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FERNALD LIVING HISTORY PROJECT
Transcript

Name: Richard Heatherton
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Tape FLHP0216

01:01:05
Q:
All right. First of all, if you could give us your name and spell it just to make sure we have it right.

A:
My name is Richard Heatherton. H-E-A-T-H-E-R-T-O-N. Excuse me.

Q:
Great. Oh, that's okay. And um, first of all, if you could give us a little bit of background, where you were born, where you went to school, a little bit about your family.

01:01:25
A:
I was born in Decatur, Illinois on April 2nd, 1919. Um, went to school there at parochial schools grade school, high school parochial school, and graduated in 1937. Uh, was out o' school for a couple years before went back to school to the University of Illinois to pursue a higher education.

01:01:58
Q:
And what did you study at the, at university?

A:
I uh, started out in Chemical Engineering, (chuckles) but I was also tryin' to work my way through school, financially needed some help. And found that it was too big a load to carry. So I switched my major in uh, my junior year. And majored in Chemistry which required a few, fewer hours to graduate. And also fewer of the types of studies that uh, took a lot of time to, for a few credit hours, so. Um, graduated with a B. S. in Liberal Arts and Science and Chemistry major in 1943.

01:02:43
Q:
And where, that's when you went over to the Lab? In 1943?

A:
In 1943, I went to work for Lindey Air Products in New York, Tallawanda, New York. And worked there in the laboratory at the ur-, uranium production building, under the Manhattan District Engineers. Um.

01:03:10
Q:
And the material you made there was under the Manhattan Project?

01:03:13
A:
Yes. Yes. This was a uranium refinery, uh, where they took the ore and extracted the uranium, and then converted it through chemical process to the uranium tetrafluoride. Which then went up to a plant run also by Union Carbide, Lindey was a Union Carbide Corporation plant. And Union Carbide also had a metallurgical plant in Niagara Falls, so the green salt went up there to be converted to metal and made into the ingots, metal ingots, uranium.

01:03:55
Q:
And what was the uh, what was the Manhattan Distinct, District Engineers? Can you explain that organization a little bit?

A:
Well, all I know is that it, they were the uh, government organization that was responsible for the um, production of uranium and uh, all the work that was going on toward the, the uh, so-called atomic bomb, nuclear bomb. Uh.

01:04:25
Q:
And this was during the war years.

A:
During the war years.

Q:
(Clock begins to chime in background) So can you tell us a little bit about security as far as um, making uranium during war. (To cameraman: Yeah. Do you wanna go ahead and shut the door? Okay.) Um, tell us a little bit about security as far as uh, processing uranium during the war years.

A:
Well, the first day that I was at the plant, I was told by the person who had interviewed me, at the university and hired me to go to work for Lindey. I was told that they were working with uranium, and uh, but I don't think most of the people there knew that they were working with uranium. In fact, they um, used code names for all the uranium um, products that they had. And uh, the word was never used in conversation around the plant.

01:06:30
A:
Um, we knew, we of course all had our clearance of some kind, security clearance. And we knew that these things were to be kept secret, not to be discussed. So that uh, we would talk among ourselves in the laboratory. Uh, some o' the people there were far more knowledgeable about what was going on than, than I was.

01:06:55
A:
And then, so it wasn't very long before I knew not only that it was uranium, but also why they were producing uranium, and what the end purpose would be. Um, but this was not common knowledge, even among the people that worked there at the plant. Um, I'm sure that higher levels of supervision there knew it, and uh, most of the technical people had a, had a good idea about what it was about.

01:07:27
Q:
Wow. And uh, tell us about your um, your security clearance. That was a Q clearance that you had to get?

A:
Ah, Q clearance. I presume it was in those days. That's what they always spoke of later, that was a Q clearance. This uh, allowed you to uh, um, have access to certain information uh, in, on an as-needed basis. But uh, even there you didn't uh, get a lot of information that was available to others. I don't know, there must a been higher levels of, of security clearance certainly that uh, than I ever had, in my early years with the project.

01:08:13
Q:
And how did you get a Q clearance? What did you have to go through?

A:
Well, we were, first of all, interviewed by a person, I think they worked for the F.B.I. in those days. Um, and they also had names of people that they interviewed, people that you were associated with. I, assume that they were interested in finding out uh, something about your general character. Ah, things that you might do or not do, you know.

01:08:54
A:
I assume just from their interviews that they could find that out, you know, and assume that you were okay for clearance, or you were not okay. I know that uh, in later years, I was interviewed a few times about people who were getting a clearance, and they talked to me about someone. And I usually understood right from the beginning that was the purpose of the interview.

01:09:22
A:
Was that this person was gonna be doing some work for the government, and would require a clearance and that's why they were there, to find out about that. Um, I don't know that their, people who were in no way were connected with the project, that they interviewed whether they had any idea really what it was about (chuckling). Because they got some funny ideas sometimes about why they were there asking about ya.

01:09:51
Q:
What kinds of questions did they ask you when they were interviewing about other people?

A:
Ah, well, what kind of person is he? I don't really recall what it is. I think they wanted to know in general whether you were a reliable person, whether you were involved with any kind of activities that may criminal or near criminal. Um, whether you were using drugs, for example, whether you used alcohol to excess, that sort of thing.

01:10:34
Q:
Whether you went to church, did they ask that question?

01:10:36
A:
I don't recall. I don't recall that. They very well may have.

01:10:42
Q:
I think I remember somebody telling me that they asked that question. Um, so during the Manhattan Project years everything was very top secret then once, um, Hiroshima happened, what was that like that day that that happened? Do you remember the day they exploded the bomb?

01:11:06
A:
Yes, I do. And again, I had a little bit of knowledge ahead of time that this might happen, you know. Um, my supervisor Lindey came into the plant after they had exploded the bomb down in New Mexico, Elamagarda and told us they had tested it down there and that it had worked. And so it was only a matter of time then, I can't say off hand, but a few weeks I think until the bomb was dropped on Hiroshima.

01:11:40
A:
Of course, right away it came in the papers that the plants that were involved in this area and had appeared in the Buffalo papers. But it was kind of amusing as you came into work, people who had been working hard with it were we're real lucky with it but were wondering what we're doing and didn't know and all sorts of guessing as to what it might be.

01:12:11
A:
But we were doing there what the end product, or the end of our product would be and, uh, none of them, of course, were very close to what it was true. I think a lot of excitement, a lot of pride and having been involved in this and being able to do it. It could have been a different attitude from what developed later than almost became criminal that you worked on this project, you know.

01:12:45
A:
That, uh, that wasn't the thing to do.

01:12:52
Q:
Not politically correct, right? (Comment: I guess [laughing]). So how did it feel to you at the time to be a part of something that brought an end to the war?

01:12:57
A:
Well, as I said like everyone else felt kind of proud to be part of a project that could do that. Because in my opinion and I'm sure the opinion of most of us it did bring a quick end of the war. We were faced with many months, many years fighting this thing out with Japan. Um, I had a brother who was serving at the time on the carrier in the U.S. Navy and we were concerned certainly about his safety and the safety of all the people who were serving with him in other places; anyone that was involved.

01:13:42
A:
And, um, particularly now that the war over in Europe but continuing in the Pacific at the time and knowing what they were faced with. We were very glad to see things come to an end and it came to end pretty fast after the bomb was dropped from early August until the 15th or 14th something like that the surrender of Japan, not the surrender, but at least they had called off the war and were calling their troops in.

01:14:24
Q:
So VJ-Day for you was a pretty happy day for you? (Comment: It was very happy). What was the actual configuration of the product that you made in the Manhattan Project?

01:14:47
A:
Well in our plant it was still a powder, we were sending out, no, I, yeah ours was a powder we were sending out the green salt the UF4 to the metallurgical plant where it was then converted, reduced to the uranium metal. And the product was pretty much like it was here at this plant when they got started what they called the derby, um, round radius of metal.

01:15:20
A:
Um, they, and then that remelted into a long ingot, um, a few inches in diameter and, um, a couple to three feet long. Um, now later I was involved in work too that was going on to in different places but one was, um, Lockport, New York, I had assignments on steel, the steel mill there who did the rolling of uranium.

01:15:59
A:
And once a month they would take this uranium metal up there as an industrial hygienist health physicist I would go up there to oversee the health aspects of that work- the health protection aspects. And, um, so there to you would hear these people talking, of course, they really didn't have no idea what they were working with.

01:16:20
A:
But they were very surprised at the weight of it, they were used to handling steel and this was twice as heavy and when they'd get a hold of that with a pair of tongs they were very much surprised. They, um, didn't know what it was, they didn't know it was uranium, they knew it was heavy.

01:16:46
Q:
Now from the Manhattan District Engineers you went to Chicago Heights, for about a year and then you returned to New York under the office of the Atomic Energy Commission (Comment: Yes). Can you tell us why you went back to New York?

01:16:59
A:
Well, one of the fellows I'd worked with was working for Lindey in sales of another division and was in the Chicago area on a business trip and, um, got a hold of us in New York, my wife and I he knew both of us. I happened to be working second shift the night that he called and, um, he wanted to come out and he did come out and talk to my wife.

01:17:37
A:
I was at work and didn't come home. But when I came home I found he had been there and I think maybe he had mentioned at the time even, you know that they were going to reopen that plant over there and there might be a chance to go back there. We were kind of unhappy in Chicago Heights because it was war time and we didn't have money to buy a house if one was available to buy and they were available.

01:18:01
A:
But being, not being a veteran, that is I hadn't been in service and then this other work we couldn't take advantage of the low interest loans that the service men could take advantageous. So buying a house was out of the question and to rent was almost impossible, so we had a very difficult time.

01:18:25
First of all finding a place to rent in Chicago Heights where I could bring my wife and at the time she was pregnant at the time with our first child and it was born before we ever got into housing. And, um, so, um that it didn't start off as a very happy thing.

01:18:40
I liked the work fine, but, um, we, I worked on besides doing my job, I, when I got the house this fellow was remodeling his old house into a big apartment downstairs which he was occupying and two smaller apartments upstairs. And he'd already agreed with two people that they could have these apartments upstairs and they were supposed to do some work with him in converting these.

01:19:15
A:
So I told him I'd be willing to do that. He said one of them he wasn't to sure he was going to come and so he backed out of it and I had a chance at that so I worked on rebuilding, remodeling this upstairs section into an apartment for us. Um, so there was a lot about of it, you know, but it just wasn't the best of conditions.

01:19:44
A:
Our second child was conceived about that time and here we were faced with having two children in this apartment which was barely big enough for three of us and, um, the second child was born while we were there. But knowing this and when, um, my former boss got in touch with me and asked me if I would be interested in coming in for an interview about a job they had.

01:20:15
A:
I said yes and I went in and interviewed for the job and they told me at that time that they were reopening this plant, green salt plant, making the UF4. Um, and they would have to hire it was required that under the Atomic Energy Commission that have a Health Physicist. I didn't even know what the word meant.

01:20:42
A:
But he told me in general what it had to do with radiation protection and connection with working with uranium radioactive materials and that they would send me down to Oakridge for a period of time to get some training in this area. So, um, after I accepted the job I did go to Oakridge and spent a month down there, a little over a month.

01:21:11
A:
Couple of months, I guess, from the first part of October until near the end of November. Being trained in their Health Physicist Department at the National Laboratory.

01:21:22
Q:
And what was that training like? What were some of the things that they needed to teach you?

01:21:26
A:
Well, um, first of all you got a lot of information about radiation and radioactive materials, what it was and what it did. Um, use of instruments to detect and to measure the radiation that you encounter. The use of air samples and, um, the use of personal dosimeters, two different types, one was a so-called pattern or pen dosimeter.

01:22:02
A:
Um, the other was a film dosimeter, a badge that you wore that contained photographic film. Um, and in general just the things that had to be done to keep people from being overexposed to radiation in any form. Heavy emphasis on radiation not other toxic materials or anything like that.

01:22:31
A:
That came later really and was part self education and part being educated by people who had more experience in that type of thing with the New York Operations Office Health and Safety Division. I worked for a fellow there by the name of Bill Harris who was the chief of the Industrial Hygiene Department, so we were known as Industrial Hygienist not Health Physicists.

01:23:01
A:
And we were more concerned with some of the other things that were pretty much overlooked or at least paid very little attention to by the people in Health Physicist down at Oakridge.

01:23:21
Q:
What are some the dangers when it comes to radiation?

01:23:28
A:
Well when you speak of dangerous that term seems a little strong for what we did, because I don't think the materials we were handling would be classified as a dangerous radiation. But, of course there are some very highly radioactive materials and, um, situations you can be in where you got exposed to very high radiation in a short period of time the type of thing that could be lethal.

01:24:00
A:
And, um, as it wasn't lethal it could make you sick for a long period of time. The things that we worked with at Fernald or the plants that I visited when I was part of the Atomic Energy Commission, um, they were moderately to low radiation. And, um, could in the long run produce some of the same type of thing.

01:24:33
A:
That is the main concern that we had of working with uranium was the inhalation of uranium in some form and, um, it being deposited in the lung and radiation being given to the lung by that material that remained in the lung for a period of time. And, um, if you got enough there and it was there long enough and you got enough radiation and that it could cause some changes _____, something like cancer of the lung.

01:25:06
A:
The other thing with uranium was not a radioactive material but the chemical hazard of it. It was what they call a nephrotoxic material, it would go after kidneys and, um, damage the kidneys. And, um, so that if it was found that you were secreting large amounts of uranium and, um, this eventually getting through and passing through the kidneys that there could be kidney damage too.

01:25:55
Q:
Which is why we do urine tests every six weeks. (Comment: I'm sorry). Which is why we do urine test at the site every six weeks.

01:26:04
A:
Yes, Yes. It'll allow that that doesn't really have to do with radiation damage it has to do more with radiotoxicity of the uranium. And, um, the harm that would come to the kidneys that way.

01:26:22
Q:
Well, um, a lot of people say that the government didn't know or did know the types of problems that uranium could cause. In your estimation, how much did the government know about radioactivity and contamination then?

01:26:42
A:
Well, I think there were people in the government or employed by the government or employed by government contractors who had a great deal of knowledge about what it did, what was there and what could cause harm and the type of harm that it could cause. I think we knew and, of course, we go get our information from people who did the research work on it.

01:27:14
A:
We had some pretty high level scientific people involved in that, the University of Rochester for example was involved in a lot of the studies there on the effects of uranium and uranium compounds, both the toxic and radioactive effects.

01:27:34
A:
And, I think those people who were either employed by the government directly or employed by one of the contractors for the government had a great deal of knowledge and was certainly empowered them to other contractors so that we all knew pretty much what this could do. And it wasn't lack of knowledge at all.

01:28:03
Q:
How about other parts of the DOE complex were they sharing information with the workers?

01:28:10
A:
I'm sure there was a lot of information shared with the workers, um, I'm sure that we shared with the workers. In fact, that was part of our job to instruct them, this is hazardous in this way and this is what you need to do. And the purpose for wearing badges for example that were film badges, dosimeters, um, the avoiding inhalation of the dust, proper use of ventilation equipment.

01:28:45
A:
Use of respirators when they were required when ventilation could not do the job all together. All that knowledge was shared with the worker. I think anyone that was interested in knowing about it could tell them just about anything that we knew about it, you know. I don't know that most people were interested in that.

01:29:19
Q:
So, um, what was your first impression of the Oakridge site.

01:29:23
A:
Well, um, I was impressed by the size of the place, they had a lot of property down there and different plants and, of course, I just went to the what they called the X-10 plant, the National Laboratory. Um, when I was getting my training there we really didn't even visit the other areas where other work was going on.

01:29:52
A:
Um, I was impressed very much by the people that X-10 area National Laboratory, um, their knowledge of the work and what they were able to do to impart this knowledge to others also who were down there in training. Some of their own people were in training at the same time and we had about, oh maybe half dozen people from outside, contractors the time I was there getting this training.

01:30:32
A:
This was prior to anything like they had later where you could get a degree in health physics at some of the universities. They didn't have that in those days, so it was the beginning I would say. It went from there to a course that was taught at the University of Rochester, I believe, Vanderbilt, maybe State of Washington University where they taught a course there in health physics which was really radiation production work.

Tape FLHP0217

01:01:01
Q:
If you could tell us the history of the K-65 material that's in the silos at Fernald.

01:01:12
A:
The K-65 at Fernald came from Niagara Falls of Lake Ontario storage area sometimes referred to as Niagara Falls. It's a few miles beyond that, and, um, that plant was a big area up there that was originally built, I think, during the war as a TNT plant but really not operated for that purpose. And, um, it was taken over by the Atomic Energy Commission and under their supervision and the people that worked in the AEC at Lindey were transferred up there.

01:01:57
A:
It was what they called a sub office, Tallawanda Area Office. Um, they supervised the plant and the K-65 that was produced at Mallinckrodt from the extraction of uranium from ____ and ores and tethings from that called K-65 was being sent up to that area where a water tower had been converted into a storage tower actually for this material so it came in big drums, 55 gallons drums from Mallinckrodt.

01:02:43
A:
Much of it was dumped, they built a elevator and something to take the drums to the top and dump it into the top of this water tower and return the empty drums to the ground so much of materials was stored in that tower. There was much more sent in than was ever dumped in the tower and some of that remained on the ground in the 50 gallon drums and was later shipped in those drums back to Fernald to be stored in the tank there. That was built for that purpose K-65.

01:03:31
Um, so, um, that was the origin of what we have at Fernald called K-65 material which is a tailings from the uranium extraction from pitchblende ores.

Q:
Great. Now let's move a little into Fernald history. Um, when did you get your job at Fernald?

01:03:53
A:
Um, in 1951 I was working for the Atomic Energy Commission of course in New York and at the time we knew that a plant was built, to be built someplace in the midwest. Uh, first word was that it was going to be at Indianapolis. And uh later found it was going to be near uh, Cincinnati. Um and uh at the time of course they, we were working uh, that is I and uh, uh other in health and safety were working under Meryl Eisenbud.

01:04:30
A:
And uh several different departments there one being a medical department. And uh had a doctor, Dr. Joe Quigley who is the head of the medical department in the uh, New York operations office. And uh, they at the time were interviewing, that is the New York operations office people were interviewing, some of the potential contractors. And out of those the National Lead Company was selected as a person or as a, a organization to operate the uh, plant at Fernald.

01:05:10
A:
But they were told at the time of course that they would have to have a health and safety division, someone to look after the health all of the workers. Uh including medical work. And that they had a man that they would let them have. That is transfer to their payroll. Um to head up this division, Dr. Quigley. And that uh, they would let him bring from the New York operations office one person for the radiation protection and industrial hygiene work.

01:05:48
A:
One of the industrial hygienists. And uh, he had a good bit of say as to who that person was going to be. And uh he asked me to take the job which I was (laughing) very much looking forward to. I was looking to get out of New York City. Enjoyed our, our living in New York but it was very expensive. We're living out on Long Island uh, again it was a problem of where can you find a place to live and, and uh, a place that is reasonable house to live.

01:06:19
A:
And Long Island some of these new communities going up that are new housing developments that were going up um, so but I had to commute into New York. I spent uh, about an hour at least each day morning and night. That is an hour each uh, two hours a day commuting from Long Island into the city to go to work. And that wasn't the best of commuting either.

01:06:47
A:
Because they were laying the Long Island Railroad tsh, it went right near where we lived. I could walk down to the station in a matter of about three blocks walk down to the station. But it was expensive unless you could buy a monthly commuting ticket which (laughs) was reasonable. But in my work for the people in New York I had to go out and visit other plants including Mallinckrodt Plant in Saint Louis. So I was on uh, out of town half the time.

01:07:19
A:
And could not really take advantage of the commuter rates. So um, it was expensive to live there and to commute and I was looking to get out of there if I had a chance. So this was, was great news to me if I could go with him to um, the new plant they were building there at, outside of Cincinnati. So that's how I happen to be here. And uh, I uh, I was decided in uh, early September I believe of 1951.

01:07:56
A:
By September 15th I uh, was on National Lead payroll but had uh, gone to work at uh, that is I'd left work on a Friday evening working for the eight you see and came back to work the following Monday, same office and everything but now working for National Lead of Ohio. And October 1st both Dr. Quigley and I came out to Fernald and uh, report for our work out here.

Q:
Do you have any feelings for why uh, the AEC picked that particular site near Cincinnati to build Fernald?

01:08:31
A:
Well, they, they had a lot of requirements which I wasn't uh, actually involved with at, at the time. But uh, for example the water for use in the plant, groundwater or surface water that was, was good for that purpose. And also water to uh, dispose of uh some of the uh, wastes that would be produced. Now when I say wastes and water and dumping into (laughing) into streams, right away that concerns some people see.

01:09:02
A:
But uh, it was known from the very beginning that uh, this would be done and that you would have certain water wastes that would have to be treated to remove as much as you could of the uranium and radioactive materials and toxic materials. And then the uh, treated water would be dumped into the, the surface water. So it needed a stream that would accept whatever there would be of that too.

01:09:25
A:
And uh so that was one of very important considerations went into this. I think other things too, availability of other transportation, uh railroads in those days were pretty important. Um, later everything was done by truck but um, railroads and this was near a railroad center ya know. And all areas of the country uh, accessed the area. 'Cause our product they knew at the time was going to go south down to uh, what they called the Savannah River Plant uh, and uh, west to the plant out in Washington, uh Hanford there.

Q:
So they hauled materials in-.

(Cameraman: Can I just hit pause)

Q:
Sure.

(Cameraman: I'm sorry. I don't know for sure but we're picking up conversation)

Q:
Uh, a little bit of conversation. If it gets real, real loud we might make a comment about it but (Cameraman: okay, okay). So because Fernald, the little town of Fernald was a train stop that was one of the reasons they put the plant there?

01:10:43
A:
Well, there was a railroad close by that they could come off that railroad. Uh, I think the fact it was a stop didn't have anything to do with it because we never operated from that Fernald station, if you could call it that. Um, but uh the railroad spur that came down through there, uh, then the spur that was taken from that into the plant for the shipment in and out of uh, materials by rail.

Q:
And what materials did they bring in by rail?

01:11:17
A:
Well uh, just about everything in the beginning was brought in by rail I think. Uh, certainly as far as the production materials uh, the uh, ores that we got or the concentrates that we got uh they were brought in that way. Uh, I think a lot of the uh, chemicals that were used in the processing uh, and uh, the product going out that is the um, uh, metal that went out uh, I guess we were still shipping some down to Oak Ridge too.

01:11:53
A:
Um, in the form of some green salt, UF_4. Um, so um, the production materials in and out were all shipped in by rail in the beginning. I think the K-65 there probably all came in by rail. I, I know it did. Um, came to the plant, we had our own storage area there where the rail cars were pulled up and they were unloaded at uh, that point and put on the storage pad till they could be sent elsewhere.

01:12:31
A:
Now when we got ready to receive at K-65 up at the um, west end of the project up there, uh, um, then the material went up there and was dumped into the silo. But originally it was all put on the, the storage plant, pad there to between the railroad and what they call Plant 1. They had uh, sampling plant there and uh, the ores or concentrates that were going to go into the production uh, that is extract the uranium from those, uh, um.

01:13:10
A:
They would all go through Plant 1 first of all for sampling purposes.

Q:
Wow. I think people now, you know, we're shipping waste out there and they're upset because there's so much material on the rails, but I think sometimes they don't realize that it was like that too.

A:
On the rails?

01:13:26
Q:
Yeah.

A:
I didn't realize there would be but ah.

Q:
Yeah, yeah, they're shipping um, um, a considerable amount of waste out of Fernald on rail out to Nevada Test Site so, there's been some contention about having that material out on the rail lines, but you were always shipping it in back then. How much did the public know?

01:13:47
A:
Yeah and out of boats, you know, you didn't use truck shipping in the early years, of that I'm pretty sure most of it from Indy and ah, Mallinckrodt and were it was going or coming from, you know, it was rail shipment. It wasn't truck shipment in those days.

Q:
Did the public know what was coming through on the rail lines at all?

A:
I don't know whether they did or not except as people could arrive by that by their own deduction ah, they knew what was going on there. They knew the material had to come in and the material had to go out. So, if they fought that fire, then they would know. Ah, I don't doubt that most people knew. That is they weren't concerned or weren't aware of it.

01:14:42
Q:
Wow, so ah, what was your first impression of the site when you got there. Was it still pretty much under construction?

A:
Yeah, and kind of a mess in a way. By a mess I mean, a lot of mud believe me. Ah, didn't have roads, good roads, had some gravel type roads that you traveled over and ah, gravel, when it rained a lot would and it would sink into the ground. So, the roads weren't all that good. Ah, and where they were of course building the plants a lot of mud around there. Hip boats were common wear and seen around a lot in those days.

01:15:32
A:
Um, that's the thing I remember most, is I guess the mud. Otherwise ah, you could picture what was going to be. We knew what was going to be and where it was going to be. And could see the plant going up in various stages, some of the buildings. Ah, there were just a few buildings that could be considered complete at the time.

01:16:01
A:
The run, the one that was just about ready to be put to use was the Pilot Plant. Where you would have some production until the actual production buildings were under construction or completed and ah,

ready to produce in those. And we had ah, temporary, a barracks type building, that ah, was used as a temporary administration building.

01:16:28
A:
Ah, so after we came in, you could see the beginning of the administration building. And then the ah, locker room building, which we moved to from the house that we first occupied. We moved to the ah, locker room building, it had medical facilities and other people working in Health and Safety had offices in that area.

01:16:55
A:
Later then needed more locker room so they soon took over our space and made it locker room, additional locker room. But by that time we were able to move first of all into the administration building briefly and then into our own Health and Safety building. Which was completed near the locker room, right next to the locker room.

01:17:17
Q:
So there were some farm buildings that were still being used when you first got there.

A:
Yes, these were houses that were built, I don't recall if the barns were used for any purpose. Ah, there may have been some use of that type, but I don't recall it. But some houses and ah, different divisions had different houses that they used, to be a Health and Safety moved a house ah, I think you said it was probably a Cone house. And I, that name rings a bell with me I believe it was called a Cone house.

01:17:50
A:
Ah, which was occupied first of all by Fuller, their security and their medical, but they moved out and ah, I don't know just where. Their work was about complete anyway for that phase of it. We were taking over for them. So we moved in there, there was Dr. Quigley was a head of Health and Safety division. Ah, _____, the chief of Fire and Safety. He came out of New York at the same time, he had been chief of ah, one of the ah, fire departments in the Bronx.

01:18:33
A:
And ah, he came at that time as a chief of Fire and Safety department and _____ chief of Industrial Hygiene and Radiation. And ah, we had our office in the living room of this house um, we also had a secretary who had a desk in the living room. Ah, the medical department was to the back of the department, I mean, back of the house.

01:19:02
A:
And occupied the kitchen area, and I forget what else it back there. Um, so Carrie, which was not in our division, but in security division was in the basement of the Cone house. Um, had a house that was

out to the, the south of the production area. Sort of out there in the, what is now grass land and ah, that was occupied by ah, and used by the engineering division.

01:19:41
A:
Technical division, I forget the name of the house that they occupied, but it was over off of Paddy's Run Road on the ah, west side of the property. So, those houses that were left were put to use in the early years as a _____, the company for various offices till we had other facilities.

Q:
What was your secretary's name?

A:
Um, Krisman, Marian Krisman was our first secretary. And she served as a secretary for all of us, for Doctor and Hand and I. Um, and a very good secretaries by the way. We, we were always blessed with good secretaries I would say that. I've often commented and certainly thought much more than I've commented how valuable those people were to us. You know, we had some good ones believe me.

01:20:47
Q:
Tell me a little bit about your responsibilities as the ah, chief of Industrial Hygiene and Radia-, Rad, I guess Radiation department right (Comment – yes) okay, tell us a little bit about your responsibilities.

A:
Ah, my responsbility was to ah, do what ever we had to do or could do to see that the ah, health of the people was preserved and ah, since we're handling both a radioactive material, which could be a problem in it's self and there used in the process several toxic materials that could be harmful to a person's health.

01:21:30
A:
Um, those things are more of the Industrial Hygiene type thing. That is the acids you worked with the um, various, the toxicity of various materials, including uranium. But ah, the radiation was more of a health physics part and we simply called it the radiation department.

01:21:54
A:
So, to um, put into practice certain things that could be used to measure the exposure to these things and to um, ah, make recommendations for whatever had to be done to correct things that were going to contribute to higher than, or higher than expected uh, exposure to these materials. Uh, industrial hygiene of course also included such things as uh, noise, heat, extreme heat.

Q:
So what is some of the controls that you put in place to make sure that uh, the uh, material is being handled safely?

01:22:45
A:
Well, first of all, to uh, uh, restrict the ventilation material, you had a lot of ventilation material that went into the uh, original design and construction, to collect the material that was being generated as a dust or a fume, at the source, and to uh, convey it then to a duct or a main duct into a dust collectors or scrubber or whatever for removal of the material.

01:23:20
A:
Uh, radiation of course, the things that would be done to keep people from being in the midst of a lot of material that would give off radiation, shielding in a few cases, but not much of that. The use of gloves to protect the hands uh, use of protective clothing in general, just to mainly to confine the material to the production area and or the short distance between there and the locker room and the locker room area. But certainly to keep it out of the office areas and out of the off-site plant areas.

01:24:16
Q:
So, were you in charge of making sure that people took showers?

A:
Uh, in a sense. It started with us. But of course, production people themselves, or the supervisors of others were responsible for seeing that their people took showers. It was understood that people that worked with these materials would take a shower. Now I think they started twice a day showers out there, later I think that was reduced to only once a day.

01:24:44
A:
But uh, it was started at twice a day, they had to shower at noon before they went to lunch, and uh, shower in the evening before they went home, or if they were on a second or third shift, before they ate at night and as they left the plant at night, or morning they also showered. But uh, supervisors themselves were mainly responsible for seeing that their people did those things.

01:25:14
A:
We did some spot checking on it to make sure it was being done. We'd tell the supervisors who were supposed to enforce. We were not supposed to and didn't really want to be involved with telling the people themselves you do this, you do that, that's up to the production people that were telling them what to do for production reasons, do it also for health and safety reasons.

01:25:41
A:
But the health and safety people would talk with the supervisors and tell them what was expected and they would then convey it to their people.

Q:
And how about accidents and those types of things, this is a new process that was being put into play here. And I think a lot of people weren't sure exactly how a lot of it worked. Were there some accidents on site, because uh, because it was such a new process?

01:26:08
A:
I don't know that there were many because it was a new process. There were accidents on site of the type that uh, some might be anticipated and some might not be. But uh, I don't know that the newness of process had much to do with that.

01:26:27
A:
Had the usual type of hazardous, the type of safety hazards that you normally have, you know, things where you could cut yourself or take a hold of a hot electrical wire or any sort of thing that you might do. And of course, people who were trained in these particular trades before they ever came there I'm sure had some sense of what was required if they were operating machines, things that you did and didn't do.

01:27:00
A:
But they were also told there what they should do or shouldn't do. I'm sure all have knowledge of what they should do and what they shouldn't do in working with electricity. In order to avoid injury.

Q:
Were there some accidents on site in the beginning?

01:27:24
A:
In the beginning? Yes, there were. In fact some happened even with the uh, the construction people, you know, first death on site was, as I recall, a construction worker who fell through an opening in over in what is, has been known as Plant 8. The Recovery Plant for taking a lot of the materials from the process over and to get the uranium out from the last of these.

01:27:57
A:
And uh, there was a big opening there I think for probably for where a tank was going on something, and the floor opening was not covered and he fell through it to the floor below and was killed. So that was one of the first ones that I remember.

01:28:18
A:
When we got into production we had a very unfortunate incident over in Plant 9. We had been in production for a while, when we had a reaction to materials that should have been occurring in the so-called bombs that we had, a container that was enclosed and uh, heavy steel and, to contain the whole reaction that took place in there.

01:28:48
A:
The reaction took place instead in a blender where the material was being blended. Prior to loading it into the bomb. And uh, uh, a guy was burned very badly, and uh, died from that. It was known from the
time that it happened that he wasn't going to live long. And it was only a matter of a few days, so. Those are the two worst ones that occurred, I recall them.

01:29:19
A:
There was also one of the construction people that was run over, I don't know just how that occurred, but he was run over by a piece of heavy equipment and uh, pretty bad you know, but it kinda flattened him out, you know. So, these were very serious type. And they happen. I guess you might anticipate some of those and some you don't.

01:29:51
A:
You just don't think it's going to happen and uh, whatever precautions could have been, or should have been taken were not taken in each case, I'm sure. The one where the blender kinda of exploded and the man was burned, I don't know that anyone anticipated that that was going to be done, er, going to happen at that stage.

Q:
Okay, we're going to pause here and change tapes again. Fernald.

FLHP0218

Q:
(Background conversation) Um, let's see, while you're chief of industrial hygiene and rad um, what exactly um, like as far as paperwork you had to fill out, what kind of paperwork was done on uh, like uh, each worker? Were you involved in that? Like uh, uh, actual monitoring.

02:01:41
A:
Yeah, um, our people were involved. We had um, first of all um, records of all the, the uh, dosimeters that were processed from badges and what the reading was on those. And uh, we started out uh, doing them once a week and then I think went to twi-, um, once every two weeks. And finally once a month that we would change the badge.

002:02:07
A:
But um, uh, all those after the _____ process and you got the, the density then it was, was uh, compared to some standards that were prepared where you had a certain amount of radiation put on film and you knew what that was. And those film too were developed and you got a certain density reading or a certain darkness produced on the film.

02:02:33
A:
And you could draw a graph then, from a dose versus density uh, from the very low to the uh, pretty high, high enough. And uh, compare the density on the individual badges to that and assign a dose then based on that um, and that was done by um, a person that we had assigned to that. It started out again we had a couple of girls doing the work and uh, uh at times additional help.

02:03:07
A:
But one woman did the work eventually, all of that on her own, Betty Scutter. I don't know whether you've heard of Betty or seen her. She was a very good worker um, worked a number of years for me um, and my time out there and, and I was there for her retirement party. She invited me to come out.

02:03:33
A:
Um, the uh, internal radiation, that is the amount of dust that was in the air, that was measured by collecting the dust on little folders by air samplers and those were put into a uh, a uh, radiometric counter, a uh, count the number alpha particles coming off per minute per certain volume of air that was collected.

02:04:02
A:
And uh, that too was compared to what we wanted to keep below. And, uh so all that was, was kept on paper and then the individuals who were assigned to a job, you broke the job down into job parts and the air exposure on those parts. And uh, we constructed then what was called a weighted average exposure to, to air dust.

02:04:33
A:
Rating the alpha activity from, from the uranium ore or what other alpha activities there, there was. Um, so that uh, had not for every individual air dust but you at least had it for every job that was done. And those individuals being assigned to certain jobs you could tell then what there exposure would be. Um, we had to uh, make reports uh, weekly or monthly to our management.

02:05:16
A:
To uh, tell what was going on, what we were finding, what exposure people were getting.

Q:
In your estimation, did you (background conversation – unintelligible) In your estimation, do you think anybody took in an inordinate amount in those years of, of anything that could be dangerous to them?

02:05:44
A:
I don't think so. And the reason I say that is we had a couple of accidents were people were exposed to

a lot in a short period of time. And certainly should have shown in the time that they continued to

work there some harm from that. And they didn't. I can't recall the man's name anymore but the one that was involved in Plant, over at Pilot Plant when we had that UF_6 .

02:06:16
A:
That um, (Static) the operator in thinking that he was opening a valve was actually twisting apart a coupling, copper tubing that connected the, the valve to the cylinder. And uh, the uh, UF_6 in gaseous form escaped there in a very large amount. And that person in particular got a lot and showed very high uranium in the urine right after it happened and for twenty-four hours, thirty-six hours, regular maybe.

02:06:56
A:
But um, he continued to work there for a number of years. His biggest, the biggest harm done to him at the time was of course with the uranium escaping, there was also a lot of hydrofluoric acid uh, that was uh, pretty damaging or could be pretty damaging to a person's lungs. But uh, he didn't show at least in medical follow up there at the plant and retired and lived for a number of years after that.

02:07:30
A:
So that was the worst exposure I think, that we ever had to a person out there and he showed no ill effects. Uh, there were others who got varying degrees not, not quite that high, but there were incidents of some kind where they got quite a bit and uh, in a short period of time and uh, didn't show it.

02:07:55
A:
All the people that we followed that were getting low to moderate amounts of exposure didn't really show damage from this. You always look for things in the, in the lar-, in the, from the uranium toxicity to the kidney and then that wasn't found. I just don't think that the people who worked there at the time that I was there. There was anyone really who got um, an exposure that was really damaging to them.

Q:
Can you tell us about the full body counter that was used back then?

02:08:40
A:
Well this was a procedure that came along fairly late in the, our, in my time there. Uh, it was being used in some places, we didn't have it. We would like to have had one, but (laughing) had, had to wait our, our time with budget constrictions. But uh, it was being used down at uh, Oak Ridge and uh, University of Rochester had one.

02:09:13
A:

Ah, this was, in a case of rain, it was merely a, an enclosure, a weld shielded enclosure Where a person could enter and be enclosed in this room with the door shut. Very heavy shielding around us so that you would have very low background. And then you had a crystal that would pick up the ah, the ah, stimulations that the radiation was giving off.

02:09:44
A:
Ah, and magnify those and ah, result in ah, an electrical pulse that could be counted. And ah, and a person would _____ , as we had people come in go through a procedure of shower, and changing into their clean coveralls of some type so they could run through the counter without anything on their external person or on their clothing.

02:10:22
A:
Go into the counter and stay for a period of about 20 minutes, I think it would be. And ah, in that time then you would get the count at the various energy levels. This would divide the whole spectrum of radiation into energy intervals of shorter intervals.

02:10:47
A:
And ah, would tell you what the count was in each one of those sections. We were looking particularly for ah, certain energy levels of, of radiation from uranium. And what it was at that, and then it was ah, of course went into a computer where a computer would spell it out _____ and what this amounted to.

02:11:09
A:
And ah, amount of ah, radioactivity or the amount of uranium that was there. Ah, everyone who worked in production was supposed to be counted, ah we would get the counter in before we had a run. One would be brought from Y-12 at Oak Ridge and operated by those people who had radiated ah, developed this at that site. And ah, and they did some training of our own people who took over this counting later. The counter would come in but the people would be from our place not from there.

02:11:54
A:
Um, and ah, I left before our counter actually there was, we were just planning it at the time. But it was a very good method for I think measuring the amount of uranium that would be found in the lungs. Well they called it a body counter, but what it was looking at was the lungs, chest area of the body. Ah.

Q:
So you were gone before we got our invivo, is what they call it now is invivo?

A:
Yeah, invivo, yeah.

02:12:34
Q:
Something that a lot of people don't understand is criticality. Can you tell us a little bit about what a criticality is and was there enough material at Fernald to cause a criticality, obvously there was because there's criticality alarms and those types of things. But a lot of people don't quite understand what it is.

02:12:54
A:
Well, ah, criticality is the type of reaction that takes place that's ah, took place in the bomb. And in a few cases in ah, accidents were, we actually had a critical reaction with us. It doesn't happen with normal uranium or even low enriched uranium ah, spontaneous criticality would have to be with some higher enrichment, generally.

02:13:26
A:
Um, it ah, and besides it the ah, uranium you need other materials there to moderate this. It is a, in fact it is material is giving off neutrons and ah, um, let me think a little bit about this – the ah, neutrons have to be moderated, the neutron colliding with the uranium atom is the thing that splits it and then causes this energy release suddenly every time it splits.

02:14:13
A:
So that you need a lot of these in a very brief period of time to, to say that something has gone critical. Um, the um, (laughing) I'm still trying to think what does it involve. That is it. It is the sudden and massive release of energy from the splitting of the uranium atom by the neutrons that are present there are from other source.

02:14:54
A:
And those have to be of an energy too where they can be caught by the uranium atom and captured and cause it to split. So that you need a moderating material of some kind. This could be, in some cases I think, ordinary water, but probably not. That's why they use a heavy water for that purpose. _____ is a good moderator of neutrons.

02:15:22
A:
So that if materials like that are present enhance the chance of criticality. Uh, I don't think with the materials we had, at least those down in uh, low enrichments, probably below 5 percent, it would be very easy to make something go critical. Mr. Dunaway probably could and did explain a lot of this to you because that was his job. Criticality protection.

Q:
That was interesting too, that you can't really see it happen.

02:16:02
A:
Oh no, no! There's no indication. That it's going to happen or that it has happened really. To my knowledge. Uh, any accidents they've had were uh, something has gone critical, like they had one down at Y-12 and I forget where else they had some of these.

02:16:28
A:
But uh, I don't know whether those people at the time knew that it had gone critical or not. Uh, they may have, there might be a certain amount of heat or something, I just don't recall anymore, from the reports I read or what I heard whether they had knowledge of this really at the time that it happened. And uh, they knew something had gone wrong. Or that uh, and what the result would be.

02:17:02
Q:
So what's the danger in a criticality if it were to happen like at Fernald, I mean?

A:
Well, danger is a very high amount of radiation; a, a lethal amount or very near lethal, in a very short amount of time, that's a matter of milliseconds probably, something less than a second that it happens. And uh, very high radiation dose which then, a person who receives that can begin to show the effects of that very shortly.

02:17:37
Q:
I just always thought that was interesting when somebody first explained the criticality to me. They're like, "you can't see it, you can't smell it, you really don't feel it," (both chuckle). "But it can really hurt you."

A:
Yeah. I don't know whether there would be enough, being close to something like that where there would be enough heat generated or something like that where they might feel it. Not, not intense, but enough to know that you know, it happened.

02:18:02
Q:
I think there's a little bit of heat rel-, released. Yeah. I think there's a little bit. Well, let's talk a little bit about um, the Cold War. 'Cause while you were working there of course, that was the heighth of the Cold War, what was the typical American's mindset, and what was your mindset about uh, the danger of the Cold War, and what was going on in history at the time?

02:18:25
A:
(Chuckling) Boy, you got me. I don't, I don't recall that I was ever really concerned too much about it. Um, our concern of course would be that ur, Russia could drop on us, or fire on us using a rocket

or something, a nuclear weapon which would explode. Again, when we talked of that, I was never concerned for where we were because I didn't think it would happen that way.
02:19:03
A:
That is that we would not be, I didn't think, a prime target, target for this. Um, but knowing that the country itself and that there were places in the country could be a, a prime target for something like this, uh, I think we were all concerned that we didn't have better relations, and that something might cause them to drop a weapon on us.

02:36
A:
Uh, we of course, were still under security as far as the, the material that we didn't want to get into hands of enemy country. So other than the usual concern for protecting that information, I don't know if the Cold War had that much effect on, on uh, me, anyway.

02:20:11
Q:
And how do you think Fernald furthered America's goals in the Cold War?

A:
Well, one thing is they kept up the production so that we had the weapons and, and the material available that they, they knew what we had (chuckles) pretty much, even though things were kept secret from 'em, as far as the amount of production. I'm sure they had very good idea of what w-, weapons we had, and how much we had, and how much damage could be done with that.

(Lights fades and camera loses power)

02:20:41
Q:
Kinda strange. Maybe there's a storm coming up or something. Um, what were we talkin' about (laughs)?

A:
Had been talkin' about the Cold War, I guess.

02:20:53
Q:
That's it, yeah. Yeah. So uh, why was Fernald important within the DOE complex, uh, regarding the Cold War?

A:
Well, it was important because we were uh, the starting-point for this material that was going to eventually go into the uh, weapons that were being stockpiled for use. Um, and uh, so in that sense, we were contributing to the um, material which would've protected, and that they had knowledge that we were prepared to protect I'm sure, our country or retaliate in case they started something.

02:21:39
A:
Um, I think the whole program, and we contributed to this program, uh, nuclear program, in fact that we had this, while everyone looked upon it as a bad thing, I think that it is the thing, a potential for the terrible damage that could be done, is the thing that kept war from, from starting. We didn't really come very close to war, in the time from the close of War, World War II until the present.

02:22:14
A:
You know, we had the Cuban incident, things like that, but then uh, I doubt that we were ever that close to uh, and I think the fact that we had this capability is maybe the thing that prevented more serious trouble (chuckling). It's my opinion.

02:22:40
Q:
Now something that they've been use. A word that they've been using a couple of times around site, these, these days. Of course, we're getting close to the 50th anniversary of the site, and uh, one of the terms that they're starting to use to describe people who worked at Fernald, who helped to uh, make this material, is Cold War Warriors. How do you feel about being called a Cold War Warrior?

A:
(Laughs) I have no objection to the term. I don't know that it's very fitting. Um, you know, I don't, I don't, I guess it is all, when you think about it, uh, the Cold War and the fact that we were producing this material for that reason probably, and that's why we were a part of the Cold War. But uh, I just never thought of it. We were involved in it before there was a Cold War, and things had just continued, and I, I didn't think of it as being part of a Cold War.

02:23:51
Q:
A lot of people feel, a lot of workers that I've talked to have said that it was like serving in the military. They were contributing to our country's cause. Uh, is that the way you felt, or the way you feel now?

A:
Well, I've always felt that, it, it wasn't like serving in the military certainly, because it was a whole lot easier for us than it was for the people who served in the military. And I have the highest regard for those who served in the military. But I, I think starting with my own work back in 1943 and during um, World War II, I felt like I was contributing, anyway, you know.

02:24:34
A:
I carried a deferment all those years um, while I was in school getting my degree and after I was out um, working at the Lindey plant. And um, so I felt yes, that I was contributing, but not in the same way. I don't think that our contribution working there can be put on a par with the people who did the fighting in the various branches of service.

02:25:09
Q:
Good. Um, now Fernald ran up against some hard times. Around 1984 there was a whole lot of, I know you were retired already by then. Um, there's a whole lot of media attention about some dust collector releash-, releases in Plant 9. And uh, then that sort of opened a lot of information to the public. How did you react to that when it happened?

A:
When it began to come out you know, you mean like in the newspaper and so forth? Well, I had a little bit of knowledge of this from talking with the people who were working here at the time of what had taken place, and they did have a dust collector release of some kind. But again, I don't know that it was any more serious, any larger than some other things that have happened.

02:25:59
A:
It just happened at a time when the Atomic Energy Com-, people, I guess by that time it was the Department of Defense people, had um, decided that they were going to make all this known to the public. And so, it was almost like taking something that happened that people might consider bad and ah, you're feeding it to 'em. Saying, "here it is, this is what happened here."

02:26:30
A:
So that ah, they of course got the idea that yes, bad things were happening there. And the fact that now they're reporting 'em that we had hidden 'em all those years we, we didn't hide anything. If people came out to find out, I think that the ah, times that we talked to people from the news or, or television stations or something like that, about things that took place there.

02:27:02
A:
That ah, we were not really concerned about it and didn't think that they should be. But we tried to be honest with them and tell them exactly what was taking place. So that I still wasn't concerned about, you know, dust releases from that plant.

02:27:19
A:
I was concerned now about the way that it was being accepted and as time went on of course there was more and more information coming out, and ah, not at all accurate (chuckles), you know. Some of it very inaccurate, coming out. And unfortunately some of the inaccuracies being given to those people by the people working there at the plant, who either didn't know or didn't care or for some reason wanted to make it that way, you know.

02:27:51
A:
So that, this kind of bothered me a whole lot and has continued to bother me right to this day, you know. That ah.

Q:
What were some of those inaccuracies that were released to the media at that time?

02:28:06
A:
I, I can't even tell you at this time, but I read editorials in the paper that you'd say, "well, that's a downright lie." And ah, I can't tell you really what they are. The details of this (laughing) aren't in my memory.

Q:
So what was it like being like a retired worker and having worked there for 30 some years, and then seeing those types of things coming out in the newspaper, was it frustrating at the time? How did it make you feel?

A:
Oh, it was certainly frustrating of course I was to some extent involved when this got to be pretty bad. Of course they wanted a little office in ah, and we were working with the legal people of course and knowing there were going to be lawsuits. And ah, ah, working with those people and getting information for them as to what took place and to answer some of the questions that were already starting to ah, to come out about things.

02:29:13
A:
Ah, so that ah, I knew what was going on. It was frustrating know that it was continuing and that you couldn't really do anything about it. I think there were a few attempts to correct some impressions and ah, they got nowhere, you know.

02:29:39
A:
Ah, people themselves, I can give you one example of the, they started talk about the property values ah, Venice and area, Fernald area going way down. Which isn't true, I don't think they ever went down. And ah, it's become, it appears one of the choice places to live now, you know. The development, the new properties or new housing out there.

02:30:10
A:
Ah – I sort of lost my train of thought here but ah.

Q:
That's okay, because we have time, we have to change tapes real quick.

A:
Okay.

03:01:05
Q:
Um, so as a consequence of a lot of things that happened in the, in the mid to late '80s, there were two lawsuits that were filed, um, one for the community members and one for the workers. And I understand you did some consulting work, ah, as far as the legal aspects of that. Can you describe a little of what you did and what was going on at the time?

03:01:25
A:
Well ah, this is it, I would be mainly working with the lawyers collecting materials for them when they would and as they would come in they would talk to me, you know. One in particular I worked with quite a bit and he would discuss with me different things.

03:01:44
A:
That he got some information about and wanted to know more about it. And ah, looking up documents that were in the files to support or refute some of the information that he had, um, so that was my main involvement in that. I guess that I had started out, the first work I did was before they actually got into that aspect of it.

03:02:09
A:
Ah, was putting together a paper, simply called a white paper, on the whole program that we had, the Health and Safety program and what we did about the production of people, or protection of people. And ah, so I had done that and that was given to the people, I don't know what use that was made of it. Ah, I'm sure it was referred to a great, great deal. But they talked about publishing it in some way but I don't think it ever was.

03:02:52
A:
There were little things I guess where I'd be asked to write about what took place. That's pretty much what my work was. I, I did work as, I was requested to do it and involved in it. I never worked full time as a consultant on this.

Q:
Were you surprised that the um, workers brought up safety and health issues as a, as a main contention in the, in the lawsuit?

03:03:32
A:
Um, yeah I am in a way because I'm surprised in, that I didn't think it should be. But that's what it was all about, you know. And ah, some of 'em made a great deal about this. Um, I don't know whether I should speak in the open about this or not knowing that people can come back and mentioning names even.

03:04:00
Q:
Ah, you can tell the story without mentioning a name if you'd like.

A:
Ah, well. People who have talked about how bad we were and how we didn't protect health and safety and so forth, one of 'em had been a safety representative for the union. And ah, you know, we had over the years a safety representative for the union that once a week would come over to the Health and Safety division.

03:04:30
A:
And when Dr. Quigley was head of the division, talked to him first of all, and then he would call in some of us, you know, bring up old things that had come up or little problems or some question he had or something like that.

03:04:42
A:
And he at the same time tried to educate these people and so that they in their context with the union people could educate them a little bit on it. Um, so this was continued after he left, he retired and I was still there. And this guy who was supposed to be the union representative wouldn't show up sometimes for a meeting.

03:05:08
A:
Showed absolutely no interest in learning any more about it, going around and seeing what we did, going up to where the film badges were processed and what they did up there, what was done with their samples that were collected as far as counting and so forth. He wasn't interested in that.

03:05:28
A:
And I don't know what he was interested in as far health protection and safety, but he was one of the most critical of all of what we did and so forth. Ah, and I was able to ah, retrieve from our files, reports that I had written to our manager about that.

A:
Because he would hear something that got back to him from the union representative and then, I had written in reports, you know, that ah, that's not so. This man doesn't know, he's not interested finding out what's going on.

03:06:19
Q:
So do you think that the lawsuits when they were settled, do you think it was fair, what happened?

A:
No I don't think it was. I don't think there should have been any money paid to anyone for harm that was done to them because of that operation out there. That includes us, you know, we being

employees, Chesley tried to exclude us from claiming in this, to social workers, consultants, to lawyers and so forth. He had all the help he needed to prosecute this thing, but as far as the company to defend, they apparently had no right to call on people who knew what was going on and could help 'em out.

03:07:01
A:
So that ah, um, I don't think it was fair. Like I said, I don't think anyone deserved anything for the harm that was done to them by the operations out there. Any, any harm that was done was done by their own thinking, by people who didn't know what they were talking about talking, by the press and so forth who exploded this into a very big story that they tried to run for months.

03:07:40
A:
And ah, so that was harm in that way maybe. Maybe people thought they were hurt, but no one was hurt in my opinion and no one deserved money for what they did there or for what the company did to them.

03:08:04
Q:
And how did it come about that it was settled out of, out of court?

A:
Well, I don't know for sure again, Wagner would be the person who could probably answer that best, but ah, I, I think it was a matter of just deciding, well it was going to be too much money to continue to, to ah, fight this thing and better to settle it that way. And ah, so it was settled.

03:08:33
A:
Ah, and it was expensive I know that.

Q:
That's for sure. Did ah, have you been following lately the cleanup and the things that are going on?

A:
Not really, not really, I hear a little bit now and then or see something in the paper now and then.

03:08:53
Q:
What do you think of the whole idea of cleaning up the site?

A:
Well, I think there should be some cleanup done certainly, I mean there's no question that there was a lot of contamination left around the plant. You can't run a production operation like what was run there for all those years without contamination. And ah, just like we were discussing early I'd be very much surprised in you dug up the floor under the Refinery and don't find quite a bit of uranium under that floor.

03:09:23
A:
Ah, so there's a lot of it around, enough to detect, and I don't know, I think they've gone overboard with the limits that they've put on ah, residual uranium or other things, you know. They, the whole idea of how much uranium can be tolerated or how much of this material can be tolerated I think has just been ah, something carried far beyond reasonable.

03:09:50
A:
Um, so, I don't know. I think that certain areas should be cleaned up but how much you can clean it up, I don't know. I think that ah, what ever use it put to the place that there should be some restrictions on it. Not only because of possible harm that can come to a person or something like that, but just the whole idea of leaving is there I think is wrong.

03:10:32
A:
If you get rid of it some way, but I think most cases, there's no problem. You wouldn't put a photographic film processing (laughing) in or near it, or in certain parts of it anyway. Maybe even that can be done in certain parts of it. Certainly we process, processed film from film badges there all the time and ah got pretty accurate readings from pretty low doses so that ah. I don't know that you would want to produce film there.

03:11:12
A:
Certainly not in certain areas of the plant, but most things you might, _____ that the materials that's there isn't gonna harm anyone in my opinion.

Q:
Now buildings are coming down pretty fast out there, what would you like to see done with the land when it's all done?

A:
I don't know. I think to retain it as a kind of a park and preserve area would be a, a good thing to do. However I don't think that there should be restrictions necessarily if there's some better use can be put to the land. A lot of wildlife there, and I think it is already a kind of a wildlife preserve or has been and I think to continue that idea would be good.

03:12:07
A:
Um, other things that could be incorporated into a, park area or any museum that you might want to put there or the original purpose of the, the plant I think would be a good idea.

Q:
Would you like to take your grandchildren into a museum like that?

A:
Would I like to what?

03:12:30
Q:
Take your grandchildren to a museum like that?

A:
Yeah, probably. Um, I think in one of our earlier conversations you asked about the children and the grandchildren, I don't know that, we didn't talk very much about my job around home. Both my wife and I had been in the work, first of all back in the '40s so that we knew in general what went on and ah, just didn't find any reason really to discuss much about the work.

03:13:03
A:
And the children, I don't know, to me I don't recall that they ever showed much interest in what I was doing or what my job was. So that ah, but I think now and, the grandchildren certainly they are far enough removed that they had no idea. But I think they'd come and say well this is where I worked and but it didn't look like this at that time.

03:13:28
A:
And ah, whatever they have there in a way to show them to tell them about that, yes I might, might be interested in that.

Q:
Good, is there anything that we didn't cover that you wanted to cover? Anything that you'd like to add?

A:
Not that I know of.

Q:
Okay, we're going to roll off some nat sound, that's just, we need quiet kind of on the set for about 10 seconds while we run off some nat sound. This is nat sound.