big articles in here about the test site and the atomic testing program. It shows you how, at that time, everybody was souped-up about it. There were atomic burgers, Bikini burgers. They all came out and watched the mushroom cloud. And it was the second-most-important employer in the State of Nevada. Then a building boom and an explosion of

population started in the eighties. The unions didn't need that employment as much anymore and neither did anybody else, so all attention turned to what was going on in Las Vegas, and nobody really cared out there.

Suzanne Becker: *The compensation?*

Alleging injury became a political tool of politicians, picking on the test site for the alleged injuries to the Downwinders in St. George [Utah], and the atomic waste storage. Then all the other politicals hopped on it. And one of the worst things that I can say about the Department of Energy is that they don't know how to do PR. They don't know how to do proactive campaigning, or anything else. They hired a great guy from the *[Las Vegas] Review-Journal*, as I remember, who is still out there named Darwin Morgan. He could do a hell of a job for them, but they didn't let him. The public gets only the negative allegations.

These other things are [from] when I was, in 1982, elected chief of staff at University Medical Center [UMC]. At that time, it was called Southern Nevada Memorial Hospital. And I was the one that got the name of the hospital changed to UMC.

Really.

Yes, to better reflect its association with the medical school. That's a totally separate topic which I could give you six hours on. But in addition to getting the name of the hospital changed, the hospital at the time was fifty-two years old and because of political-economic reasons, they had never been able to get a foundation started. So my friend from the test site, Bill [William] Flangas, who was very savvy, a native Nevadan from Ely, mining engineer, head of maintenance and operation, we had a discussion and I told him I was interested in getting a foundation started. We got forty-five people, approximately, to turn up at a luncheon. Out of that, seven people, including myself, agreed to put two hundred bucks together from each of us and start the hospital

foundation, which we did. Luckily, the Osmond [00:05:00] [Family] had just started the annual children's telethon. To be eligible for that, you had to be a teaching hospital, not for profit, and you had to do pediatrics or be a pediatric hospital. The only one that qualified at the time was UMC, and we got into it. It lasted until the year 2004, and got nine million dollars in cash, plus every year they had a chance to go on television for fifteen or twenty hours; it was a great public relations event.

[00:06:05] End Track 2, Disc 1.

[00:00:00] Begin Track 3, Disc 1.

While we were there, the foundation did a lot of things for the hospital. One of the things we did was for about eight or nine years we established a *Nevada Day* magazine, which has a lot of historical stuff. We tried to sell it and give it away on planes to raise funds, but it was an uphill battle. It was patterned after this 1964 magazine idea. And I have the ones for '85, '87, '88, and then the '89 one happens to have a write-up on me in it, so you can look at it, but it also has Bill Flangas, who was a mining engineer—I think you interviewed him—out there. But these are all collectors' items, particularly this one, because there just aren't any more around. You can have all of those. [See *Nevada Day, 1864-1989*, University Medical Foundation, 1989, pp 36-39].

Great. Thank you.

Now, what else do you want to know?

Well, you were out there at the test site for quite a long time. Tell me a little bit about how you ended up getting out to the test site.

I was in general practice back in Peekskill, New York, which is about an hour and a half north of New York City, an hour north of where I grew up. It's across from West Point on the Hudson River. I was doing old fashioned family practice with a home-office combination for thirteen

years, and I was getting a little tired of doing eighteen hours a day. We were looking around for an alternative, and one of the ads I saw in the *Journal of the American Medical Association* was Reynolds Electric looking for a medical director for the atomic test program. So I wrote, and we came out west and looked at places in Arizona, Reno, and I had an interview with Ron [Ronald W.] Kiehn who was head of Reynolds Electric at the time. We actually went up to Mount Charleston in March to go skiing and to discuss the prospects, and they offered me a ridiculously low salary, but I was ready to make the change and try something different. Also wanted a warm climate, and since we're Jewish, we were looking for somewhat of a Jewish community, which they had here. So we came out in July of 1973, three kids, the oldest thirteen and the others eleven and nine.

Boys? Girls?

Two boys and a girl. The two boys eventually—they went through the school system here. Two went to UNR and then through the medical school. And the girl went to UNLV [University of Nevada, Las Vegas] in hotel management and transferred to U Mass [University of Massachusetts] and graduated from there for the last two years.

Great. So, [I am] curious, before you came out here, were you familiar with the test site and the testing program?

I had no idea at all about it. I was strictly a family practitioner. And when I came out here, I set up a program where I could take postgraduate courses while I was still working and then eventually take a mini residency at University of Cincinnati. I sat for the boards in occupational medicine, and in 1980 I was board certified in occupational and environmental medicine. As far as I know, I was probably the second one in the State of Nevada. There was a Dr. Dehne, an

older guy up in Reno who was board certified in occupational medicine. And even to this day, I don't think there are more than a handful.

Can you talk about that a little bit? When you say "occupational medicine," what are you specifically talking about?

That's a specialty which deals with man and his environment, and in the workplace, obviously, so you're talking about everything from noise exposure; dust exposure; chemicals; ergonomics, [00:05:00] which is, you know, whether the chair you're sitting in is comfortable, whether the height of the screen is right; psychological aspects; workers' comp; the whole ball of wax of man and his work.

And I did a lot of speaking around southern Nevada and throughout the country, particularly on drug surveillance programs, which we got in in 1985. But there again, I wasn't allowed to test the federal workers, only contract workers, which was interesting. It took a lot to get that on. I tried for over five years. I even brought out a Captain Cangianelli who was not a doctor but he's the one who set up the military drug testing program, which all came out of the mishaps in the Mediterranean. About 1978 or 1980, there were some unusual accidents on an aircraft carrier in the Mediterranean, and they finally looked into illegal drug use or illegal use of drugs in the military. And it was interesting. The Army had as high as 50 percent, the Navy had 25 percent, the Air Force had 25 percent [illegal drug use]. And so Captain Cangianelli set up the program. I forgot who the rear admiral was. I have that on my slides. Cangianelli came out and gave a very impressive talk on how they do the [drug] testing, like chain of custody—keep the samples, re-run them. And then I took a course to be a certified person who could oversee a drug program. That was a two-or-three-day course through the Occupational Medical Association, and I got certified as a medical review officer that can do that. So everybody that came up positive, I

personally interviewed, the samples were re-run, and we did it with a local lab in town. We did a lot of speaking on that program.

Now, were you doing any of this up at the test site?

Yes.

That's where you were doing it?

Yes, that's where we did it. The entire DOE program in Nevada—but only with non-government workers. The whole test site. But as I said, I wasn't allowed to test federal workers, only contract workers. And it was very interesting because it didn't take long to know where the big problems were. And we had at least a 10 percent positive, between a 5 and 10 percent positive, not only in the workers but in those applying for the job, even though they knew they were going to be tested.

Really.

Yes. Then we went into rehab programs. We gave them the option. If they would follow a rehab program that we specified, they would be eligible to come back under specified conditions and still have their job. But, there again, at that time, which was in the late eighties, the rehab programs were a boon to people looking to make money. Like Montevista [Hospital], which is still in town, would have their so-called rehab program, but it was a sham. You'd pay twenty to thirty thousand dollars a month and these people were not adequately supervised, followed up [on], or anything else. We found two good programs. One was in Utah, in St. George, and another one, I forgot where it was. But we specified which programs they had to go to, and if they wanted to accept it, fine. That was up to them.

But we didn't take hair analysis, which was worthless and still is, in my opinion. We did witnessed collection of urine. We got a lot of flak on that, but it was witnessed and it was very

well controlled with the chain of command, the whole thing. So we had the best drug surveillance program in the state at that time and I think anytime thereafter.

And I would imagine that that's a matter that the test site took pretty seriously.

No, they didn't.

No?

No. I had to ram it down their throat. I had to ram it down their throat.

Mrs. Kreisler: You're still ramming everything down their throat.

Dr. Kreisler: That's my wife in the background. No, the bureaucracy of the test site was very interesting. When I first got there, there was a retired general Ink, his nickname was Ink, Gates, Mahlon Gates. Now, as far as I'm concerned, I would follow this guy anywhere.

[00:10:00] We didn't agree all the time, but this guy was of unusual intellect. He was actually with the original Manhattan Project, as far as I know, and he retired as a general. The guy was very intelligent, very understanding; he would listen, and he wasn't vindictive. He was just unbelievably good. But unfortunately he retired, and the next guy that came in was a retired lieutenant colonel, if I remember right [Thomas R. Clark]. Nice guy and all that, but he had nowhere near the charisma. In my opinion, leadership went downhill after that. In my eighteen years, I had nothing but superlative yearly evaluations; my company made extra money on it, my medical department was that good. There were twenty-five or so medical departments similar to ours across the country in the Department of Energy's operations, and ours was unequivocally the best. And that wasn't my opinion; that was the opinion of Dr. William Albers out of Washington, who was head of the medical program for the Department of Energy. And we had the best clinical program anywhere.

[00:15:00] Serious differences led to a forced retirement in 1900. If I had filed a claim about what I considered unlawful termination, coerced or whatever you want to call it, it would have to go through the DOE manager. But lo and behold, when [Hazel] O'Leary became Secretary of Energy, she set up a Division of Employee Protection whereby claims like myself, or whistleblowers, or whatever would go through this separate department rather than through the manager of the DOE field office here.

Which makes sense.

So I fired off my objection to my being terminated. No lawyer would take the case, so I did it on my own and I won within a year and a half.

Really.

Yes.

And what year was this?

This was between '89 and '90. I won in less than a year and a half. They sent two investigators out that spent the whole week here, and then the answer was put me back to work and reinstate my pay. Now, I didn't particularly want to go back and they didn't want me back, so we came to a monetary agreement.

Now, as I started to tell you in regards to worker medical claims before we turned the tape on, a guard out there—I get calls frequently from people—a Wackenhut guard said I removed some things on his back way back in the late seventies. It turned out to be malignant melanoma, and he survived the treatment; we got it early and so forth.

He was called by a fellow guard who said, *Gee, get your claim in.*

This was in April 2005.

And the guy said, *why?* He says, *Well, I put my claim in for the cancer I had.*

He said, Yeah, but you never got out of the office. What were you exposed to?

He said, Doesn't matter. I got \$150,000 through the Department of Labor.

So I told the guy, I don't think your melanoma had anything to do with working out there. It's melanoma. It's very common in the Southwest and it has to do with sun exposure and you obviously got it on your back. You had your shirt on when you were working. I said, But everybody else is getting paid; you might as well get in line.

What happened around 2004 is they took it away from the Department of Energy and told the Department of Labor to pay off these claims, which [Senator] Harry Reid got restarted again with the union by getting the University of California, San Francisco on the West Coast to do the investigations and exams and so forth, and Harvard on the East Coast. Now, I still maintain my license in Nevada and I go to UMC, particularly Friday morning. I go to the Tumor Board conference at least once a week, and Friday morning is grand rounds. It was interesting, about two years ago, or maybe three, a guy showed up for grand rounds, he said, I'm Dr. [Robert] Harrison from the University of California, San Francisco, I'm board certified in occupational medicine, and we have been contracted to do a study of people who were exposed to dust, to radiation, to everything else out at the test site, and we're doing the studies in conjunction with Harvard, and all that. He went through all this stuff.

When he got done, I went up to him, gave him my card, and asked him, Do you know who I am?

And he said, I think I might've heard your name.

I said, Well, I was medical director out there for eighteen years. I have health track data which is out there for at least eight years. It showed what

people who got ill and lost work for more than five days and those workers who died. We compared that with statistics in the State of Nevada and we found no difference in the incidence of any of those diseases, namely cancer, cardiovascular disease, whatever. So we have all that data out there. There were no unusual illnesses or causes of death.

I said, You know, you ought to look at that if you're interested in what you allegedly have been told people got when they worked out there.

[00:20:00] I said, Those tunnels were cleaner than most of the casinos downtown. And I can verify that. Number two, I said, did you ever hear of Dr. Maxwell Kaye?

[And he said], No.

[And I said], Well, Dr. Maxwell Kaye was the medical director for EPA [Environmental Protection Agency] office in Las Vegas, and he had MLON, [Medical Liaison Officers Network]. His job was to investigate all allegations of any medical adverse effect on people who had been working in the atomic test program. And when I first got here in 1973, he got maybe two or three a year. When he left, there was like 1,200 claims or allegations a year.

Now, Dr. Harrison never called me. He never got in touch with EPA to look up the MLON data. But they're chasing what the union and Harry Reid wants them to chase. You know, they ought to call it a bonus for having worked at the test site. Not a medically deserved bonus; just a bonus—give it to all the workers, including me.

So this brings several questions to my mind. First, you had mentioned earlier the Downwinders and you mentioned various people with [different] types of cancer, perhaps not even pertaining to the test site. You spent a lot of time out there, and I'm just wondering what types of things you saw? In other words, there are a lot of people that say these terrible things were going on. Many,

many people were exposed to radiation, there are all these adverse effects, and the government or the test site was covering it up. Well, not covering it up, but maybe not as forthcoming with information.

The government has been very inept at assembling the data, making it public, and discussing it intelligently. [I'm talking only about the 14.7.5—not other DOE facilities.]

So going back to that bad PR?

Yes. It's just the same as the "Area-that-doesn't-exist." [Area 51] In fact, I came home one day and my wife showed me the *R-J* [*Las Vegas Review-Journal*]. Somebody had crawled up to the top of Groom Mountain, next door, with a telephoto lens, and there was the picture of the whole place, right there in the *R-J*. OK, you know, come clean. I mean what are you hiding?.

Now, let me give you an example. When I was medical director, like I said, we were the premium medical department for all of the DOE operations and, as far as I'm concerned, the whole State of Nevada, and the whole country. I organized what was called the DOE/DOCS, Department of Energy Doctors and anybody else interested in this area of medicine as a subsection of the American Occupational Medical Association. So when we had our annual meeting or semiannual national meeting, we met as a subsection, the DOE/DOCS, those interested in the Department of Energy operations, and it was a lot of different things. Ours happened to be testing nuclear devices. Other areas, like Pantex, put atomic materials together. Another place might be in designing warheads at Los Alamos or Sandia and all these other laboratories. So this was a chance for us to discuss and talk about things, and then we published a bulletin.

One of the people I invited, he was caught between a rock and a hard place. They had done an in-depth study of the incidence of leukemia in the GIs who were in the trenches

watching above ground nuclear tests at the test site. They were exposed to radiation, no question about it. [00:25:00] The important thing was that in the follow-up, from what I remember, they found eight cases of leukemia in those GIs that were in the trenches. When you compare that to the incidence expected in any other population in the United States of the same age, sex, and so forth, it's a normal distribution. You got what you would expect: eight cases. This was reported at our meeting.

So I said, Geez, can I write that up in the next DOE/DOCS publication?

This is great. I mean this is honest reporting and important information.

I was told if I tried to print that he'd deny it. He said, You want me to lose my job?

I said, Well, if that's the way it is, that's the way it is. I won't print it.

On from there.

And the downwind stuff, there a Dr. [Joseph L.] Lyon who has just resurfaced. They're re-quoting him all over again. He said that in the above ground testing there were, I think, eleven cases of leukemia in children in Utah which resulted from exposure to fallout from above ground testing. This was studied up and down by the National Academy of Sciences, as far as I know. It was studied up and down by the Department of Energy people. And the bottom line was, number one, his whole study was flawed. A lot of his interviews were done over the phone, the people were never seen, it's anecdotal, and there was no basis for him claiming any correlation, and there never has been.

So you don't think the incidents are as high as are reported?

Absolutely not. You know they quote John Wayne, who was a smoker. They quote Susan Hayward, who was a smoker. [Some people alleged they got cancer from making a movie in Utah. Bunk. They got it from smoking.]

Right. And now you're talking about The Conqueror, the movie that was filmed out there?

Yeah. These people didn't die of fallout they died of their lifestyle. That's what they died of.

Yes, well, those are certainly the two sides to the story.

Well, there is no side if you look at the scientific facts. I mean you can get emotional. I bump into people that say, *My father died from exposure out there. My first question is, Did he smoke?* Well, yeah, he smoked three or four [packs] a day. There's a guy I never saw without a cigarette out there. He died of lung cancer. His widow just got paid by the Department of Labor. Give him a bonus for working out there; he did a fine job. He was a good worker. But he didn't die of working out there. He died of smoking.

Now, in "Area-that-doesn't-exist," we had two cases [Walter Kasza and Robert Frost], and it's interesting because they made it public, so I feel I can speak about it. They brought it to workers' comp because the government denied their claim. They said they died from exposure to toxic materials out there. One of them said it was the burning of PCBs [polychlorinated biphenyl]. This was the stuff that insulates electrical components. Anyway, that was their claim. Now, the lawyer that represented Reynolds Electric and Engineering was Bill Maupin, who is now chief Supreme Court justice for the State of Nevada. He took on the case, and luckily we had [Dr.] Thorne Butler with APL [Associated Pathology Laboratories, main lab in southern Nevada and now owned by Quest Laboratories] who's a world-renowned toxicologist and forensic pathologist, and we got his testimony on tape. Thorne died shortly after that. But we won the case. There was no question about it. It's public record.

Those two guys, one of them died from the consequences of drinking—he had cirrhosis of the liver—and the other guy died from consequences of smoking. He had emphysema and advanced lung disease. And they're still hounding that thing on and on and on. In fact, George

Knapp, the investigative reporter for Channel 10, had a whole thing with *60 Minutes*. And we wrote to *60 Minutes*. They never returned our call. And George Knapp would never return our call. They refuse to admit the facts. I told them, go talk to Maupin. He was the lawyer. He's now Chief Justice if you won't believe me.

So how do you think this turn has come about?

The turn has come about that, number one, people don't want to be responsible for their own actions. That goes all over. We've got a crisis in not only medical malpractice; we've got a crisis in class action lawsuits, dishonesty in government, dishonesty in industry. [00:30:00] Nobody wants to be responsible for their actions. So if something adverse happens, they get ticked off. They say, *wasn't my fault*. Well, if it was somebody else's fault, then I want to get paid. And what better thing to do than to get some attention-grabbing headlines, which brings the media in, and the media loves it because that's what sells their news. Pretty soon you have policy being made on false data which became hyped up and turned around. That's exactly what's happening. And it goes on and on, and the DOE has done a very poor job in getting the facts to the public.

You mentioned earlier that you had quite a bit of data and that—

It's out there. Look at our health track data; look at EPA's MLON data. It's there.

And pretty well documented, I would imagine?

Very well documented. Dr. Albers out of Washington spent—I think he spent two million dollars. They were going to get a health track system. And typical government thing, they couldn't get the computer to work, so I said, well, I wasn't a computer guru but we had wonderful people out at the test site. The workers were dedicated; they were exceptionally well qualified in their fields. The big problem was management, top management; they were the ones that got in our way. If you let the workers and the supervisors do their job, you could do anything

out there. Well, anyway, I went to a guy named Tim Fogliani who was next door in Radiologic Safety, and he was the computer guy. So I said, Tim, I want to do a health track. If somebody's out more than five days, they have to report through medical when they come back to work. I want to know what they were out [for], how long they were out, what the diagnosis was. We'll verify it, we'll give you the data. If somebody dies, I'll get the autopsy report. I'll make sure that the diagnosis is correct. Can we put this into a database in a computer so we can bring it up anytime? At the end of the year, I'll send out a summary to the Department of Energy and we'll use it, you know, in our discussions in the occupational medical field and all of that so that we will know what people are dying from, what they're getting sick from, and how this compares to other people in the State of Nevada because they have their own data base. And we found year after year, for the eight years, that there was no difference in the incidence, the types of the diseases, or the mortality rate. Absolutely none. It paralleled the general population. Now, it just so happens that Clark County rates between one and fifth for cancer deaths related to smoking: throat, head-and-neck cancer, and lungs. [Health TRACT Data—copies were printed yearly and given to REECo, DOE and published in a few issues of DOE/DOCS.]

So that raises the rate; raises those percentages—

Well, that's why southern Nevada has a lot of respiratory cancer—smokers and drinkers, it goes with the lifestyle. Now, there was one little spot, as I recall, on the border between California and Nevada near Jacks Valley, which is the backside of Lake Tahoe. That area seemed to have a little higher incidence of bladder cancer, and/or brain cancer. Very slight, and nobody knew why. It had nothing to do with the test site. Fallout never even went in that direction. We just don't know. And we got these things, just like in northern Nevada, in Fallon, they got an outbreak of leukemia. They just want to pin this on aviation fuel that might've been dumped from the Navy

jets; they want to pin it on something the government did. They'll never find it, in my opinion, because this is not unique. We have clusters of cancers, leukemias, clusters that show up around the world. And I once had a professor from Yale, Dr. Francisco Duran Reynals—he was a virologist—he said, *In my heart, I know it. Someday they'll show you, it's related to viruses. He might be right; I don't know. But nobody knows. It seems to come up like an epidemic in an area, and then it disappears. They had a graduating class at the University of Albany one year. Twenty people in the class came down with leukemia. Nobody knew why. And they still don't to this day. Just the same thing as in Fallon. Nobody knows why. But it seems like it would be either environmental or at least geographical.*

[00:35:00] Well, in general terms, when you're talking about cancer, we say that you probably have a genetic predisposition or baseline and then something triggers it—whether it's environmental, whether it's lifestyle, whatever. But, if you don't know what it is, just say [that] you don't know; keep studying and keep looking. But don't try to make allegations that have no basis in fact. Now another allegation for test site workers: they say that they're looking for people with pneumoconiosis who worked at the NTS, people who got lung disease from exposure to dust and things in the dust. It never happened out there. We had people that came to work with lung disease. They were hard-rock miners that came in from Montana, other parts of the country. Coal miners, they came with it, and on top of that, most of them were smokers. So don't tell me that they got their lung disease working in the tunnels—those tunnels, and I'm not exaggerating, had better air quality than some of the old downtown casino hotels. They did—check the data collected by REECo's Industrial Hygiene Department. They monitored air, water, noise, everything.

Now, isn't one of the things that's compensated, silicosis?

That's right, and nobody out there could have gotten silicosis out there. There are guys with silicosis, but they came with it.

So you don't think it developed over time?

No way! They *couldn't* have! These tunnels had air exchanges that—you know, Industrial Hygiene has all the records. Unless you think they falsified the records. I don't. I was out there. These people were conscientious, hard workers; they checked. You're getting me going here—there again, just the other day, who was it, the mayor said—I think it was the mayor or some political guy said, *The water is not going to flow over my dead body to bring radioactivity into Las Vegas. I've been told over and over again by hydrologists, the people that study water, that from Indian Springs north, the water flows north. It flows into the Amargosa Valley. It does not flow to Vegas. So how can anything from the test site ever get here unless you pipe it in? Which they have a lamebrain idea now, they're going to drain the water from the rest of the state to satisfy Clark County. The state gave them the right-of-way for like 300 miles of pipeline. And of course White Pine County is up in arms, Esmeralda, all the rest. And Governor [Mike] O'Callaghan before he died said, Don't do it, because you'll have the same problem that you have in Owens Valley out in California, where they turned it into a desert. I mean, yeah, there's just so much ground water. There are other things they can do, which I don't have to get into here. But the thing is, on the test site, water was tested every day from those wells, and only at one time in one well did they find an insignificant amount of radiation. The reason for that is, on the below ground shots, the bottom of these long [shafts]—they drilled down, some of them eighteen,-nineteen-foot-diameter boring, to a depth of a half a mile. And when they blew the bomb off down there, it was stemmed so it wouldn't come through the ground. They'd fill it with gravel and all. Some clouds and dust came through, [but]*

no radiological significance, in 1970. That was called the Baneberry. Nobody was adversely affected by that. I looked at all the studies. Maxwell Kaye from EPA had data on it because I got here in '73; it was after that. But nobody got significantly exposed. They just didn't. The underground shots were contained and radiation did not get into the ground water.

Now, supposedly, were there a couple of workers that died from leukemia and they claimed it to be as a result of that incident?

Well, they could've claimed to, but the radiation exposure data showed nobody got significant exposure. A lot of Noble gases came out, which go into the atmosphere and disappear. The fortunate thing for humans, whether they realize it or not, is there is a *huge* margin of safety between what the body can take from radiation before it starts really getting damaged. It recovers. So we use that to treat people for cancer; we used that for a lot of other things, and we [00:40:00] can get away with it because I'm talking about a huge margin. The LD-50, in other words, how much radiation would you need to kill half the people exposed to a given dose?

What would it take for half of them to die from radiation? You need 400 RADs. That's the old terminology; now they use grays [Gy. One gray equals 100 RADs]. But 400 RADs. On an X-ray, we get 5 millirads, a thousandth of a RAD. That's all we get. Normal background radiation, we get more than that when we fly in an airplane coast-to-coast. Now, why hasn't anyone ever done studies on people that fly back and forth for a living, airline pilots or attendants?

That's a very good point. I never thought about that. That's a whole group of people that we want to look at.

Right. Right. But that is the safety thing, and from the data that was collected out there with the exposure badges that we all wore, and it's all documented, the data is all out there, this is why it

boggles my mind. Why doesn't the DOE designate somebody to look at these records that knows how to do PR, go out and give the talks?

That is a good question.

Yes. I volunteered. So far, no takers.

Speaking of looking at the badges, there have been folks that have said [that] the way this is determined, through dose reconstruction, sometimes the amount of radiation is not accurate.

[*Dr. Kreisler's added material:* It's close enough and the reasons are multiple: 1) there is that wide margin of safety—for practical purposes we don't split hairs over dose; 2) individuals differ in dose tolerance—on top of the wide margin of safety; 3) what type of radiation are we talking about? 4) distances, shielding and many other factors also play a part.] For example, there was one incident in the eighteen years I was out there. A radiation monitor was giving a class on how to handle a radioactive source. It was Monday—maybe that's why he did what he did. But he was giving a class on how to handle, safely, a radioactive source. So he came out and there is this lead-shielded box, a pig, and inside is radioactive material. The way you would normally take it out is you attach a cable to it, which is shielded, and this would pull out the radioactive material into the cable, which is all shielded; it's protected, so you wouldn't be exposed. In other words, you're doing it like remote control. Well, this guy opens up the container and pulls the thing out with his bare hand. With his bare hand! Now, there they reconstructed the time that he was exposed; the type of radiation, whether it was alpha which won't even penetrate the skin, whether it was beta which really gets some penetration, or whether it was nasty stuff like gamma. And they calculated the dose and he had a significant exposure to his hand from a physics point of view. We watched this guy for a month, we did blood tests, I looked at him daily for two weeks. He didn't even get a sunburn. He didn't even get redness! Nothing! He got no adverse

medical findings. It just goes to show you that there's a wide margin of safety, number one, [and that] individuals differ. Now, maybe somebody else might've picked it up and gotten some significant skin damage or exposure, but he got nothing, and in that case we had very accurate exposure reconstruction.

And that's something that definitely comes up is, you know, and you would know about this, whether there's a genetic predisposition to being more sensitive to some of the things that went on.

People do vary—but the important thing is that worst case scenario (i.e. a very susceptible person so to speak) still has a huge margin of safety.

And possibly that could account for this or some of this [discrepancy].

Well, it won't account for the claims because it doesn't—

No?

No, because they don't even get within—to use it as an analogy—they don't even get within a thousand miles of being significantly exposed. In the eighteen years I was out there, there was *no one* except that one monitor that was ever exposed to *anything* that was significant. There just wasn't.

Were you out there daily?

I had medical units in the “Area-that-doesn't-exist” that I had to look at, I had offices at Tonopah Test Range, I had offices downtown Las Vegas, and the test site. So I covered all of these. When I first got here, they hadn't had a medical director in one or two years. They had an interim director and a very nice guy, but we needed renewed medical leadership. So I came in and I wanted to do two things, which I think I did and I did very well. One was I was going to [00:45:00] practice medicine out there. In the past, what happened was you got a cold, go see

your doctor in town. You got a backache, go see your doctor in town. Number one, the worker lost time from work, and I didn't think that was practicing medicine. So right away they said, Well, you've got to be careful because we don't want the practitioners in town—this is DOE speaking—complaining that you're interfering with their livelihood. I said, Believe me, the more I practice, the more referrals they'll get. And that's the way it was. In addition to that, I was the first one that really set up annual tours and semiannual tours for doctors, their spouses, and allied health professionals, and that was exceedingly productive.

And this was at the test site?

Yes. We picked them up on a bus, we took them out, we gave them a lavish lunch, which DOE after two or three years made me stop for no good reason. Why not? They're taking a whole day, they're coming out, everybody else is eating on government money, so why not them? It's their taxes too.

So public relations and public education was the other thing we did, and we did it well over the eighteen years. And we took good care of the workers. We even, if they wanted to know, would give them opinions on who to go to for their family care. I became a member of the county medical society, the state medical society. I got my license in Nevada. I went to meetings. I became a permanent member of the UMC medical staff, and I was elected chief of staff in '82-'83, which was no small accomplishment. So I established a very good rapport with the medical community. I got information to the community. And we practiced good medicine and we took care of a lot of people.

Now, my philosophy was [and still is] if anybody had a work-related illness or injury, there was no question; take care of it and make sure they got paid for it and all of that. If it was questionable, you still gave it to the worker. Now, if it was absolutely, positively not related,

then I got pretty adamant that they not try to milk the system. And that's where we ran into problems.

Now, when I got out there, the other thing was that within the first week, the medical people went on strike and I said, what's going on? What do you mean, strike? Well, a lot of their—they weren't demands—a lot of their requests were being denied. And they weren't unionized; they were thinking of going with the AFL-CIO. When I heard what their problems were, I said, Yeah, you know, they're not taking care of you. Give me a chance. Well, they never did get unionized because when I got out there, I stuck up for my medical people and everyone was treated fairly. Plus we tried to hire the best we could. We had superbly qualified, loyal and dedicated people in the REECo Medical Department.

Now, I had a problem—I had five slots for doctors, I had about thirty-five paramedics, about eight nurses, and assorted clerical. It was a big medical department. Our budget was about four million a year. And we not only impacted the medical care, we impacted everything else that went on out there. So it was an important operation. And I was very blessed, too, because I had a great chief nurse. The first one was Dorothy Morgan, but then when she left, I got an even better one, which was Barbara McFee, who's still around in Vegas. And my second-in-command was Stan Anson, who was an exceptionally good administrator. Once I gave them the marching orders which were, you do your job and I'll do mine and we'll help each other, it worked like a glove. Originally I used to go out there almost daily. Then once it got organized, I could spend more time downtown or at the Tonopah Test Range. I could really make rounds of the work areas and even do physicals out there so people didn't have to be pulled off their job or brought in from outlying areas. And then I had doctors starting to [00:50:00] rotate out so that they would know when a guy said I'm coming in from Area 12 or whatever, he knew what they were

talking about and what conditions they were working under. It's a standard for occupational medicine—know the details of the work area.

I would imagine that each area would have different medical issues.

That's right. Medical issues, different sets of working conditions, things they were working with, and so forth. We were focused on first hand knowledge aimed at problem solving medical care.

Now, there were some funny things out there, because every year the hippies would come out and demonstrate, or maybe twice a year, in front of the main gate, you know, "stop the testing." I said, Why don't you, when you arrest them, why don't you get a witnessed urine. I'll guarantee you 90 percent of them are on something. [And DOE said], Oh, no, we couldn't do that. That would be bad PR. I don't see where that's bad PR. Why not expose them for what they were? Martin Sheen, the great actor, went out there for fifteen minutes, made an appearance and then disappeared. It was the old photo game. Or some people would sneak onto the test site without appreciating the risk they were taking from desert exposures. They were hoping to embarrass security. But that didn't mean anything. Anybody can walk out on the test site, but they couldn't get near restricted areas. But they never made that known to the public. If somebody got out there, they'd say, Aha, you see? The security out there stinks. Well, who cares if they walk out on a non-restricted area? They want to wander around in the desert and get burnt up, that's fine.

And when you were out there, that was the height of some of those huge—

The underground tests. The above ground tests stopped in 1962, as I remember. I was there with the underground tests and the tunnel shots. Now, there again, most of the tests were run either in vertical holes that were drilled down up to half a mile or back in tunnels. When I was out there, one of those tests was shot in a tunnel which went back maybe a mile into the mesa and they had

recording cables that went up through the mesa on the top, 1,200 feet above, where the recording trailers were. And after the test shot, if all was safe, or they said it was safe, then the personnel would go back up on the top of the mesa to the test trailers to retrieve the data that came up through the cables. When they ran a test shot, the people in the control room—there again, I insisted all of my doctors go in there and watch so they knew what they were talking about—sit around a table. There's a test controller who is a Department of Energy guy, and next to him is somebody they bring in from the outside, a medical guy who is supposed to have nuclear expertise, and then on the other side there's the weather man. They went through the countdown and they had to make sure that the wind wasn't blowing in any populated direction and all safety protocols. Then if everything was fine, the shot finally [went] off and the people watched geophones, which shows earth movement. Well, I got a call because I happened to be in town at the time, and I had the government car so my radio was always on, and I hear we had an accident on top of the mesa [Midas Myth]. It collapsed. Some of my paramedics were up there. Luckily, they didn't get hurt. But it collapsed, report is there are some injuries, the helicopters are there. So I got on right way. The first thing I want to know is, is there radiation involved? And I get back, *Definitely not*. So the first thing I did was go over to UMC because that's where the bulk of the people would be coming in, and if they have overflow they go to Valley [Hospital]. But I got there and made sure the people in the ER because I know them, I'm on the staff, and I say, *There is no radiation involved in any of the people coming in, so you don't have to worry about radiation. Now, I said it over and over because I didn't want it showing up otherwise in the news. There is no radiation. I'll stake my life on it, OK? OK.* The test director, who is a Department of Energy bean counter, is sitting there and this catastrophe is happening on his watch and he turns to his medical advisor—

Which test was this, do you know?

[00:55:00] Paramedics did a fantastic job, and I'll tell you the details in a minute. We got the injured out. Nobody died up there. Nobody died en route to the hospital. One man died two weeks later. Miraculously, he didn't die right away, mainly because of the great medical care he got. Here's the sad facts. The guy that this test director turned to happened to be an undergraduate classmate of mine, he is a radiologist. He knows what radiation means and all that, but he had no clue about medical protocols at the test site; what my paramedics do, what the Medical Department did—he had no clue. He should've deferred to our medical department. He didn't. He told the test director, *Have the helicopters wait there until a doctor gets out there—forty miles further out, on the mesa at Area 12. Now, the helicopters were afraid to set down on top of the mesa because the ground was unstable, so they flew above the mesa, in position, using up fuel. I didn't recognize that our doctors weren't as good as the paramedics in stabilizing [patients] in the field. There was no radiation involved. Get them the hell out of there! And take them into town. I told them, Stabilize them and take them into UMC. Period. By the time a doctor got up there, which was unnecessary, the helicopters were low on fuel. The doctor did the obvious, he said, Load up the patients. They were stabilized already. Get them on the helicopters. I said, OK, stop at Mercury, the interim spot, offload them so the helicopters can go get refueled, keep them stable, and then we'll transfer them on into Las Vegas, which we did. And they did a superb job.*

Then we had a series of reviews—ad nauseum. I kept asking, *When are they coming out to congratulate my medical people? I didn't want the credit. These guys did an unbelievable job, they deserved recognition. The most seriously injured worker was an alcoholic, his liver was shot. He had lacerations and fractures on top of that. He was living with some woman; he was divorced or separated. I mean the guy was a horrible mess. Why the hell he was*

working out there, I don't know. But we kept him alive and delivered him to UMC. He lived for two weeks. We thought at one time, Geez, maybe he'll make it. We did a fantastic job in getting him in, along with other people. We got everybody in, triaged, taken care of, and no problem.

There was a meeting at the DOE and Tom Clark, who was the successor to Ink Gates, nice guy. He got up and said what they told him to say: Well, we're not sure about the medical evacuation problem, you know, it didn't run that smoothly. I went ballistic. My boss, who was Cunningham at the time, Harold Cunningham, head of REECo, said, Ssh, ssh, don't say anything. We don't want to make waves right now. I know you're right, but we'll smooth it out later. Now, what the hell kind of thing is that to say? This is an in-house meeting with DOE and the contractors and they are unjustly criticizing the medical handling of that case.

Why do you think this is?

Why? Because the DOE guy that was the test controller didn't want to take responsibility for screwing up. Everybody was covering their tail. The guys in the control room weren't watching the geophones when the bomb went off, otherwise they would've known the ground was unstable and they could have delayed return to the mesa. It was that simple. They screwed up there.

Right, but they didn't want that to—

Yeah, they didn't want that coming up. On top of that we got Dina Titus, professor at UNLV and later [now] state senator. She appeared to me as anti-nuke as they come and wanted to find some dirt and all that. She brought a class out to the test site, and I heard about it and I said, I want the class in Medical. So they got them in a conference room and I said, OK, Ms. Titus, the class is going to hear firsthand what happened, and I went through the whole

scenario. And I said there was no radiation involved, period. The medical evacuation was run superbly, and I gave her all the details. And I asked, You got any problem? They [01:00:00] screwed up in watching the geophones. You can do with that whatever you want. That's where the fault was, and it was a screw-up. So what?

But that got covered up?

Yes. Well, eight months later my guys got a commendation. Eight months later. Big deal. But that shows you the mentality of what goes on. I doubt it would've ever happened with Ink Gates as DOE manager. After I left in 1990, the medical program went downhill. Now, that doesn't say that the rank-and-file workers weren't good. It was some of the top management that lacked leadership. And nothing has changed. I see it with the Yucca Mountain project. Nothing has changed. You've got probably a few bad apples. We had nuts out there, but when I was medical director we managed to sidetrack them by allowing good people to work. But when you get lousy management and lousy PR, it snowballs, and then the political people make hay out of it.

Now, let me tell you this for the record—in my opinion, if [Richard] Bryan hadn't started this whole damn stuff, the State of Nevada would never have to worry about money. We would've had money flowing out of our ears for the nuclear repository, and it's a repository, it's not a dump. The thing that the DOE does not make available to the public is basic information. I was told repeatedly by people in the nuclear industry that those fuel rods have only been used to about maximum 5 percent of their potential. In other words, you can recycle that fuel. We don't have recycle capability at our 103 nuclear power plants. France does because they used our technology when they went ahead. Eighty-five percent of their electricity is generated by nuclear [power]. We don't. Japan is up about 75 percent now. China just ordered forty nuclear power plants. Nobody listens to Senator Pete Domenici. We're way behind the ball. Those fuel rods are not going to be dumped. They're going to be in a repository and possibly retrieved at a future

date to be recycled and used to generate more power. So this isn't a dump—where you put stuff in the ground and you leave it there. It's a repository. It's engineered. And if anybody's ever been out to Yucca Mountain, if they get four inches of rain a year, tell me about it. The science is sound.

So the ground is not going to be saturated?

It's not going to be saturated. Everybody knows that. The water level is 800 feet below where they're going to be storing it. It's not coming up. They've studied it. And then I keep asking the question, and here again Senator Bryan says we should have above ground storage at the nuclear power plants. Those things are only certified for 100 years. Why is that OK, but 10,000 years is not OK at the test site? The basic fact is no matter where you store it, whether it's certified for 100 years [or] 10,000 years, you don't put stuff like that in and forget about it. You have to have oversight. If new technology comes up, you revise the way you're storing it and you bring it back out again. But nobody looks at that. Now yeah, I can't vouch that 100 years from now, the people that are supposed to be looking at it are going to look at it. That's up to the public to make sure that you put people in there that do their job.

Well, I think that's what they're striving for, obviously.

Yes, but the politicians won't let them. This is all political driven.

[01:04:38] End Track 3, Disc 1.

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

Did we get the drug program on the record?

Yes, we talked about that early on.

OK, that was one big thing. And there again, the Department of Energy never gave me encouragement and really didn't give me any help. I had to fight them all the way. And we set up

the best program, and probably one of the few programs throughout the whole Department of Energy in the country. We had it. It worked. It stood the legal test. It stood any challenge that came up.

The other thing was, oh, I think it was in the eighties, all of a sudden some bright light in the Department of Energy said that the guard force out there were not really physically fit and we should have them go through a special test. They should be able to run a mile, they should be able to climb this, they should be able to do that. They never validated what they were saying, but all of a sudden they came up with rules and regulations that might be appropriate but hadn't been studied and validated for relevancy to the job. So I said, *Wait a minute, in all fairness to the guards—now, in order to be an armed guard, they were going to make these new rules and regulations for demonstrated physical ability to do all these things. Now, if you couldn't pass this, then you couldn't be an armed guard, which meant you made less money. You wouldn't necessarily lose your job—no one ever did lose their job, as a matter of fact. But you might make less money. So the guards got upset and I said, Yeah, guards, you're right. So this is what we're going to do, I'm going to talk to some people in town.* There happened to be a nice guy, he later died prematurely from bowel cancer, Dr. Gary Adams. He was a Ph.D. cardiac physiologist. I told him what the situation was. He said, *Oh, that's no problem. I had heard him speak about testing people after a heart attack, and this was really cutting-edge clinical medicine at the time, you could test and actually see the amount of energy a person has to consume or expend to do a particular type of work, which means the amount of oxygen you need, which can be correlated with your heart situation, your blood pressure, the whole thing. I mean it was really beautiful science and documentable. He said, I'll come out, design a program where we will actually measure the energy requirements for a guard doing his normal daily routine. And the measurement of energy is METS,*

[unit of] metabolic equivalent of whatever, but they call it METS. And he went out there and he said, You know, on a routine day, I don't think they expend more than 1 or 2 METS, basically what you expend if you're sitting at a desk. The most energy they used is when they went to lunch. [Then] he said, OK, now let's say we have a mock incident where there's somebody trying to penetrate somewhere and they've got to respond in force. And they put the oxygen packs on their backs, they measured how much oxygen they used, the heart rate, the pulse rate, the whole thing. I mean this was really beautifully done. And he worked it out. We documented everything. We published it at the DOE/DOCS. He published it, I think, in a national magazine. And he got \$15,000 for that. Just \$15,000. I mean it was a dirt-cheap bargain. Bargain!

So I thought, wow, we've got to tell Washington about this. Now we have verifiable standards and we can design an exercise program which will require those people to expend an appropriate amount of energy related to their work situation. So it's all valid. Well, the guards went up in arms. What are you doing to us? What? I said, I'm saving your neck. Some of them understood it; most didn't. Now, I had a problem. If a guy comes to me and he says, I've had a coronary, I had a heart attack. [I'd say], well, I don't know, I don't think I want you going out there doing this. [If he said], well, what if I do a stress test and it's normal? [If] I said, you know, nobody's ever, ever done anything like this. I said, I'm following [00:05:00] the guidelines for disability for Medicare. I'm going to pick those because the DOE's not giving me any help. They're not telling me. They don't even understand what's going on. All they say is hey, I want to make it look good. We're going to have a test for the guards and I want them to be able to do this. So I said, OK, I'll pick Medicare. Everybody knows what they are. It's published and all of that. And that's what we'll do. We went to Washington and we had a special conference on this whole thing, and Gary Adams came in and presented it. Lo and behold, in the

audience was a retired light [lieutenant] colonel, not a doctor, who listened to all of this, went back to his company of which he was the head of, and designed the exact same program for \$250,000. [Then] repeated all the same stuff, down in New Mexico, and he gets credit for this whole thing, setting up standards and all of that. And I'm saying, number one, why did you give him \$250,000? We already did the studies here; they're already documented. Why doesn't Gary Adams get credit for it? I don't want the credit; give it to Gary Adams. He did it.

But they totally ignored us. They did it anyway and they just validated what we did. Now, what's interesting, we had one guy—I did let guys with coronary disease get into the program if they had a normal stress test. We had one guy who was an athlete who ran every day after his heart attack, and he passed the stress test, so I let him go into it. He dropped dead.

Really.

Right. Luckily, he didn't drop dead on our time; he dropped dead on his own time. But I said, you know, he's a guard, give him whatever he's entitled to.

So this was a test that the guards had to do before they became a guard. An armed guard.

Armed guard, right. They had to run a quarter of a mile in eight minutes, something like that, I don't remember the details. They had to do a certain amount of METS equivalent work to qualify as an armed guard. And a lot of them couldn't; they just couldn't. I mean you get a 350-pounder, he's not going to do it. Or a drinker that smokes.

And were these people that did perhaps higher security jobs at the test site versus somebody at the gate?

Not higher security, but placement relative to physical demands. They were given jobs which could require that expenditure of energy. The other guys were given the more sedentary-type of jobs. Nobody was fired. They might not have gotten the same pay as an armed guard—

They were just shifted around.

Right. But they went ballistic anyway. But we did the whole thing for them. That was one thing we did. Some of the guards, particularly the union leaders, got ticked off because they blamed me for imposing standards. Well, DOE was going to impose standards without validating. What I did was at least give a basis for doing what we were doing, and we didn't go overboard with it.

Along those lines, two guards brought claims against the test site, and they named me because I was medical director. One had a twenty-year alcohol history and the other was out of work and came back. I wanted him evaluated. He was unstable according to his own private doctor and I wouldn't let him go back to work.

And so they brought claims against—

They brought claims against the Department of Energy, but named me as one of the defendants.

Because they had lost their jobs?

Yes, eventually. The alcoholic they covered for four years after I said I'm not taking responsibility for him. They made him an unarmed guard, but I wouldn't take responsibility for him. It went all the way to trial, and finally the judge dismissed it. Dismissed it halfway through the trial. He said, *There's nothing here. What are you talking about? You know, we bent over backwards. We sent this guy to rehab, we paid for him. He died, as I had predicted, a few months after the trial.*

The other guy never went back. I was afraid. I was literally afraid. This guy was an ex-Marine, he knew how to use guns. He could find me in the phone book. He threatened me and I filed a formal complaint, but that's the way it goes. [00:10:00] By and large, I felt good because we did a lot of good for the work force and educating the public.

Out at the test site.

Interesting. So it seems like the test site had its own procedures.

We had procedures. The guidelines were set down by Dr. Albers and his office out of the Department of Energy in Germantown [Maryland], which was the headquarters. So they would put out the guidelines. These were the minimums. You could add to those guidelines and we did. Other DOE operations were very good. Brookhaven [National Laboratory] in Long Island had a great medical department. Dr. Breitenstein had a great medical department at Hanford [Site, Washington]. There was a guy in Chicago, a contract guy that was very good. There was a Dr. Spickard, I think he was with Lawrence Livermore [National Laboratory]. And then there were a couple of others with Los Alamos [National Laboratory]. I mean we had some very good quality doctors. Some of them were research and laboratory oriented; not that much clinical. We had a few others that did some clinical, but the best clinical program of all, where we actually took care of workers across the board, was the Nevada Test Site under my direction. I'm saying that with modesty. I was the director, I set the tone, but I had some great people working for me. I mean I had great paramedics. I had great nurses and administrative staff.

And so did you like working out there?

I loved it. I loved it. It was totally different from what I'd been doing in thirteen years of private practice. I made more in three months of private practice than I did out there for the whole year. And it took years before I even got close to what people were making outside. But I didn't care. I was doing things for health care at the NTS that were never done before or since my departure. I liked it. It was exciting. It was productive. You had men and women out there that were great. Now, give them a bonus for having worked at the test site, give it to them; but don't misrepresent it by claiming they got their lung disease, their silicosis, beryllium, radiation effects, or their

cancer [from working there], because they didn't. They just didn't. Show me the data that proves that I'm wrong.

So really the rate of incidence of cancer is not that different than any other sub-population?

From the eight years of health track that we had and review of previous data, it was no different from the population of Clark County or the rest of the State of Nevada. I'll give you an example of how things get screwed up by over-zealous media. This has nothing to do with the test site, it happened two or three months ago [2005]. They showed two guys in the local paper who were custodians out at UNLV who were supposedly cleaning carpets or something in a room that had a few fibers of asbestos. They're grossly overweight, I guarantee you they're smokers, and they said they got asbestos exposure [00:15:00] cleaning up out at UNLV and they want to get compensated. They were sent to a doctor who is a very bright, a very competent pulmonologist over at UMC who said that—or at least the article alleged—they had asbestosis which is probably contributing to their decreased lung function. To make a diagnosis of asbestosis you need a lung biopsy or X-rays showing pleural plaques.

So I called up this doctor—he knows me—and I said, You know I'm an occupational medical specialist. I'd like to know how you arrived at the fact that these people have significant asbestos exposure with resultant asbestosis.

[And he said], well, I didn't say that. All I did was run the tests that they told me to run, from the District 9 Department of Labor, whoever it is, the judge up in San Francisco, they told me to run these pulmonary function tests.

I said, Yes, but they're not specific.

He said, I'm just telling you. They're not my patients.

I said, Look, don't get defensive. I'm not going to go to the newspaper and say you screwed up or something, like you're just a hired gun. You and I both know that there's no diagnosis of serious asbestos exposure, there probably never was, and you can't prove that there is, but yes, they have decreased pulmonary function [lung function] they're overweight, they're smokers. I mean what the heck do you expect?

But he said, I'm only doing what they asked me to do.

So this is what goes on. These fellows figure I was out there cleaning carpets and I'm not the youth I used to be. Somebody ought to pay for this.

And so you see a parallel situation at the test site?

Absolutely. It's there again. The mentality is that Big Brother's got to pay for it. Either UNLV [in the case of the custodians], the government, the state, somebody's got to pay for it. "I didn't do it. My lifestyle has nothing to do with it."

Do think there were any hazards, health hazards that existed out at the test site?

You'd better believe it. You'd better believe it. There were two guys, one time they were doing one of those vertical tunnels, and it was at night. [So] the lights were on, the floodlights. I wasn't there but this is what I was told. A sheet of plywood covered an opening to a very deep vertical shaft. The two guys pick up the plywood, one in the front, one in the back. The guy in the front walks around the hole. The guy in the back walks right over the hole. He goes down 1,200 feet! He was killed! They retrieved his body after three days, with difficulty. But sure there's hazards out there and safety was a top priority. Some workers didn't listen very well. They've got these drillers that drill holes who came from Midland, Texas. They're roughnecks. And they were tough guys. One guy had his liver lacerated on the drill rig. I mean these are industrial accidents. Then they tried to play games. That's another thing. Supervisors didn't want to have work time

lost to injuries, so [if] a guy came in with a broken arm, I put a cast on it [and] sent him back to work. I said, Well, can you give him meaningful work? And if they could, I said fine. Then it's legitimate. OK? He's getting paid, rather than getting a fraction of his pay at worker's compensation rates. So everybody's happy and that's legitimate. But, if a guy's laying in the hospital with his liver lacerated, I'm not going to say he's going back to work, or that [it] wasn't work-related. Some supervisors tried to play those games. But under my eighteen years, it was run straight, and the accident rate for those types of jobs was probably the lowest in the industry. I mean we had less out there than building some of the hotels in Las Vegas.

Pretty good safety measures in place?

Absolutely. I was very impressed. We had safety up the kazoo. We had fire drills, a radiation monitoring department, an industrial hygiene [department], air sampling and water sampling. It was better than living in Las Vegas; I'm telling you, it was the safest place in Nevada. The best job situation. And the people themselves ran this. I mean they *ran* it. They were great. They ran good departments.

So it seems like there's a lot misperceptions between what the test site actually is and then what, say, the general public thinks about it.

[00:20:00] Absolutely. And after I started running tours—this was during Ink Gates's time—for doctors and their allied health professionals and nurses and all of that, they started running a couple of civilian tours. But there again, I went out on a couple of those, and it was so dry I'd fall asleep. I mean the guy would get up and, in a monotone —They don't want to know about RADs and Rems, or the name of this explosion or that. Tell them in lay terms what the hell they're doing, show them the site, show them how they run a nuclear test, show them the day-to-day stuff. We did it on our own medical tours.

But a lot of that is classified, isn't it?

No. Here again, I took a guy out named Elliott Crane who wrote for the *R-J* [*Las Vegas Review-Journal*] and the [*Las Vegas*] *Sun*, and he wrote culinary items. He's a food man. But he wanted to see what was going on so I took him out. When they found out that I had a reporter—they didn't care what kind of reporter—they went ballistic, but he was allowed on the tour. We never showed or talked about classified stuff.

As a matter of fact, he came back so impressed with the medical program, the surveillance, the industrial hygiene, the safety, he said, You know, I'd love to write an article.

I said, You can't write an article, especially a favorable article. I guarantee that if you write it, your boss, Hank Greenspun of the *Las Vegas Sun*, will never let you run it.

He said, Why?

I said, You know as well as I do, Hank Greenspun does not like the test site, never did, and he'll do anything he can to disfavor it, and his son is a thousand times worse.

A thousand times worse.

So it sounds to me like what you're saying is that there was definitely concern on the part of the test site, like image concern. Because it sounds to me like everything was pretty on the up-and-up; good systems in place, good safety, some of the dangers that the public perceives don't really exist, and it would seem that it would behoove the test site to let folks see this or know this. It sounds like instead, like with this story that you just told me, that there was a really concerted effort to do image control.

Yes, and the NTS was not good at doing public relations and image building. The media was good at creating a negative image. One of the problems was that they hire retreads, you know, double dippers. They had bean counters, bureaucrats, and as a result, anytime somebody tells me, hey, he was a retired colonel, I say, what kind? And if they say a light [lieutenant] colonel, he's got to prove to me that he's worth anything, because light colonels are usually in twenty years; retirees that were in long enough to learn how use to the system. Why didn't they go to thirty years? Why didn't they get the star [become a general]? Why didn't they get the bird [become a full colonel]? And most of them can't—in my opinion—because they were bureaucrats that found a spot in the system that tolerated them for twenty years. Some of them were smart enough to let the contractors do the work and they took the credit. If you left the contractors alone, gave them the money, the wherewithal, they got the job done. Test site workers did it superbly.

Do you think the [medical] records are accurate?

[00:25:00] Yes. The medical records are accurate.

What about the radiation exposure records?

I hear various things, depending upon when you were out there. The doctor that was the interim director when I arrived in 1973, Dr. [S.W.] Cavender, he said, we didn't want to be taken off the job, so a lot of times we'd go into the tunnels, we'd leave our badge back in the lunchroom, or something like that. [This is common knowledge among some old-timers.] Cavender died of lung cancer, but he was a smoker; I never saw him without a cigarette. His cancer was not due to radiation—it was smoking two to four packs a day. And this went on and on and on. And the people in those days didn't try to get compensated because they knew they weren't exposed to anything significant. So yes, some people might have hid badges before I got there, but in the eighteen years I was out there, the badges were collected on time, processed, and if you came in with more than a millirem, which was insignificant, they would

still notify you. They'd want to know where you'd been, what you did, and why the badge read what it did. Interestingly enough, we had people in town [who] were treated with radioactive material for a medical problem. You know, it doesn't leave the body right away. Like radioiodine is there for seven days.

And they'd set off?

They'd go through the gate at the test site, yeah, and it sets off the radiation monitor. Hey, what's going on? The guy's radioactive. Well, it turns out he picked it up at the local hospital. But that goes to show you, he will emit enough to be picked up on a monitor, it's insignificant. It's insignificant. It comes back to knowing about the medical significance of what you're talking about and we need better public education.

Right. And it was a medical treatment.

Yes! But yet it's enough to pick up on a monitor. Now, if they were walking around in Las Vegas with a monitor and they picked that up, man, they'd go ballistic. Wow, look at all the radiation! So what? What's the level? What type of radiation? What kind of exposure? And you have got the politicians that have no inkling of the physics or the medical implications making pronouncements and judgments. You do. There's a guy, and I can't remember his name, he keeps showing up. He was in the newspaper. They quoted him.

And I called up the writer and I said, Did this guy seem normal to you?

He says, Well, you know, he's a little eccentric.

I said, Come on. This guy is wackier than a two-dollar bill.

When I was out at the test site, he used to come in every week and tell me to go look for this molecule or that molecule. I mean the guy is a nut! And eventually he left. But he's still looking for his day in the sun. Now, he has no credibility, but the politicians and newspapers will

quote him; he has no credibility at all. No one looks at the basic information because they don't want to.

And that's basic information that you guys have collected?

Yes. RADS SAFE [Radiological Safety] has it. I mean it's basic physics information, it's medical exposure, and EPA's got to have it. Max Kaye ran this. You never hear anybody ever *say* anything about it. The records are there, unless they destroyed them, which I doubt. They weren't supposed to, by law, and they were supposed to be stored in more than one place, copies of them.

Again, do you have any theories as to why this side of the story is so prominent and so willing to be put out into the public, perhaps, versus the information that you guys have collected and that you know.

It's what sells newspapers.

So you think it's strictly a media or PR—?

It's political.

A political hot button?

It's political, and they get mileage out of it. It's great. I mean Oscar Goodman's going to lay down in front of a train if it carries spent fuel rods. Why doesn't he lie down in front of the chlorine, ammonia, or the other stuff that goes through Las Vegas?

I have all sorts of thoughts here.

I see the pattern over and over, with the monorail. George Knapp came out with the monorail thing. It was on the television one night. I was amazed. I was amazed! The second night, there was a little excerpt. Then it was cut off. Cut off! Because he was asking the people up at the state to explain why they backed the bonds for this as a nonprofit thing. Non-profit to whom?

So that's the bottom line that it comes down to?

Comes down to getting media attention to hype it up and get all the politicians on board or you go nowhere. You go nowhere. Like Joe Neal said the other day in talking with Gwen Castaldi on KNPR—he's the first black state senator and all that. He used to work for REECO, as a matter of fact.

Yes, I think I saw that in the paper.

Yes, Joe Neal. His brother worked out in the "Area-that-doesn't-exist." His brother was nicer than Joe. Joe is a nice guy and he said the right things but he wouldn't push a lot of issues because he knew he would get reelected regardless. He had his black base in North Las Vegas. Nobody could touch him. So it didn't matter. The only thing he did to campaign, every year was to bring out the same sign, put it on the top of his car and strap it down with a luggage carrier, and ride around town with that. But yes, he said all the right things, tax the casinos and other issues. Have to give him credit for that.

So I guess Nevada has got a lot of politically contentious issues?

Well, my wife says, Does this go on anyplace else, or just in Nevada? I said, What, are you kidding? It goes on all over the world. To make my point I ran a tape of this on *60 Minutes*. They had a reporter, I forget his name, who's been with the *Miami Herald*, I think, for the last thirty years and writes novels about his experiences. They asked him, How come we get so many bad people down in Florida? He said, Well, if you tip the country up a little bit, all the sludge runs down and it comes into Florida. We got the best. He said, If you got a car thief in Detroit who can do just as well in his trade in Florida, where would you rather live, Detroit or Florida? So they all come here.

The weather is much nicer.

That's the same thing with Las Vegas, we attract creative entrepreneurs.

So would you say the test site is one of those political, contentious—?

No question. No question. The state would like to have the money, but they don't want to do what is prudent, what would help the country. Right now there is no question that to be energy independent, we have to go with nuclear. It is the safest industry this country ever had. There has never been a significant radiation exposure in our nuclear-generating power plants, including Three [00:35:00] Mile Island. *Nobody* at Three Mile Island got *any* radiation exposure of *any* significance. That's a fact. *None*. Absolutely *zero*. And the containment was 100 percent as expected. They contained it. Yes, they had a cleanup mess. It was an engineering problem and it cost money, but *nobody* got adversely affected medically.

Do you think that it's possible, at all, that people could have gotten sick working out at the test site, that people could've been overexposed, that badges could have—?

Not in my eighteen years.

So somebody that came in with a claim that said, you know, "I was exposed repeatedly for this nine-year—"

Prove it. Prove it!

Prove it how?

Prove it with your records. Get the radiation exposures out. What type of cancer do you have?

Are you a smoker? You smoke three packs a day and you got lung cancer? How can it be the test site?

OK. What about leukemia or any of the other cancers that they [associate]?

There wasn't enough leukemias that were at—like I said, with our health track—

To draw attention—?

There was no greater incidence out there than there was in town.

Right. Right. So you'd say that the likelihood of somebody being out there and doing whatever job they did—

Not in my eighteen years. There was no [chance].

That's not why they're sick?

That's right. Not cancer-wise. I mean now, if a guy comes up with something, yes, look at it.

Look at his radiation exposure, look at his work conditions, was the air monitored, was the noise—we did hearing tests on everybody.

Sure. I bet there was a need.

And a lot of them lost their hearing. Some of it was normal ageing hearing loss, some of it was headphones—I had a kid come in with headphones turned up. This was a young kid. He had 50 percent reduction in his hearing. I said, *Keep it off or you'll have permanent loss.* I mean, you're going to blame on the test site? I had one kid come in, they sent him in from the forward area, he was nervous about the radiation.

I said, *Really?*

He said, *Oh, yeah. I get these flashbacks from Vietnam, too.*

I said, *When were you in Vietnam?*

He says, *I was never in Vietnam. I see it on TV.*

So I sent him to the Veterans Administration. I took him off the test site. The next thing he'll be saying is that we poisoned him out there. As the medical director, anything that comes in, we investigate it, we document it. For example, we found a corpse one time of a guy that was hitchhiking, and he must've come off the road on the approach to Mercury, died of whatever reason, and they found him. He looked like burnt-up shoe leather. We sent him out for automatic

autopsy. I don't know who the guy is, I don't know where he came from. He was an itinerant; he had nothing to do with the test site. But I wanted everything documented.

Same thing, on my first month or two in 1973 I met Flangas in Area 12. It's written up in the stuff I gave you from UNR's [University of Nevada at Reno] Greasewood Press. I mean that was funny. I got a call from the interim director, Dr. Cavender. We got a call in from Area 12. Now, Mercury is about sixty-five miles from Vegas. Area 12 is *another* forty miles out. So it's approximately 100 miles from Las Vegas, deep into the test site, up where the tunnels are. I got a call, there's a man as found dead in one of the metal trailers, one of the miners. So Dr. Cavender says, Gee, Len, would you mind going out to pronounce him dead. I said, Sure. I got in the ambulance, and here I just came from New York, nice and green, with civilization. I got in an *old* ambulance, not even a new one. This is an old Cadillac ambulance, and I'm driving with the paramedic, and we're going through what, to me, looked like wasteland. I mean it's desert. Desert! And I'm looking around and I see, well, I didn't know what they were. I know now there were yuccas and sagebrush and wild horses, and I'm thinking to myself, what did I get into, where are we? Geez oh man! So we finally get up into Area 12—where the tunnels are. There's a cafeteria, there's all these metal trailers which look like boxes, that the guys lived in—because rather than commute round-trip, they stayed out there all week. They were a tough bunch of guys, these miners. Anyway, I got into the trailer and the man is sitting at a table in **[00:40:00]** a grotesque position with rigor mortis and froth in his mouth. He's overweight and most likely a heavy smoker. So I figure the guy had a heart attack and he's got pulmonary edema [fluid in his lungs] and it's bubbled out. He's purple and very dead. It was an unattended death so I knew I wanted an autopsy. Well, Flangas showed up, who's head of Maintenance and Operations. He introduced himself, and I said who I was. He said, well, welcome. He said,

What do you think? And I told him. He said, Yeah, these poor guys. Well then, all of a sudden, a guy shows up. He's the coroner from Tonopah.

So the coroner says, Well, what do you think?

I said, Well, it looks like an acute MI [myocardial infarction] with pulmonary edema.

He took out a clipboard and says, How do you spell that?

So I said, What do you mean, how do you spell that? You're a doctor, aren't you?

He said, Hell, no, I run a gas station in Tonopah but one of my jobs is coroner.

I said, Oh.

So I spell it for him and I said, Well, we're going to get an autopsy.

He says, Wow! Tonopah's not going to pay for it. Nye County doesn't have any money for autopsies. He says, You want to pay for it, that's fine. Do whatever you want, Doc.

So I said, Well, we're going to get it.

I wondered how much could an autopsy be? So I called down to Las Vegas and I asked the pathologist in the coroner's office, What's an autopsy cost?

He said, Maybe \$200, \$250.

I said, Oh, we can take care of that. But I want an autopsy. I want a full report.

That was my introduction to Nevada and the test site.

That's quite an introduction! So coming from upstate New York, what did you think—?

Downstate New York. I was about only an hour and half from New York City, Peekskill, New York.

Coming from New York City—

Yes. But you know we had a lot of ex-New Yorkers working on the test site. Quite a few. Some of the plumbers and the carpenters came from Buffalo. There was a whole contingent of them.

One of them used to tell me he worked on the Flamingo with Bugsy Siegel. He said, we used to deliver the stuff in the morning, use what we needed to, steal the rest at night, and sell it back to Bugsy the next morning. But these guys were genuine craftsmen. They took pride in their work. They told me stories about the early days at the NTS.

The road out to the test site was only two lanes and that they called it the Widowmaker. They used to stop at Cactus Springs or Indian Springs, pick up food and liquor, and they'd have accidents. Then they finally built the four-lane highway. And at one time, they were going to build a railroad from Las Vegas to past Indian Springs. I was told for fifteen million dollars, they could've built a high-speed rail line, or at least put the track down, from Las Vegas to Indian Springs. And they were going to build Atomic City out there. Can you imagine? Can you imagine the development? But they got into a hassle over who would fund it; a lousy fifteen million bucks. It never happened. And it would've gone through Paiute land. I don't know if you've been out there.

Yes.

Have you seen what they developed? I mean boy, the Indians are getting even now. They dig their own wells, put lakes in. Pretty soon, they're going to have gaming out there. I guarantee you they'll have gaming.

It's not already out there?

I don't think so.

Nice golf course.

Yes. They set up the infrastructure, and they're supposed to be building condos that you can buy, but probably not the land. More power to them. When I first went out there, there was a garbage stop where you could pull off the road and there were a couple of garbage cans. Then the next thing I knew, there was a mobile trailer out there and the Paiutes were selling tax-free cigarettes. And the next thing I knew, they were building brick houses off the road on the left-hand side going out. And then pretty soon, they were building the big warehouse on the right-hand side where they sell cigarettes and other things.

Enterprising.

Yeah. Well, why not? The rest of the state gets their cut. They might as well get it, too.

One question popped into my head. I'm wondering what kind of clearance you needed to do your job, or if you needed—

I got top secret. That was the second time, because the first time was when I went in the Army. I had done research before I went to medical school, at Bar Harbor [Maine], Jackson Memorial Labs. It happened to be cancer research.

You have the background.

After my internship, I volunteered for the service because I wanted to get it out of the way.

When was that?

Nineteen fifty-eight. They sent me down to Fort Sam Houston for my indoctrination in [00:45:00] August. Told me it might get cool at night, take something for cool evenings. It never went below 85 degrees. Anyway, there were 600 of us, and this is all in the book from UNR, there were 600 of us that were there and we had a great time with the six weeks' indoctrination,

and at the end of that, they interviewed us for duty assignments. To be nice to us, they would call us individually in, ask us where we'd like to go. My wife Joan wanted to go to Europe.

So I got in there and he says, Where would you like to go?

I said, Germany.

He said, Why?

I said, I speak German, and my wife wants to go to Europe. So I go, How about Germany?

He puts France in big red letters, so I figure, what the hell, that's close enough. I go to leave and he says, Oh, wait a minute. You did research.

I said, Yeah.

He said, Fill out a research questionnaire.

I wound up at Fort Detrick, Maryland doing bacteriological warfare research before it was popular. We had two deaths from plague while I was there. So I'm very familiar with BW. I got bored at Fort Detrick, so I asked for a transfer and I went up to Fort Ritchie, the underground Pentagon, which in case of mass disaster, the president and 300 selected individuals would go into a mountain that's hollowed out. Now, whether it would withstand a direct hit from an A-bomb or other modern ordnance, I don't know, but at that time it was supposedly secure. Eisenhower was president, or had been president. There were book cases of Western novels in there. I was told Eisenhower liked Western novels, and if he had to be there, he wanted to be prepared.

So I got top, top secret clearance for all of that. Then when I came out here, they redid the whole thing again. They did it twice while I was out here. Two or three times. They keep running checks on you. They told me that as a result of that, my name was on the lists in Russia and

China. Foreign travel had to be cleared because of it. Actually, I doubt I would be of any special value to an enemy.

You'd have to tell them where you were going.

If I were going out of the country, I had to clear it with DOE. I said what the heck do I know? In fact, one time I was out there and they were taking me through—they were going to have some guys from Livermore and Sandia go into where they assemble warheads and the nuclear stuff and all that. And so I said, Well, I'd like to go. I'd like to see the physical layout. In case you ever have an emergency, I'd like to know what we're dealing with. And they said OK, they said sure. I had an X on my badge which meant I could go anywhere in an emergency, no matter what. But other areas, only on a need-to-know basis. We're in this bunker and the scientist from Livermore started giving a talk. He stopped in the middle of the sentence and said, Oh, wait a minute. Somebody here is not totally cleared for this talk. And he's looking at me. I said, Doesn't matter. I don't understand what the hell you're talking about anyway. They all laughed, but they made a phone call and made sure it was kosher, that I was there. Clearances were taken very seriously.

Right. No information you could've smuggled out.

No. Besides the information I had wasn't worth thinking about. One time I flew out to the Tonopah Test Range and I happened to come in early. That's where missile tests are done. There were MIGs lined up, with red stars on them. I didn't know they were MIGs at the time.

I said, What are they?

He said, Those are authentic MIGs.

I said, How come I never saw them before?

He said, The Russian satellite comes over between one and two, so we put them in the hangar. If you came out, you know, later in the day, they would be in the hangar. You wouldn't see them. So after the satellite goes over, we pull them back out again.

The Russians knew more than me.

That's really interesting. You spent, obviously, close to twenty years out there. Were you ever concerned about receiving exposure?

No. In fact, my oldest son worked out there as a radiation monitor. [00:50:00]

I signed off on all medical care, lab reports, consults, and X-rays. I signed every single piece of paper that went through there, from a routine physical to a sick call. If it did not have my initials on it, it was not acceptable for record storage. And anybody that worked for me can verify that. My chief nurse knew, Barbara [McFee] knew that anything that came through, whether it was a lab report or whatever, if it didn't have my initials on it, it was not complete. If I went on vacation or I went off on a conference, when I came back, the stuff would be stacked on my desk. I went through it. *Every* single report and medical record.

You had to do it all. It all went through you.

It all went through, and I saw it all. So nothing got by me.

Interesting.

And if anybody has any other allegation, show me the data. Just show me the data.

Right. So it's just not there in the data.

Well, you'd think at this point in time the Department of Energy would be smart enough [to state], hey, we've got a medical director, he knows what took place medially, he's got the credentials, he's got the history. Give him a PR man and let's put a program together. When they built this Atomic Testing [Museum], did they put any medical in there? Twenty years ago, I told

them, you want to do something constructive, do what EPCOT did at Disneyworld. When I went to EPCOT, I went ballistic. I don't know if you have ever been there. They have the Energy Pavilion. The history of energy. And part of that would be atomic, the testing, and the nuclear generation of electricity. You could have school kids visit. It wouldn't cost you a nickel. You could get BLM [Bureau of Land Management] land for nothing. You could have Exxon, Chevron, all the rest would be glad to build it and run it for you. Tourists could visit and get educated. It would be a big attraction. You know what they did? They finally went out to Beatty and set up a museum. I never visited it but the DOE funded a museum out there in Beatty, Nevada, 110 miles from here. You know how many people they got? Maybe 100 a year would stop and [00:55:00] look at it? Then they built the Atomic Testing Museum near the Desert Research Institute on Flamingo Street. Why haven't they put any medical information in that museum? I offered, but no takers.

So you feel there's an under representation?

Gross. Gross under-representation.

Or lack of representation?

Go out there. Is there anything in that museum that tells you the medical history or anything that I've gone through with you? Nothing. Absolutely, positively nothing. This is what people should hear, whether they want to or not, but I think a lot of people would want to hear it.

They have the little section on the Downwinders.

The negative stuff, allegations—but none of the scientific data.

So what did you think of it? Did you go through on the tour, besides the—?

Yeah, I went there when Senator Domenici came in and talked. You know what I think by what I've already said.

Well, you're certainly not the first person to suggest that we need to go to the alternate energy source.

It's the only way to go. It's the cleanest, cheapest, most efficient way, and it's been the safest. Safest by any standard. Coal is terribly polluting. A coal-fired plant puts out more radioactivity than a nuclear power plant.

[01:00:00] To me, health and safety are supposed to be top priority, so why was it omitted from the NTS museum?

Absolutely, and you'd think that [is] something that they would want to make known to the public.

Well, you know, I'm going to be seventy-five this summer. If they wait long enough, they're going to have nobody that knows.

Right. That's one of the reasons we want to do this project, because it's such a huge part of our history.

Do you think anybody'll ever read it? Anybody ever look at it?

Yes. Yes, I do.

Yes, maybe some guy going for his Ph.D. or something someday, he'll look and shake his [head].

Well, you have got to have something to look at.

He'll look and shake his head when he hears all the other stuff and my lone voice in the wilderness.

Well, I think this [project] could certainly spur a lot of [other] research projects, so it's going to be out there for a bit.

Yes.

We've got about five minutes left so I just wanted to start wrapping up and get your final thoughts on things. Is there anything that we haven't talked about that you [would like to]?

[01:05:00] In summary I ask:

- 1) Is anyone really interested in the medical facts relative to medical care at the NTS?
- 2) If so—I ask who?
- 3) The media only want negative things—even if they're not factually correct.

Thanks for a chance to put some of it into your oral history.

[01:06:26] End Track 2, Disc 2.

[End of interview]