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FERNALD LIVING HISTORY PROJECT
Transcript

Name: Sam Audia
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Tape FLHP0193

01:01:06
Q:
Great. First of all, if you could give us your name and spell it, just to make sure we have it right.

A:
M-, My name? You want me to do it now?

Q:
Yeah.

A:
My, my name is Sam Audia. And ah, you spell the last name A-U-D-I-A.

Q:
Great. And if you could give us a little background. Where you were born, where you grew up, where you went to school, maybe a little bit about your football career (chuckles)?

A:
Oh, boy. Well, I was born near Charleston, West Virginia. And uh, that was in 1916. Uh, I went to uh, school in Charleston, West Virginia. And uh, after uh, graduating from high school, I went to West Virginia University. And I got my degree there, a B.S. in Chemical Engineering. And also uh, I started on a Master's Degree, but I didn't finish that part of it. Uh, and that's about it up to that date. How far, how much farther do you want me to go now?

01:02:35
Q:
(Laughing) So when you left school, what did, what was your job then?

A:
Uh, I worked at uh, a plant in Char-, in Charleston called Evan's Lead. And it was uh, taken over by NL Industries. And uh, in, I forgo-, I forget the year, but uh, a-, after bein', bein' there for a period of time, then they shifted to uh, New, New Jersey. And uh, then they were warehousing all the ores that came from South Africa there at Middlesex, New Jersey.

01:03:40
A:
And uh, after a period of about a year and a half, they started building the plant here. And, and then we began to ship all that material into Cincinnati, wa-, warehousing.

Q:
Now when you were up in Middlesex, um, up in New Jersey, did you understand, when the ore came in, did you know what was gonna be, what it was gonna be used for back then?

01:04:14
A:
Well, I knew it was uranium. I knew it would, had to do with uh, atomic energy. And also that uh, they had used it to make the bomb. But uh, that's about as far as I could go. The rest of it, I mean uh, was at Oak Ridge, and Los Alamos. And later on, I got to go there, so I learned a lot more about m-, makin' you know, the uh, the bombs and some o' the other peaceful things that they were talkin' about.

01:05:01
Q:
So tell me a little bit about the designation K-65.

A:
Oh, boy! That's, that's the original. How, how that came out, I'm not too sure. The ores came from South Africa. And the uh, Department of Energy designated it as K-65. And it was, that was the type of ore that it was, and I don't know why they uh, really designated it that way.

01:05:43
Q:
And how does that all relate to the K-65 silos at Fernald?

A:
Well, this ore that uh, we got from South Africa, had this K-65 material in it. And uh, the, and it also had gold and uh, silver, and this belonged to um, the South Africans. And we had to keep that separate because at one time, they, they felt they might want to recover the silver and the gold, and I forget, maybe it had some other that wasn't quite as valuable materials in it. So that's the reason it was held that way.

01:06:38
Q:
And it's still there (laughs).

A:
And it's still there. So, I, well, I th-, I think they did uh, package some of it and sent it out. Now I don't know how much.

Q:
Now what method of shipment did they use to get it from Middlesex to Fernald?

A:
It was all in drums. The ore, and the pitch-blende, and there was uh, thorium also. Uh, all o' that was in drums. And o' course they shipped it in drums from South Africa, too.

01:07:25
Q:
Now once that material arrived at Fernald, what did they do with it?

01:07:29
A:
Uh, primarily, it was a sampling facility. Uh, the, the Department of Energy uh, had to pay for this, this material. And uh, this Middlesex was the official sampling plant. And we would open those, had to open the drums and take certain amount of samples out of it. It was rock. And uh, then we'd proc-, process it, uh, we had to crush it, screen it, and bring it down in uh, bottles for sampling in uh, in the plants. So that's what that was primarily for.

01:08:21
Q:
So when you got to Fernald, it was 1951.

A:
Yeah.

Q:
And it was um, pretty much the beginning of the plant. Can you tell us about those early years what the plant was like then?

A:
You mean after it was built?

(Both laugh)

01:08:37
Q:
Well, during.

A:
Well, actually, we, they started building the, what they called the Metals Plant. And that was in '51. And uh, there we had machinery for uh, the machining uh, the, the uranium into uh, what we call cores. And these would uh, these cores would, were like uh, rods. And they were cut up into uh, into pieces. They were about 12 inches long and an inch and a half in diameter.

01:09:25
A:
And uh, the-, these would be put into aluminum jackets. And they would be inserted in, into the uh, power reactors. And that's what we primarily furnished the power reactors, which were uh, one at Hanford. The other was uh, in Oak Ridge.

01:09:58
Q:
And what were those reactors used for?

A:
Well, uh, I think primarily they were used to generate uh, I, I guess the explosives. The, the uranium was uh, put, put into those reactors and after a period of time, uh, because of the reaction, it would form the uh, E metal that was needed then for the bombs. And then of course, they, they would be sent to Savannah River.

01:10:42
A:
And there the uh, the material was extracted and uh, and then again it was, went to Los Vegas. Not Los Vegas, but um, I forget now where it was. Anyway, that material was sent and, and made into uh, into bom-, into slugs that went into a reactor. And then that material was uh, taken out o' the reactors after a period of time. And uh, the uh, material for the bombs w-, was extracted from 'em.

01:11:32
Q:
So was that material that was extracted from 'em, was that plutonium?

A:
Part, part plutonium. And uh, I forget now what else, but uh, it was, it was transformed into plutonium, and that was the main ingredient that went into the bomb.

01:11:55
Q:
Great. And um, your job when you first got to Fernald, you were an engineer?

A:
Yes.

Q:
Can you tell us what you responsibilities were?

A:
I, u-, usually was, would follow materials through the various uh, stages of, of uh, processing. Through the plants to see that (clears throat) everything that, went along smoothly or if it was uh, problems, that uh, try to solve the problem and get the thing straightened out. That was my main objective.

01:12:35
Q:
So what were some o' the problems that you encountered?

A:
Oh, boy (chuckles). Well, eh, there was a, uranium is what they call pyrophoric. By this, uh, when you machine it, it will flare up, ignite. And uh, we uh, had to be very careful because as these chips fell into these uh, large machines that we had, they would catch fire.

01:13:15
A:
And actually, you could burn, burn the machines up. So we had these cascades of uh, water and solvent that went over these chips continuously in order to make sure that they didn't get out o' hand. So that was a big problem that we had.

01:13:43
Q:
And as far as the process goes, um, had it ever been done before on such a scale?

A:
Oh, well, not that big a scale. They, they certainly, at Oak Ridge and Hanford, they had uh, processed these slugs and put 'em in, into the reactors, but it was on small scale. But the ones that we were, we were producing high volume, tons, instead of just hundred, hundred pounds.

01:14:22
Q:
So what made Fernald unique, during those years?

A:
The, I, I think the main thing would be the efficiency of machining, disposing of, of the chips, and the recovery of those materials. That was the big part of it.

01:14:49
Q:
Tell us about recycling materials. They umm, didn't waste a thing. First of all, why didn't they waste a thing, and how did they keep from wasting anything?

A:
Well, first of all, I think that uh, people were afraid of this material. We had to keep close uh, tabs on uh, every, every pound. And we had to follow it through, each of those plants, and each step. And we had to keep balances. So that we knew exactly uh, material was uh, going because part of it would oxidize, and you'd have to treat that one way.

A:
Then chips were also there, and we'd have to uh, select those because we would, you'd briquette those, make them into briquettes so that we could recycle. And uh, i-, it was quite a job, just to keep things in order.

01:16:01
Q:
How would you track that material through the process?

A:
Well, we, we, we would weigh it. We would take uh, air samples. Uh, we uh, would be very careful, I mean, where the material went because uh, we, we'd have to have a material balance uh, around

each, each are of where we processed. And we could tell, I mean if uh, how much was lost at each of the various steps.

Q:
And how did material get lost?

A:
Well, that's just it, we, we didn't let it get lost. Because we knew that some of it would go to scrap. Some of it would burn. And uh, there you would lose part of it, but it went into your uh, what we called air filters. And then you'd collect it on, on these bags that, were, that 're, it would clean the material that was going through and go into the bags, so uh. Most of it was recovered, uh, 99.9% really. It was very good.

01:17:30
Q:
And why was it so important to um, recycle that material? Why was it so important to keep making sure, 'cause like I understand also that a lot o' the times, they would be processing black oxide, and a lot o' the bi-products in the process itself went back into the process. Why was it so important to do that?

A:
Well, the uh, material was very valuable, first of all. And then also, there were some dangers by radiation. The big thing was that uh, it uh, had health problems. If uh, you uh, ingested part of it, which is, the radiation was just a small part. But if you ingested some o' this material then, then of course, it would remain for, in your body for years. And so we were very careful in that respect.

01:18:34
Q:
How much did the government know back then, as far as the health effects go?

A:
I think, I think they were on a learning curve. Uh, they knew that it was uh, radiation. And that radiation could uh, could destroy you know, body tissue. And so they were pretty careful along those lines, that uh, they had set uh, numbers. That people uh, would be, could be exposed to, but not go over. If uh, people were getting close to those levels, I mean you really had to take 'em off the jobs and put 'em on something else.

01:19:26
Q:
And tell us a little bit about how they measured exposure back then.

A:
Uh, we, we would wear uh, what we call chips. They were uh, uh, like film. And uh, uranium of course, gave out radiation. Well, this, this uh, uh, chip was like uh, film, and of course when the radio, when the rays hit it, it changed, changed that film, and you could tell then how much radiation was uh, was gathered by that method (coughs).

01:20:20
A:
And o' course we also had Geiger counters. And uh, I don't know what else, but there was always something new comin' up.

01:20:37
Q:
Um, now you moved in from, from being an engineer in the plant, and sort of troubleshooting throughout the process into management. (Comment – Yeah) Can you tell me ah, what your responsibilities were as management?

A:
Well I think the biggest responsibility was to make sure that you had people in the jobs that they could handle. The other big part was that ah, was the proces-, process safe. And ah, did we have the process in a way that could not harm people. And cleanliness and the material handling aspects of it and this kind of thing.

01:21:32
Q:
And what was some of the safety precautions especially with them, material handling?

A:
One of the biggest things ah, was ah, not to let, not to let the material get airborne. Ah, like the, there were places were it would oxidize.

(Cameraman: We need to stop for just a second)

Q:
Are we getting.

(Cameraman: the microphone is right where you're rubbing on your shirt)

Q:
Oh (laughing).

01:21:57
A:
It is (begins rubbing shirt where microphone is)?

(Cameraman: yup that's where it's hidden. It's I can hear is you rubbing)

A:
Well I'll be darn.

01:22:04
Q:
I'll ask you that question again about that.

A:
All right.

01:22:07
Q:
Um, what were some of the challenges uh, when it came to material handling as far as safety went?

A:
The, I, I think the biggest thing was ra-, radiation. And uh, the material did give off a certain amount of uh, radiation. And uh, the other part was uh, that we didn't inhale any of the oxides or dust that might have been developed through the different processes.

01:22:44
Q:
And how would you, how would you avoid breathing it if it was airborne?

A:
If there was um, airborne material, which we tried to avoid, uh, makin' it airborne, then we'd have to wear masks and uh, and also clothing around that particular area until we got it to the point of where we didn't have dust.

01:23:17
Q:
So in what year, what year did you become actual Plant Manager?

A:
Ouch.

Q:
Do you remember?

A:
I, I, I don't remember. I can't remember that.

01:23:40
Q:
What was your biggest challenges as Plant Manager, and what was your, what were your responsibilities as Plant Manager?

A:
Well, the biggest uh, responsibility of course, was uh, to have people in the right jobs. And uh, the safety aspects, and also to see that if we had production that uh, we, we, met our production goals.

Q:
Tell us about production goals. I know it was a very efficient plant. Exactly where did those goals come from and how did you meet them?

01:24:22
Q:
Well, originally, I, I, I'm not too sure where, where they came from because, uh, people at Savannah Ri-, well, it would start in Washington really. And uh, then Hanford and uh, and Savannah River who had the reactors, needed certain amount of this material in order to meet their goals.

01:24:52
A:
And uh, we, we would only furnish them with the type of material that uh, they wanted. And uh, they then, would have to tell us you know, the amount, how many tons of material we had to ship.

01:25:14
Q:
Now you had to have a Q clearance, to work at Fernald.

A:
Y-, yes. Yeah.

Q:
And, did you have to have one at Middlesex, too?

A:
I had one at Middlesex, yes.

01:25:25
Q:
Tell us a little bit about when you first got your Q-, Q clearance and what that process was like.

A:
Well, they uh, the Q clearance uh, we had people that would come in and ask a lot o' questions. And uh, and also uh, they would go back and check on, uh, with people that uh, where you had been. Uh, if you had worked other places. Uh, they, they would talk to all the neighbors, (chuckling) so they, they had ways and means I guess of diggin' out all the dirt.

(Cameraman: Is that clock hum okay?)

Q:
That's all right with me.

01:26:16
Q:
What were they looking for?

A:
I, I think they just wanted to make sure that uh, that, that we were cleared for uh, this type of material. Because it was fairly sensitive at that, at that time. And uh, I, I guess that was primarily the main, main reason.

01:26:43
Q:
Now at Fernald, of course, I understand that the actual process of making uranium wasn't really the big secret. What exactly was the secret at Fernald?

01:26:55
A:
The main secret was um, was how much material ya processed. What was the tonnage? Where did it go? In what, what form was it? The, these were the main ones. And of course, we never let anything out, off of the site, not even residues.

01:27:29
Q:
So why were those the particular secrets?

A:
(Chuckling) Well, uh, I guess they didn't want 'em to, to get in to other nations' hands. So, they didn't want them to know that we could make the bombs, in the first place, and how much. That was the reason.

01:28:00
Q:
So pretty much during those production years, that was the heighth of the Cold War. Um, tell us a little bit about the political situation during the Cold War. From your point of view, what was happening within the world that made Fernald necessary?

A:
Hmm. Well, I'm not too sure I can answer that question. I, I, I, because uh, all of our references and everything and our um, rules actually came from Washington. And come, came right down you know, through, through the lines of uh, the DOE. So uh, I don't think I could answer that.

01:28:53
Q:
I'm gonna put that to you just a little bit differently. What was the typical American's mindset during the Cold War? Especially regarding Russia?

Q:
Oh, you need to change tape?

(Cameraman: We probably should, yeah.)

Q:
Okay.

(Cameraman: These were actually being consumed by the actors.)

Q:
(Laughs) So you can't use shaving cream. Oh, man. Okay, wait a minute, what did I ask? What was the ques-, Oh, I remember now. Okay.

02:01:16
Q:
So. Um, during the Cold War, what was they typical American's mindset in relation to Russia and what was going on in the world?

02:01:30
A:
I'm not too sure I can answer that kind o' question. I, I think that um, we, we were very worried, about uh, how Russia felt about, about us, and about all our programs. So uh, a lot, a lot of our uh, processing and everything was kept secret. And I think that was the main reason for it.

02:02:10
A:
We, we just didn't know how much they knew. And uh, from where we stood, here at Fernald, why, we, we didn't know uh, about their processing, nor their, their, or any of their atomic energy uh, fields. That's about it as far as I know.

02:02:36
Q:
Good. Um, now you had mentioned to me earlier that there was always a problem with convincing people to work at Fernald. Can you tell us a little bit about that and how you had to educate?

A:
I think the, primary reason was that pe-, people didn't understand. Ya, you talk about radiation, and people didn't know what that meant. And uh, they were afraid of it. We, we had to do a lot of educating to show 'em that uh, what radiation was.

02:03:21
A:
And uh, to uh, actually, uh, do, do certain things that explained radiation to 'em. And uh, I, I think in that way, I think the educating part ma-, made it somewhat easier to do, be able to get people to come to that plant to work.

02:03:50
Q:
Tell us about some o' the, the processes you used to educate people. You, you uh, mentioned explaining radiation; how would you explain radiation to someone?

A:
(Pauses) Well, the on-, the only way that I know is by the use of um, of film. And uh, if you take uh, undeveloped (coughs) film and you bring a radiation source up to it, it will change the uh, the film. And uh, this is about the only way I know that you can show 'em that what, the radiation part does put out rays. And these rays can make film change. Uh, I think that's about the only explanation that you can give. That I know of. Do you have one?

(Both laugh)

02:05:12
Q:
Well, they always tell, you know, when they do our education at work, they always tell us that radiation is an energy. 'Cause so many people think that you can get radiation on you. But those are two different things; contamination and radiation are two different things.

02:05:25
Q:
And it, and I know in our Public Affairs department, to educate the public about radiation, you know, you always have to tell 'em, "It's like a cup o' coffee. You know, you have the coffee and you have the heat coming off the coffee. The heat coming off the coffee is like the radiation." You know, that's, that's the way they told us about it, so.

02:05:46
A:
Well, that's getting close.

(Both laugh)

Q:
As far as the surrounding community, how do you think the surrounding community changed when Fernald was put in the middle of it?

A:
I don't know that it was changed. Um, we of course, had um, I forget now, 3, around 3 or 400 acres, that uh, we had it fenced off so that people couldn't enter in, in on that property. And as far as uh, Ross or Venice, uh, the little towns that were around it, uh, there was no particular problem with uh, with them.

02:06:51
A:
I, the few people that um, asked ah, about it, why we would ah, tried to give 'em, you know educate 'em a little bit of just what we were doing and ah, and that there was no, real, real ah, safety problem. And that was about it.

Q:
(Coughing) And um, can you tell us why the AEC located the plant there?

A:
I think that they looked at quite a number of areas. Ah, it had ah, it had the right type of um, aquifer for example. That's, we knew that ah, by digging wells that ah, we could get all the clean water that was needed for the, for all the processing. It was located in a remote type of area, very few people were around it because Ross had a few people and Venice had a few people.

02:08:11
A:
And ah, the only, only problem there was to be able to get people to come from Hamilton and Cincinnati and places like that just to work. 'Cause then they'd have to travel a pretty good distance. But other than that there wasn't anything.

Q:
(Coughing) Um, tell us a little bit about your travels to the other parts of the DOE complex; to Oak Ridge and a couple of other sites. What were your impressions of the other sites? And why were you going there?

02:08:48
A:
Well, we of course shipped to Savannah River, Hanford and ah, Los Alamos. And ah, the big, big users of our products was Hanford and Savannah River. Ah, Los Alamos they were primarily ah, labs and where they did a lot of testing of materials and things like that.

A:
But ah, our tonnage went to Savannah River which put our slugs in their reactors and so did Hanford. And then they, they then ah, let 'em react in there and of course then they took 'em out and extracted the different things that they wanted.

02:09:50
Q:
And ah, in your various travels to these other sites tell us just a little bit about like, did you do tours there or?

A:
Do what?

Q:
Tours, did you like, take a tour of the site?

02:10:02
A:
Oh yeah.

Q:
Tell us a little bit about that.

02:10:04
A:
Well ah, in, in all, all of those ah, places I mean, you, you primarily was interested in what happened to your product. And of course our product was the, the slugs, metal slugs that we would send to them and we would go to their processing ah, facility to see how they handled our, our slugs. And ah, it was primarily what they called "canning."

A:
They would take our slugs and ah, they would clean 'em up ah, because they oxidize and ah, then they'd insert 'em inside a can. Ah, it was usually a uranium can and it was completely closed and of course that's what went into their reactors. So we just followed their, their schemes, just to see what would happen.

02:11:14
Q:
Terrific and um, let's see. Now you know we sort of talked about how we educated workers and those types of things, but did you have to do a lot of education for the public? I mean, how much explaining did you do, well and how did it change over the years from like '51 to when you retired in '81; how did ah, the relationship with the public change?

02:11:50
A:
Um, that's, I'm not real sure I can answer. How, how it changed ah, we, we ah, of course had, had people that would ah, get with ah, the newspapers and the people ah, on the radio and TV to explain our process and ah, and to ah, answer all the questions that they might have and just, just as an education kind of thing.

02:12:35
A:
And then of course they then in turn would ah, put it on TV and ah, educate part of the people. And I think this went on ah, for, over the years just to keep people educated.

Q:
Now I've talked to a lot of community members who say that they didn't even know what the plant was doing. Do you (Comment – Originally no). Tell us a little bit about ah, ah.

A:
We weren't allowed in the, in the beginning to ah, actually tell 'em what was going on. It was ah, it was secret there for, for a period of time. And then ah, after I, I guess must have been a couple of years, then we began to loosen up why they, the DOE began to loosen up and let people in on exactly what was going on.

02:13:35
A:
Cause I, I think they were concerned, you know, that ah, maybe they were letting too much information out of the country. And ah, so they watched pretty closely, I mean, what you talked about and they didn't want us to get involved with the newspapers or TV or anything like that. Of where

information would get out, you know, to the general public. 'Cause then they were, they knew it would get out even further than that.

Q:
So around what, what years did they start um (coughs) excuse me, communicating more with the public?

A:
Oh I, I think after about 3 or 4 years, yeah, then as far as Fernald was concerned, ah, then, then of course we, we actually had ah, ah, the news media and the papers actually come into the plant and we would tour, take 'em, tours through the plant just to let them see. That kind of loosened things up.

Q:
So somewhere around the mid '60s there were um, some layoffs that happened at Fernald. Can you tell us the reason that they started laying off people off there?

02:15:06
A:
They had all the material that they wanted. Ah, there was just more than enough as far as what Hanford and Savannah River ah, needed. And ah, so we started backing off on production and of course that means, that meant layoffs. At their, at their facilities Savannah River, Oak Ridge, and Los Veg-, well the whole, the whole thing began to back off.

02:15:43
Q:
Now there were some special projects at Fernald um, that came through in various years. Um, can you tell us about any of those special projects, special materials that they were working with?

A:
Well the big one of course was thorium. Ah, we processed thorium, made ah, metal slugs out of it like we did uranium. It was ah, little more hazardous to ah, handle but ah, they did the same thing with ah, thorium as they did with uranium ah material.

02:16:30
A:
They put 'em in a pile when ah, after a period of time, I mean they, you know, they took 'em out and ah extracted the materials that they wanted from it. But ah, that was it. That was primarily the two things that we ah, we did.

Q:
Were you there when they were doing some ah, fuel for nuclear submarines at all?

02:16:59
A:
Well you're talking about, is this e-metal? Is this, is this familiar? (Comment – yes) Well, that e-metal is what they call enriched uranium and ah, it of course gives off more, more power because it

is enriched in ah, the 230, well, I don't know I want to get into that. But it's enriched and it gives off more power when it's in the reactors. That's primarily what it's for.

Q:
Is that U-235?

02:17:51
A:
233, 235, 236, yeah.

Q:
And the usually metal that we worked with mainly at Fernald was U-238.

A:
238, yeah, yeah it, they broke it down.

02:18:12
Q:
What about the moving bed reactor project?

A:
Oh, boy. I don't' know much about it. I, all I know, you know, that ah, Hanford and Savannah River and ah, who was the other one – Brook, not Brookville. But Brookhaven, Brookhaven, they were the ones, you know, that were primarily on that particular thing. And I, I don't know much about it.

Q:
I just heard about some of the special projects (laughing) just thought (Comment – Yeah) I'd ask you. Um, generally you were at Fernald for 30 years, how do you feel having worked at Fernald?

02:19:04
A:
Well I thought it was a pretty nice job. And ah, certainly I got a pretty good education from working there. Ah, involved in ah, a fairly new type of industry, oh, yeah I was pretty happy with it.

Q:
Who were some of your favorite people on site while you were there?

02:19:35
A:
You mean employees or ah, what?

Q:
Just people that were friends of yours.

A:
Wow, I don't know. There were a lot of 'em. I don't know; Spencely, Adams, Addax, you know, you can go through a whole list. At one time we had 3,000, so (laughing). A lot of people.

02:20:09
Q:
Tell us a little bit about the comradery that existed at Fernald. I know now from working there that it's like a family. Um, tell us about some of the extracurricular activities you did, picnics those kinds of things.

A:
Oh we had ah, ah, like you say the picnics but also we had all the other type of things like ah, golf teams, bowling teams, softball ah, a number of other group type of ah deals just to get people together. We had a number of these. We promoted 'em. We liked that.

Q:
Why were those kinds of activit-, activities an important part of Fernald as far as working at Fernald?

02:21:08
A:
Well it was just comradery, ah, ah, it, when you get to know people outside of your particular working area ah, it, it gives you a different feeling. Ah, I, I, I think it's more friendly and I think that's the reason why we promoted it as much as we did.

02:21:35
Q:
Now something that I've heard from other um, interviews that I've done is that like if you worked in Plant 4 you didn't know what was really going on in Plant 6. And um, you sort of stayed within your own plant at work, what reason did they do that?

A:
That was original. Originally I mean, ah, there was quite a bit of secrecy and ah, the less that they get to know, each individual get to know ah, the less they would be able to depart to others. Ah, even, even though maybe they were interviewed by somebody. They can only tell (coughs) about what happened in Plant 4 so, (coughs) that was the reason I think why we kept it that way until oh, I think a number of years later.

02:22:38
A:
Then it was just opened up completely. Fact is we'd bring people from Plant 4 over to Plant 6. And Plant 6 people would visit the refinery and so forth so pretty much educated 'em all.

Q:
I got that from interviews because a lot of people can explain the process from step 1 to step 30 (Comment – yeah, yeah). (Coughs) So I see that a lot of 'em did learn (chuckles) the whole thing. Ah, now you retired in 1981 but there are some things that happened that sort of lead Fernald into some bad times. And '84 through '86 there was some dust collector releases and those types of things that were made public. Um, what was your reaction to that, having just recently retired, to that types of news? When it hit the airwaves?

02:23:36
A:
I was surprised it happened. Ah, because ah, apparently lax-, laxcivitity on, on the part of somebody. Because ah, those things were supposed to be screened (clock chimes ringing in the background) and ah, they look at those ah, by surveillance teams, at one time. Now whether they had backed off, ah, that type of thing, I, I don't know. I don't know. But ah, it seems to me that ah if they had, somebody wasn't doing their job.

Q:
I might ask you that question again once the clock stops (laughing). I just realized it was going to go 11 times (laughing). (Chimes stop) There we go. I'll go ahead and put that question to you again. Ah, what was your reaction to the dust collector releases in 1984, '86 around that era?

02:24:47
A:
I was surprised that there was, uh, releases. Ah, apparently some of the surveillance that we had going on previously was lax. And people hadn't checked into these ah, things the way they had before. So, that's how they get into trouble.

Q:
Now that was quite an uproar in the public, the community surround um, Fernald. What was your reaction to um, the public furor over that particular happening?

02:25:35
A:
Well I could see the ah, reasoning behind it except that I think that ah, somebody did a poor job in explaining because even, even, even though a ah, bag ruptured it would ah, be contained ah, right within the plant. I mean, it couldn't go off site be, because ah, the bag, all, everything is collected in bags or electronically and ah, that, the bags are inside of an enclosure.

A:
Ah, it, it's a canister like and then it's inside of a plant. So for it to get off site it would be almost impossible.

02:26:34
Q:
Now in those subsequent years after this all happened the surrounding community sued the federal government and the federal government settled out of court, ah, for quite a substantial amount of money. How did you react to that news?

A:
I didn't, well I, I really didn't understand it all. Ah, I'm, I'm not so sure that that was all due to ah, any exposure from something like that. I think that came about by the materials that were in the ah, lagoons and the pits that were out there. I don't, I'm not too sure I understood all, all of that.

02:27:28
A:
You see, part, part of that was ah, ah, drain off from the plant site going into ah, what's that creek? Libby?

Q:
Paddys Run.

A:
Paddys Run. And well, there's another one too, but that was primarily it. It was just the amount of material that would be drained off the plant into Paddys Run and the other ah, ah, material, and the other parts. I don't know.

02:28:16
Q:
Now shortly after all that happened there was also a lawsuit by the workers filed. And ah, what was your reaction to that?

A:
I, I don't remember that.

Q:
Okay, um, part of the settlement for the workers was actually medical monitoring. Are you in the medical monitoring program?

A:
Were we?

02:28:39
Q:
Are you now?

A:
No. I'm not myself. Because I, I was very seldom, you know, in the plant for any amount of ah, time. I mean, I'd go through the plants ah, almost every day but ah, I wouldn't be in there 8 hours for example like the employees. So, to me, I mean, I don't think that hinged on me at all.

Q:
Good, are we at the end of the tape?

(Tape cuts out)

TAPE FLHP0195

03:01:09
Q:
Oh, that would be good. That's what I need, audio.

(Cameraman: sounds like we're rolling)

Q:
Um, tell us a little bit about the waste pits and what they were used for. And what actually is in there to your knowledge?

03:01:24
A:
The waste pits ah, was the residue that was left over after we extracted the uranium from the, the ores. And ah, that was usually um, sand, rock, and ah, that type of material that ah, of course the ore, uranium was extracted from. And that went into the pits out there.

A:
There ah, of course was ah, radiant that ah, went also into the pits. And this was some concern. But that was primarily it and that was the reason we had to hold it in the pits, because radium we didn't want that to get off site. And I don't know, it's still there too (chuckles).

Q:
What other kind of waste is in those, those pits?

03:02:44
A:
Well, ah, you've, you've got gold, silver ah, and ah, there are other materials that came from the pitch-blende that ah, you know, came from South Africa. It was ah, very rich in ah, uranium, but then it had all these other things in it too. But that's it.

Q:
As a plant manager, what was your biggest challenge while you were there?

03:03:24
A:
Our big, biggest challenge was I guess was ah, was safety of all the, all the operations and ah, I think primarily that was it. We had to keep the materials well-controlled throughout the whole process and know where everything went.

Q:
And ah, what were some of the safety controls that were in place to make sure that the workers were safe?

03:04:10
A:
Well we had ah, the Health, the Health and Safety group was one of our larger groups out there and ah, we had these people that went through the plants and would monitor all, all of the operations. Taking whatever samples they need or ah, they would put of any of the signaling devises and ah, more or less help us control the whole process. That was one of our larger groups, plus the technical.

Q:
Now there are quite a lot of ah, workers who claim that they have health problems because of working at Fernald and ah, how do you feel about those folks that, you know, say that safety really wasn't up to snuff in those years?

03:05:12
A:
That what?

Q:
That safety really wasn't ah as good as it could have been back in those years.

A:
Oh, I don't know. I, it seems to me that ah, in comparison to other industries that ah, we went way over bounds to make sure that there was safety. With, with all the ah, monitoring and everything that went on I'm surprised that anybody would even say that. Because ah, we had, we had a big, a large group of medical people that ah, were there on site, so I'm, that surprises me.

Q:
Good, um, lets see – What else do I want to ask you. So how do you feel about the clean up right now. What's going on with Fernald and how they're cleaning it up?

03:05:22
A:
I don't know much about that. I haven't been out there and ah, I know there's tearing down buildings. It's ah, it's gonna be a big job. Because ah, no matter what you do you're gonna have contaminated soil where we, where those buildings where. Ah, I don't think they'll ever be able to take it to what we call background; original background.

A:
Ah, they'll be able to decontaminate to safe degrees but I think that's about as good as they're gonna do. I don't know how far they've gotten ah, I think they were starting with Plant 6 then going to Plant 5, then 4 I think they were working backwards.

Q:
And um, you've done a couple of tours on site. You've taken a couple of tours on site.

A:
Have I?

03:07:35
Q:
Since you've retired?

A:
No.

Q:
So you haven't been on site since you retired?

A:
Once, I went once.

Q:
What were your impressions on that one tour you were on?

03:07:42
A:
Well it was um, almost like, now this has been quite some time and it was almost the same as it had been at, by the time that I retired. They hadn't really started to close down but ah, they had closed down the sampling plant, the new refinery, and they were shutting down 4.

A:
Ah, they were starting to do some clean up work in Plant 6. That's when I was there so, it hadn't, they hadn't gone too far in along the lines of tearing down buildings and things like that. But I understand that they've done quite a bit of that now.

Q:
What do you think the biggest challenges for clean up are going to be?

03:08:43
A:
It all depends on the ah, the degree that they want cleaned up. If they set those standards ah, too high ah, we may never get there because you're gonna have contamination above ah, above the original level. I, I, no matter how much you scoop. It, it penetrates. So of it is soluble and its probably have gone, has gone down into the ground to a certain extent and ah, good ol' Paddy Creek I (chuckles) you'll will never get that out of there.

03:09:34
A:
So, it, it all depends on the kind of levels they wanna to try to get to. If it's reasonable, why I don't think it'd be too bad. I mean, if they just go on the bases of ah, how, how high can it be before it's detrimental to somebody's health then ah, if that number is ah, is up there pretty good, I, I think they'll do a good job.

03:10:08
Q:
Now like you said they're tearing the plants down pretty quickly now. What would you like, personally, to see done with that land once its all gone?

03:10:18
A:
Well, if it's cleaned up, uh, it can go back to whatever they were doing original and that was farm land

and they were growing crops on it and had cattle there and few things like that. Uh, there may be some industries that, uh, could go in there. They know that now that they can get labor because we were getting it out of Cincinnati, out of Hamilton, and out of Indiana.

03:11:07
A:
So, it's available. May have to pay a little bit more, but it' s available (laughing).

03:11:17
Q:
So, um, how did Fernald help America meet its goals?

03:11:24
A:
Well, I think at one time, um, we were very concerned that we just didn't have the power to, um, detour other countries in nuclear activity. And, uh, we knew we were behind in the beginning, but I think that, uh, after we once really got started, why we got caught up and I think that was a big thing is to make sure that they understand that we had as good as a material or as bad of a material as they have.

03:12:20
Q:
Good, um, is there anything that you'd like to add or anything that you'd like to cover that we didn't cover?

03:12:30
A:
Oh, I think covered pretty well everything that I know of, I don't know what the future holds. And I hope that every thing that we've done will, uh, make our future even better. So, that's about it.

03:13:02
Q:
Good. All right. Uh, were going to do a little bit of nat sound. If you just want to zoom in, yeah that's the way Dave usually does it. Quiet on the set for about 30 seconds we're going to have nat sound.