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FERNALD LIVING HISTORY PROJECT
Transcript

Name: Dennis Carr
Date Interviewed: 2/15/00 Date Transcribed: 2/8/00 Tape: 101 Project Number 20012

Tape FLHP0249

01:01:26
Q:
First of all if you could give us your name and spell it just so we have it right and also your title.

01:01:30
A:
Dennis Carr, C-A-R-R, executive vice president with Fluor Fernald.

01:01:37
Q:
Um, and you can just have a conversation with me (okay, I keep forgetting).

01:01:39
Q:
Um, first of all give us a little background like where you went to school and how you ended up at Fernald.

01:01:46
A:
Well, I'm a local. I'm a west side boy I went to Elder High School, got to get a plug in for Elder. Went to University of Cincinnati, Civil Engineer and have a master's from Xavier and I've been working here at the site since June 1981.

01:02:03
Q:
And how did you get your job at Fernald?

01:02:05
A:
How did I get my job, basically responding to an ad in the paper. I was working for a small consulting firm and saw the ad in the paper and, uh, and the consulting firm I was working for was doing basically water and wastewater work. And that whole business was on its way down at that time and I knew I needed a new line of work so I jumped on the ad and responded to an ad that NL had put in the paper for field engineers.

01:02:31
A:
And responded came out the first time I had ever been here saw the checkboards and thought I was going to dog food plant and came in for an interview. It was interesting that during the interview the word uranium never came up, so anyway.

01:02:50
Q:
So did you know what they did here when you first did a?

01:02:54
A:
No not really, because the job I was interviewing for actually was not associated with the contract for this site. I worked for NL but the contract that NL had had two components; one was for the operation as plant and there was second contract that DOE had with NL for initiating some cleanup at DOE sites other than this site that had been were inactive typically since the Manhattan District days.

01:03:25
A:
So I was associated with that contract effort so I wasn't really aware of what this plant did because there really was, actually two days after I came on board I was sent into the field and didn't come back for nine months and then nine months later was when I really got my real dose of what Fernald did. Because when I came back they basically had some fill in work for me, non-construction season work and I was assigned to the Metals Plant as an engineer to the Metals Plant.

01:03:58
A:
That's where I first got my dose of what Fernald did. So it was nine months after I started so the winter of early the following year of 1982 was when I got my first dose of the site.

01:04:12
Q:
Um, what was your very first impression of the plant when you got here?

01:04:16
A:
My first impression, really, coming out of consulting firm, out of college really as I was kind of walking into a catacomb, basically the average age of the site was 53 years old that's what I was told and I was the youngest person on site by 2 years and actually for the first 15 months I was the youngest person employed by NL.

01:04:41
A:
At that time I was 22 so that realistically I felt I was walking into not the catabcomb as much as the people. Everything was green, everything was very bare, you know there wasn't pictures on the walls there wasn't, everything was painted over the same color same colored tile everywhere, no computers, no calculators anywhere to be found.

01:05:04
A:
Everybody's desk instead of being modern desk were basically excess equipment from different DOE

facilities around the complex. So most of your drawers didn't work, old desk, old chairs, old lock safes. Still had a lot of these, lot of the security aspects to the site so you couldn't bring a whole lot of personal effects into the site. So from that standpoint it was very stagnant feeling to the place.

01:05:31
A:
And you know it was kind of to the new guy coming in that was looking for you know something fast paced it was completely opposite of that.

01:05:39
Q:
Now you mentioned I remember when we were doing a little preinterview, the penetrators on the desk. Can you tell us a little bit about that?

01:05:47
A:
Yeah that was strange, you know when I first came in here, again this would have been when I got back to the site after my first field assignment nine months later. I was assigned a desk at that point and time in the laboratory building and one thing I saw that was fairly common was that almost every desk had a penetrator on it.

01:06:08
A:
And that's what basically that the penetrators I believe the initial machining of those was developed here at this site and the penetrator used obviously for weapons usage, different shapes, different designs in them and almost every desk had a penetrator sitting on them kind of as a display.

01:06:22
A:
Also, the laboratory conference room, you know there was what we called a Large Lab conference room had a display in it of basically every type of uranium product on this site was displayed on a little table in there. You know this was not surrogate material, this was real material sitting over there. Now if it was a powdered form it was obviously in some type of case so that it wouldn't blow all over the place.

01:06:47
A:
But basically it was just a different perspective of the hazards associated with the material. And clearly today we have a completely different perspective than then, and so it was very interesting seeing that.

01:07:05
Q:
Now you mentioned being out in the field when you first got hired, are you talking about being out on the field on site or did they send you to different sites.

01:07:12
A:

No, I was basically sent to three other different sites. Um, we had this NL here at the site of this separate contract initiated cleanup actions that there was actually three different DOE programs there was one called the Surplus Sites Remedial Action Program, Formally Utilized Sites Program, and then Uranium Remedial Action Program.

01:07:32
A:
NL was basically given, uh, those three programs to initiate cleanup activities at their highest priority sites. The highest priority sites that they had in each one of those programs first was Weldon Springs which was under surplus sites and Niagara Falls Storage Site which was the secondary one to that site; there's actually four sites.

01:07:52
A:
And then for the Uranium Mill Tailings Program there was Canonsburg which is outside Pittsburgh and then Middlesex Jersey Plant which was the original sampling plant which was part of the formerly Utilized Sites Program. I was sent on the first assignment to Middlesex for about a year and then I spent two years at the Canonsburg Site.

01:08:11
A:
And in between that time they would send me to Weldon Springs and Niagara Falls to do sampling or surveillances or whatever. So basically I spent about three and a half years. The vast preponderance of my time was spent off this site and then I would come back here for any type of lull in the action. Um, winter I would come back here and I was assigned basically to engineering and that would plan next year's work.

01:08:37
A:
But a lot of engineering would go out and some of task that nobody else wanted to do. I was one of the few civil engineers on this site. So I was sent out to do structural analysis of tanks or surveying of cold piles surveying different things that they wanted surveyed in, construction management for any small construction. There wasn't very much construction going on at that time.

01:08:58
A:
Very small little maintenance actions mainly. Not a lot of contractors coming out other than maybe roofing worker, siding work so I was kind of assigned engineer and fill in task and I was sent back out in the spring.

01:09:19
Q:
Lean over again, got to get you to sit up. (Comment: I'm trying to avoid that light) (laughing). Yeah, I know it's easy to do it's just like oh, this is hurting my eye.

01:09:23
Q:
Um, I think it's interesting to the other sites, I mean what were they like, I mean were they a lot like Fernald or were they different.

01:09:36
A:
Oh, they were all smaller sites much smaller sites, um, it was an interesting perspective actually to get. For example, my first year in Middlesex, um, it was a very small site; however, the contamination at the site, basically they received in the ores and ores concentrates from around the world were brought there and sampled and then they were sent out to the different uranium production facilities.

01:10:02
A:
Here at Weldon Springs there was a Mallinckrodt site. Well they handled a lot of materials that contamination got off their property and got onto a lot of private property. Again the private property was right up against it, there was no buffer so our job mainly was to go out, work with the community, characterized the sites mainly the off sites and personal properties of the, private properties surrounding the site and then to clean them up and bring it back.

01:10:30
A:
So, it kind of gave me a perspective dealing with the people, dealing with the community leaders, elected officials. It was a fairly hot issue when you well that's probably not the right word but when you have radioactive on a private property, um, it can create quite a stir in the community so it really kind of provided me the kind of perspective of a lot of the misunderstanding surround radioactivity out there.

01:10:55
A:
And how to deal with the public on how to communicate risk. Now the second one, the first thing on Middlesex I was referring to a fairly low concentrations off site. Whereas, the next site I spent two years at was Canonsburg which was little uranium processing plant. That one was very very interesting and was a fairly high concentrations of contamination on the site and off the site.

01:11:24
A:
Off the site went to at least 250 properties. Our job was mainly to characterize the site, stabilize the site and then to bring all the contaminated materials that left the site back to the site. And what you found was extremely, well I wouldn't say extremely but high concentrations of uranium barring residues Mill Tailings being incorporated into people's homes and onto the roadways, under bedding, under pipe, roofs, old uranium processing vats being released into the community.

01:11:52
A:
Our job was to go get that and bring that back and there had been a lot of bad communications in the past between DOE and those citizens so we started out behind the curb and had to make up. I think that

by the time we left there, you know people were really behind us and helping us to do our job. It was really touch and go there for a while.

01:12:14
A:
Vandalism and other things were occurring to our equipment because people just didn't like us and though we represented the bad blood that existed between DOE and the community and didn't understand that we were a cleanup contractor. It took us about a year I'd say before we really got the community behind us.

01:12:31
A:
But it was really an interesting job, so again I would have to say that the contamination levels were much more significant than this site off the site. Um, here we have a much larger inventory of contaminated materials simply because the bulk of materials handled here as compared to those sites. So, you know there's some comparison as far as communities.

01:12:57
A:
Both Middlesex and Canonsburg were the highest priority sites in the complex simply because the number of people that surrounded them. Each site had ten to twenty thousand people directly surround them in a half mile radius and each one of them had significant radiation off the property. Uh, so they were really high priority for DOE to get cleaned up so they sent us out there initially to start those operations.

01:13:23
A:
Which we did. So we were running without really final regulations or without procedures, I mean just go out there get started. And I think that in all it ended up being very good, real positive I think overall.

01:13:38
Q:
Tell me a little bit about your education process, you hadn't every worked with radioactive material or contamination or anything like that before you started this job. Tell me a little bit about learning all of that.

01:13:49
A:
I guess again I got, uh, kind of lucky by being introduced to those two projects first; obviously, I came out as a civil engineer, I mean I do have some technical background but clearly it's not uranium, chemistry or any of the radiological issues really just wasn't there.

01:14:07
A:

The first project I got exposed to I was up at Middlesex New Jersey and just happened upon a fairly good two years up there. We had a radiological subcontractor up there which was Eberline, it was kind of the established leader in instrumentation and field support and they had some of their senior guys from their office out there and they kind of became my tutors of how instrumentation worked, how the whole decay process works.

01:14:33
A:
And, um, so I got introduced to it that way and gradual from the field and then when I came back to the site and knowing we were in the uranium processing facility I got the benefit of being able to learn from a fairly slow consistent operational phase at this site as supposed to the people that come in here right now and get thrown right in the middle of it and are expected day one to understand the whole nature of this business.

01:15:05
A:
Although, I got to gradually wean my way into it through first being out in the field working hands on with people who had 30 or 40 years of experience were able to have one on one contact with me and then when I came back to the site I was able to at least work with the environment for at least three years. That was a very calm and consistent-oriented operation.

01:15:25
A:
So you got to understand the chemistry aspects and the production side of it. Later came, obviously, the salient features of the compliance issues and rad-con and things like that.

01:15:37
Q:
Tell about your impressions of the process here because of course they were still processing when you got here, they were actually still making uranium?

01:15:45
A:
My first impression was to be truthful when I came back I kind of looked at, after being at these cleanup where I was cleaning up to levels that were very close in natural background I came back to this site I saw my goodness we're going to have a large job ahead of us and I saw the quantities and materials and the way they were handling at the end of the processing days; it was kind of alarming to me.

01:16:15
A:
You can go out to Plant 5 and the quantity of material that was on the floor; people without respirators; here I'd just come from sites where when I went into buildings we typically would have respiration protection on. We wouldn't have it on when we were cleaning up out in the field we would just use dust controls and things like that because you were in people's back yards.

01:16:33
A:
But if I was walking into some of the former process buildings, yeah, you had to have respiratory protection on. But when I came back to the site even people right up against the equipment might have been provided respiratory protection I don't know but they certainly didn't have it on and then the quantity of dust inside the buildings and the amount on the floor was kind of alarming to me.

01:16:55
A:
It just kind of hit me that this doesn't seem quite right but again I was an engineer from a whole different discipline and didn't really have any background in the nature of the material at that point other than what I had been taught through being on these cleanup sites.

01:17:14
A:
So that, I guess my first impression was a lot, very production-oriented facility that had an outstanding record of performance, on the quality of the product and the quantity of the product. But, I had to say I thought there was a little bit of sloppiness in the operations.
01:17:30
A:
Now when you looked outside the buildings, you know, there wasn't a piece of gravel out of line, but when you walked inside the buildings, you know, I just thought there tended to be too much material on the ground, um, you know that was just kind of my initial impression. You know and quite a bit of material in inventory when I saw the pits and the silos as compared to some of these other sites.

01:17:54
A:
That was before I had an understanding of the geologic conditions at the site or contamination levels, it was a general first impression that there just seemed to be too much stuff in a place where it didn't belong and the controls weren't very good. You could walk to the process area back to what we call the blue area, basically the administrative area by simply just putting donning shoe covers.

01:18:15
A:
You know, these little white slippy covers and you could walk with your same clothing back and forth without surveying ever and it just seemed to be completely inconsistent with what I had just come from on a cleanup site where we had a rad line set up and surveys of every person and you know you had to don and doff PPE before you moved in surveying it; none of that existed here at this site and it was just suprising.

01:18:37
Q:
How times have changed. (Comment: You ain't kidding, totally different). One of the questions that I used to ask a lot of the retirees was what did it feel like to work in a certain area and not when you were in the process years in your shirt sleeves and now go into that same area and you have to anti-Cs on. Did you ever go through that sort of changeover to?

01:19:08
A:
I think so, I obviously was sort of the transformation, I mean not that I was driving that transformation because I was tended to be on the engineering or environmental side. Most of that transformation took place as a result of adopting stricter rad-con measures and that started with Westinghouse and I think you know that was an adoption of Westinghouse's policy and procedures from brought in from their neighbor reactors program.

01:19:31
A:
People like Lou Bogart and I think they brought in a wealth of experience and perspective that changed this place forever for the good I think overall. But I saw that transformation I guess I was kind of always expecting that transformation maybe it went a little bit too far, you know, I think, now I look at it I tend to think maybe we're a little bit too strict.

01:19:56
A:
Maybe we've you know in our diligent pursuit of zero we've probably pushed too far where we're now probably overstressing the employees the other way. Now we've got heat stress and cold stress trying to protect them from a little bit of surface contamination or contamination on their clothing as opposed to I think we've done a good job to eliminate the inhalation and ingestion threat I think now maybe now we've got to bring it back to middle.

01:20:26
A:
But you know in watching that transformation I think it was the right thing to do but there's no question about it that that has existed, even when I was lead on the RI/FS at the site here I was bringing in outside contractors like me had come from a cleanup background and their perspective from those sites was the same as mine was PPE and as the results they would operate under their own health and safety program.

01:20:55
A:
Which basically mandated that they use PPE and some cases respirators when they were doing their work and so in this situation I would have crews of drillers and samplers out in the process area standing in PPEs standing right next to a at that time Westinghouse employee who had a complete level of PPE and much less.

01:21:14
A:
So you know just that whole balance had not obtained and I don't think it ever got obtained probably until after Fluor got here we actually got the balance between the programs but clearly there was a misbalance; but we still were moving in the right direction because the people who were doing direct hands-on contact with the work had increased levels of PPE, and better dosimetry protection.

01:21:41
A:

But, uh, in this situation we had people that were doing drilling and other things who had a much different perspective coming from outside here and bringing it in here so we had a kind of double standard here for awhile.

01:21:50
Q:
I remember seeing photographs like that there'd be one guy with smock and shoe covers on and the next guy's got a full-face respiratory on.

01:22:02
A:
I'm afraid that was the way it was for awhile and it caused a lot of consternation and trying to get the RI/FS done under that condition was very difficult but we had to work with it day by day. Finally did I think we came to a consistent position probably '92, '93, we started getting more consistent philosophy and implementation requirements at the site.

01:22:28
Q:
Well, we're going to go back in time just a little bit and um, tell us a little bit about security here at this site when you first got here and how it sort of changed down through the years.

01:22:38
A:
It was fairly significant revision there. When I first came in here again, that would have been 1981 and I'd say that probably didn't represent the tightest security measures this place ever had. But when I first came in here though it was kind of the first thing got me the first impression you either had a star on your badge or you didn't.

01:22:57
A:
If you had a star on your badge you were able to carry materials in and out that were not necessarily to subject to continuous search. So for example I could bring in a briefcase or personal items from home and you know I always had a star on my badge and as it turns out there were only a very few people had that and I had that benefit because I was constantly doing travel back and forth to these sites.

01:23:20
A:
Um, whereas the bulk of the people on this site and at that time there was 520 people on this site so there wasn't the population that we have now. But the vast majority of the people did not have stars and as a result you found very few personal articles on their desk. And typically it creates that stark environment, you know fairly bare environment because they weren't really able to bring it in as a result of kind of the way their badges were set up.

01:23:50
A:

And so security I had to say was fairly tight; it was fairly accusatory; uh, you know, you were always subject to search. Uh, kind of the way it worked was uh, you know basically when you walked into buildings you were subject to search based on your badge in any building entrance you walked in. Of course we had all the gates and fences up, the double line of fences.

01:24:11
A:
Uh, so basically, they were real serious about it. Actually got increased seriousness after the, you know, after a couple of foreign incidents occurred of terrorism it kind o' got increased here. We went into an increased posture where we started training guards on SWAT teams and started scaling up a little bit. Uh, that was about 1984, I say it scaled up. 1984, '85, '86, then it started to drop off again and gradually tailed off to where it is today.

01:24:43
A:
So it's really pretty different. Everybody had to have clearance. If you came in, the first three months, you would spend in a uh, basically in a little isolation area where you really weren't allowed back in the plant. If you were left, if you were, to go back in there, you had to have 100% escort, which means to the bathroom and everything else.

01:25:02
A:
Uh, so the tendency was to put people into this clearance area and leave 'em there for three months. Or uh, typic-, you know, for, the bulk o' the people was they wouldn't get hired until three months later after

clearance actually was attained. So when ya first came in, you had to get what was called an L clearance, which was a limited clearance.

01:25:20
A:
And then that was upped to a Q clearance as for all, a lot o' the senior uh, engineering and scientific folks was upped, oh, about 2 ½, 3 years later, I had to get clear, Q clearance. So at that point in time, basically everybody had clear, some people had secret, you know, they had the Q clearance, and then uh, and from there, it started comin', backin' off.

01:25:43
A:
And it's clearly a major transformation took place, you know, about '87, '88 timeframe where you know, there started bein' a lot less fre-, a lot less secrecy surrounding these plants. Which really came as a result o' some o' the actions that took place here. There was a gradual evolution to more free communication with the public, and as a result o' that, that really kind o' drove the, the reduction of security measures at plants like this.

01:26:07
A:
You really didn't have a whole lot o' secrets to keep. You know, ours, our process was very well

published in literature, wasn't a complex process. Really, the only thing that really became uh, really any type of confidentiality surrounding at that time was product information, product delivery schedules, product configuration. Whereas the process itself of producing uranium was pretty well known, established in textbooks.

01:26:35
A:
So ya saw a gradual reduction uh, you know, the most significant step was re-, eliminating clearances, then from there uh, guards, weapons taken away from guards. Uh, and then from there it really got back to really now is checkin' badges at the you know, on the road on the way in. So we really went from a posture, nobody got in without a 100% surveillance and escort, to now today where ya basically all ya need is a badge to get into the site and ya got free access anywhere ya want.

01:27:05
A:
Also ya couldn't get, bring a camera onto the site or any recording devices for many years. I had a photographer's pass. Simply because I had a camera for the other sites, so I had one. But I was basically one of about five on the total site. That were, I still have it I think somewhere, I you know, I don't use it anymore, but obviously, but you don't need it.

01:27:27
A:
But it was interesting that you know, each person that came to this site was searched for cameras and recording devices when they came on this site. So that became a problem when you, when you're, you know, when our environmental issues started in '84, you know, when we were trying to have a little bit more open-door policy.

01:27:47
A:
And the regulators in the community were tryin' to get in to see what was goin' on, we were basically, you know, (chuckling) body-searchin' 'em for cameras and recording devices at the door. That kind o' you know, tended to you know, dampen the whole openness this thing a little bit.

01:28:04
Off camera: I would think.

Q: Yeah, I was just gonna (Tape stops in mid-sentence).

02:00:52
Q:
Now it's, did ya turn the coffeemaker off (laughs)? Yeah, that's an interesting place.

A:
That place was how it really was.

02:01:05

Q:
Okay, are we rolling? Okay.

(Cameraman: All quiet.)

Q:
Okay. All quiet on the Western front. Um, 1984 was a big year for Fernald, uh, because of the dust collector releases. And can you tell us um, from your perspective, that whole story?

A:
Well, at that time, I was associated with uh, with the Waste Management operation, which that coupled with a couple people in uh, Health and Safety under Mike Bobak really represented the environmental arm on the site. Now up 'til that point in time, uh, you know, our operations again, were pretty well focused on production. We didn't really operate under the terms of any, oh, I'd say, federal or state regulatory oversight.

02:01:48
A:
You know, really, at that point in time, there really had not been any of the state or federal regulators on the site. Uh, we did not operate under the terms of any of the state or federal permitting systems. We, we, DOE took exemption to those under the basis of self-regulation. So as a result, we really didn't have what we call air operating permits.

02:02:12
A:
We didn't have RCRA operating permits, uh, or we did have NPDS permits for water discharges to the river, which was one exception to that. Uh, in in 1984 we were continuing down a line of production. What's interesting there is that, from a background perspective here is that we, like when I came in to this site in 1981, we had a fairly low production, uh, op, ya production goal at that point in time of 520 people.
02:2:39
A:
The Ronald Reagan era obviously, uh, defense spending was going way up. As a result the demand for the product that was expected from this site was going way up. In actuality the the expectation was this site was going to re- re-attain its maximum operating production. What that meant then was we had an infrastructure that was, uh, at this site which was fairly weak.

02:03:03
A:
A number, uh, we had good people, however not enough of them - 520 people. It's obviously very difficult to expand quickly on people with experience. Being able to keep that under control is number one. We had a very fragile infrastructure as far as equipment. You know we had a plant and we had a capacity, you know, of ten or twelve thousand metric tons a year, but it hadn't been operating anywhere near that for, you know, for, since the 60s or before.

02:03:28
A:

So, as a result of that plus the low maintenance budget that this site had, this site was just operating on a shoestring. So they had the meanest production goals and the quality goals, which it did, but it did that by scavanging itself, basically,, and having shoestring fixes.

02:03:43
A:
So we had a plant that was jerry-rigged together uh with a good staff but a small staff and all of a sudden had to turn the knob up and try to get the get the process speeded up. With new people being brought in and brought into the system being trying to be trained which obviously causes distraction.

02:03:59
A:
So, with all that background we had a, you know, we had an operational philosophy, an operational goal, I'm sorry, to increase production, yeah, basically double production and continue to do that until you got the capacity. Which what that meant then was we needed some major improvements to the plant, so we started planning those improvements.

02:04:16
A:
In fact we had a, we put on the books about $2 billion worth of improvements that we were going to do to the plant. We actually started some of those. But in the backdrop of that was 'let's turn this thing up and get as maximum as we can get out of this under its current operating, you know, under its current, uh, operating framework, let's see what we can get out of this plant and then we'll gradually lean in the new improvements to get us back up to pr-, to our production goals.

02:04:40
A:
So we along down that path. 1984, uh, we were continuing our production, production mission, again, a very small environmental staff and a Health and Safety staff that was mainly focused on health and safety. Really didn't have much of an environmental staff other than environmental monitoring staff and a small low level waste management staff.

02:04:59
A:
Uh, and the reason we had the low level waste management staff starting was simply because we had run out of capacity in the pits and we knew we had to do something. So we were looking for options and mainly starting to focus on a starting of shipment to the Nevada Test Site. So that was kind of the backdrop. Production was going. Shoestring maintenance budget.

02:05:16
We had to turn it up and we had a lot of new people starting to come in to the site, mostly production-oriented people for the floor. We were trying to go from one shift to two shifts to three shifts on production. And, ah, so, with that backdrop we then we were increasing the operations, uh, side of this thing with more demands on production, but had, they had not at that point expanded our staff for the oversight, the monitoring, the health and safety.

02:05:41
Uh, for example the Health and Safety staff had the responsibility for overseeing the dust collector operations, the stack alarms, the stack monitors, which were out there. You also gotta remember is that that equipment had been out there for a long time. We were operating a plant then in the '80s that had been designed in the '40s, uh, you know, at the late, very late '40, early 1950s.

02:06:02
A:
So we really was using late 1940s environmental control equipment. And was trying to operate now at that point and time we were still operating under self regulation so was attempting to operate under a fairly new regulatory regime.

02:06:15
A:
You know, new regulations with old equipment and with a staff that was short, you know, short staff, good staff, but short, uh, short in number, and then a plant that had been, uh, basically, uh, uh, bleeded out with no maintenance budget for a lot of years. So that was kind of the backdrop,

02:06:34
A:
In December of 1984, uh, we had a release from a dust collector on the on the south side of Plant number 9. I remember its number. It's not really relevant now. But it was an old bag house. One of the bags had slipped off and basically gone undetected for about a month and about 220 pounds of of materials were estimated to release, to release, to have been released from that stack.

02:06:57
A:
That was estimated based upon the single-point stack sampler that was on it. Uh, basically, we were continuing to change out the stack sampler, so we knew the material was goin' out but just didn't trigger an alarm. And maybe that was a lot o' the backdrop because uh, you know if you really take a look at those loads coming out uh, that was really coming out o' the stack, it really was still small compared to what came out during the '50s and '60s when they were producing the same quantity of material.

FERNALD LIVING HISTORY PROJECT
Transcript

02:07:24
A:
So it may not have sparked an alarm because the people looking at the data had been here for a lot o' years. The backdrop on it though was that the Department of Energy, uh, actually, backing up from there, the Superfund regulations which were called CERCLA, were just coming, they were just coming into their own at the point, at that point in time.

02:07:42
A:
They had, as part of that Superfund regulation, they have a reporting authority under that, where you have to report the release of a certain quantity of material. If a certain quantity of material they threshold for an individual constituent is exceeded, you must report to the National Response Center. The Department of Energy uh, was then at that point in time was adopting that in their own, in their own DOE order.

02:08:05
A:
There was a DOE order that was basically going to implement CERCLA on a DOE site. I mean they weren't necessarily buying into the USEPA's regulation, but they were going to have their parallel program as part of their org. Okay, so they had adopted that an order. That order uh, basically was bringing along those same reporting obligations.

02:08:26
A:
At that point in time, the USEPA had, had a proposed standard on the books which was adding radio nuclides to this list of hazardous substances for which you would have to report if you exceeded the threshold. At that point in time, since there had been no specific quantity established, you had default to, and there's a default parameter in the regulation which was one pound.

02:08:48
A:
So if you exceeded, more than one pound of the material released into the environment, you theoretically had to report to the National Response Center. That was only a proposed regulation. The Department of Energy out of Headquarters, the people I was dealing with specifically at the time, uh, basically mandated that since we had released 220 pounds and had exceeded that one-pound threshold, uh, and even though it was only draft, they wanted to honor the draft.

02:09:14
A:
And uh, that draft regulation as being real, so as a result, a call was given to the National Response Center on December 7, 1984 to report the release of 220 pounds of material. There is a call-down list within that process. The National Response Center once they have a release, calls the local response authorities. And from there obviously, uh, papers and you know, public.

02:09:38
A:
So December 8th, we were in the front page of the Cincinnati Enquirer, and from there we never left

for you know, many, many years from there on. You know, it basically escalated from there and basically became the first site to really report under that, under the auspices of that program, and we really became from there the lightening rod for the DOE complex on the issue of self-regulation.
02:10:02
A:
DOE's authorities to self-regulate, uh, or question, be called in to question by USEPA and Ohio EPA, which led to a gradual change of those policies, whereas today, you know, as you know, now we are subject to direct oversight and regulation by US and Ohio EPA. So, ah, really we became the lightening rod for the complex.

02:10:23
Q:
Great. Um, something that intrigues me, too, is the fact that, um, since this was a Department of Energy site, they were self-regulating before anybody, um, you know, really said, "Hey, wait a minute." Ah, can you explain how, I don't really want to put it this way, but how they got away with that?

02:10:41
A:
Well, they, they, they, they basically, you know, it's it's not that they got away with anything. They were operating within the terms of the regulations that that chartered their existence. Uh, the Department of Energy and its predecessor agencies were chartered on the atom Atomic Energy, which gave them the authority, uh, to make regulation and to follow that regulation or policy.

02:11:08
A:
Uh, and uh, so they they had regulation and and in addition to that, uh, the President then issues implementing policy orders called, uh, you know, uh, they were, uh, executive orders. So if one took a look at the backdrop of regulation in the Atomic Energy Act and executive orders, they basically delegated the authority to the Department of Energy under the terms of the, yu, of those two sets of requirements to set their own standards and run their own programs.

02:11:39
A:
So they weren't, the Department of Energy wasn't getting away with anything. They were operating completely within the bounds of what had been, what had, what what authorities and responsibilities had been given to them by the President and by the Congress. So it wasn't that they were out trying to slide something over on somebody, you know.

02:11:56
A:
Certain things had been done for purposes of of moving the national defense initiatives along, you know. And we can look retrospectively back on those and say, "Those were, boy, a bad idea" looking at where we are at today versus, you know, the problems that, the legacy that's been left to us. You can say that's bad, but at the time, you know, the priority was on national defense.

02:12:19

A:
And, ah, so as a result, ah, you know, certain authorities and responsibilities were given, ah, to agencies to operate under, and, uh, and DOE basically operated within those.

02:12:34
Q:
Tell us a little bit about why this was such an important plant for the Department of Defense, though. I mean, what

02:12:41
A:
Well, the

02:12:42
Q:
How did Fernald, ah, contribute to American goals?

02:12:44
A:
I'm sure you got've a lot more perspectives than that from me, I mean, I I think that some of the long-time retirees you may have interviewed probably have a better perspective. But clearly, we were the first on the chain. You know, obviously you have middles and minds, and ah, you know the first step on the chain to making the product was us.

02:13:02
A:
And, ah, we had us and our, and our sister site Weldon Springs became basically the single source of bulk uranium production, uh, for purposes of feeding the defense reactors, plutonium production reactors, that were at Hanford and Savannah River. And we also got into some bulk, um, metals manufacturing for other purposes.

02:13:23
A:
But, you know, primarily we served the reactor sites, which then, obviously, made the plutonium and started this whole process on the chain. So, you know, we were the vital link. Ah, and they had to have the uranium so that they could make the plutonium to start. So we became a vital link in the whole process and, and ah, they couldn't afford for us, this vital link to be severed.

02:13:45
A:
They had to have that that material inventory. So, you know, we were a critical element of the whole process and without us nobody else could, at some point in time the inventories would be depleted and they'd be without any further materials. So, it was critical to keep us, and obviously, Weldon Springs shut down real early on in the 60s and we continued on.

02:14:06
A:
But, ah, you know, we became the only single source for the DOE complex from then. Now we maintain, the DOE complex I believe maintained about a two-year inventory, running inventory, so we were always just replenishing their inventory so that they weren't vulnerable to, you know, terrorist attack at an individual plant, so there always was a backlog, which of course, we've spent the last seven years trying to get rid of.

02:14:27
A:
Uh, but ah, you know, bottom line, we were a vital piece of the chain, and ah, so.

02:14:37
Q:
Great. Now we were talking before a little bit about, ah, what happened in 1984 and, ah, can you tell us a little bit about subsequent years after that, um, we were in the news for a decade and, ah, how did that change your job?

02:14:51
A:
Oh, I went I went from the catacomb of sedentary life of Fernald to total chaos overnight. Ah, you know, my, my whole, you know, everything about my job changed on December 7, 1984. Uh, you know it was a sleepy little place. We had some environmental issues and waste management issues that we were dealing with.

02:15:13
A:
Again, we basically were running an environmental monitoring program, monitoring our impact on the community. And we were comparing ourselves against the standards at that time, which, at that time, standards, ah, were much different than they are today and, ah, those standards basically found us to be in very good compliance, you know, very good compliance situation against the standards of the time.

12:15:34
A:
Good or bad, they, those were the ones that we were comparing up against. Ah, in retrospect, they, they obviously, ya look at them today, they were not not appropriate. Ah, given some of the, the wealth of information people have now. But, again, the site changed dramatically, and again, I was one of the few environmental people, environmental backgrounds on this site.

12:15:55
A:
Now I had been again out in the field working a cleanup job, just coming back basically, ah, ya know, for those three or four days. So I had been, only had limited time periods here. Ah, basically the call was made to really get out of those programs and get the environmental people that you have back to the site full time.

12:16:14

A:
So I was, you know, prior to that I think that a a decision had been made, prior to December 7, the decision had been made to get out of the uranium mill tailings and formally utilize site clean-up programs, and get the people back to the site. So I had been pulled back by that point in time. I was in Waste Management working, which was part of Engineering at the time, and, ah, we were just working on individual projects, and all of a sudden everything just changed.

12:16:39
A:
Ah, when I say everything changed, again, ah, it clearly was, it was, we were into a react mode, big time. You know, you are limited to three to five people that have an environmental background of any perspective on the regulations or the requirements, and all of a sudden, you know, our continued existence as a production facility was jeopardized by compliance issues.

12:17:02
A:
From there, obviously, it snowballed from compliance-related issues or it snowballed into everything else, health and safety (interviewer begins coughing).

12:17:16
A:
You still giving silver dollars out?

02:17:17
Q:
I don't know, I didn't.

Q:
Okay, great. So after everything that happened in 1984, how did that change your job?

A:
Well, I mean, 1984, that was a, that was a significant change in everybody's life at Fernald, not just mine. Mine, my job obviously changed very dramatically; I was one of the five people with environmental background on the site at the time. Uh, actually, I had just come back from off-site assignment. Had been assigned to uh, basically the Engineering Division, the Waste Management portion of the Engineering Division.

02:17:55
A:
And uh, December 7th basically marked the day where uh, you know, significant attention was cast on the site first on environmental issues. Obviously air emissions, dust collector releases was the beginning of it. From there, it very quickly stepped into kind of a, an inquiry by everybody and their brother into what were the environmental conditions at the site?

02:18:20
A:
Uh, you know, what, how were we impacting the community? Which obviously then took its first focus on what was our current discharges to the environment, and what did our environmental monitoring data really say? Uh, so that was kind of our first, beginning as the you know, the major attention cast on that, on the information and that data.

02:18:39
A:
From there it propagated almost uncontrolled expansion of, of inquiries. You know, we had more

lettered agencies on this site than you can possibly imagine. From you know, NIOSH and OSHA, and of course

multiple regulatory agencies, Ohio-EPA, US-EPA, Southwest Ohio Air Pollution Control Authority was on the site. Uh, you know, and audit teams from DOE, you know, EH, different aspects of DOE were here.

02:19:09
A:
Ah, I think a lot o' the goal at the time for DOE at that time, was to try to contain the problem to Fernald. Uh, 'cause they saw, obviously, I would think they would see a threat to the self-regulation issue, and they, the thing if they could contain it at Fernald by, you know, do whatever damage control they had to at Fernald, then maybe they could save the rest o' the complex. And of course as you see, obviously today, that didn't happen.

02:19:37
A:
But there was a lot o' sacrifices of a lot o' people I know, a lot o' senior managers. NL of course, their contract was ended, uh, here at the site. And uh, you know, so, overall, I think everybody was impacted. For me personally, it just became a, you know, one of chaos, of you know, of working almost around the clock on different issues. There never was a lack of something to do, let me tell ya, especially for the environmental types.

02:20:05
A:
You know, I really wasn't a spokesman, but obviously, a lot of us got media training to deal with. You know, I had come off some sites where I really was dealing with the media already, so I had a jump. Not saying I was that good at it. But uh, this site was a sleepy little site that uh, no one had really ever had an interface with the public or with, certainly with the news media.

02:20:25
A:
And all of a sudden the next day was expected that people are gonna be out there being spokesmen. Uh, so, yeah, but for me personally, it was just a lot o' hard work and a lot o' time being spent on attention to environmental issues, and trying to work through reasonable and rational implementation schedules for different, different environmental programs, you know.

02:20:47
A:
I think gradually we evolved into a gradual uh, relaxation of self-regulation. It wasn't just a, you know, open the door up and there's a flood of EPA regulations. Basically it was a gradual movement toward, and the first thing that uh, obviously came under scrutiny was our permitting issue for discharges to the environment.

02:21:10
A:
Uh, the first line was drawn on self-regulation basically, at the plant boundary. Uh, and, where DOE

was abdicating some authorities over emissions to the environment. It would'a been liquid discharges, and this was not just of, of uh, non-radiological, but also radiological contaminants. It didn't necessarily speak to, as though the other agencies could regulate them on those, but they at least were gonna provide them with the necessary information to make them aware of what their discharges were.

02:21:45
A:
Uh, both radiological and non-radiological parameters, so that was a big, significant shift because all of a sudden, now, we were being accountable to others on uh, relaying the information on discharges and attempting to come into compliance on permitting programs.

02:22:00
A:
In uh, early 1985, we were obviously continuing with production at the site, which is very difficult in the backdrop of, you know, having production, very difficult in the backdrop now, of, of the swirling madness that was surrounding us with, you know, with uh, regulators knocking on the door trying to look at the various aspects of site operations.

02:22:19
A:
With EH audits going on, OSHA, NIOSH, you know, every group you can imagine, you can possibly imagine in existence was in here takin' a look at us. And with that big swirling backdrop, uh, the local air pollution control authority, uh, either, working with Ohio or whatever. Ohio-EPA basically made an edict that uh, any, any source on the site that didn't have an operating permit within the 30 days would be shut down.

02:22:48
A:
So myself and a number of us were encast into trying to submit permit applications for every operating, every operating source on this site. You know, it's from a backdrop, and not really knowing what a source even was, because we weren't really complying with those. You know, there had been a previous history of sending in permit applications, but they were blank and they were basically just a check.

02:23:09
A:
And on the application would basically just say, "Restricted Information." They would submit the money and pay the homage, but they weren't really displaying any sensitive data. Now all of a sudden, we had to try and permit every source. And we had 450, 453 sources on this site that we had to get permits for. And I went out and you know, basically had to go out and diagram the whole site and figure out what dust collectors were servin' what.

02:23:34
A:
What kind o' stacks, what emissions, estimates were comin' out of it. So a group of us were put together; a lot o' the guys are still here. And we worked on trying to submit permit applications for all those sources, and get, hopefully get permits issued in that time period. And we did. I mean we did do

it.

02:23:53
A:
You know, I'd like to say, I'd like to go back and re-do some o' those (chuckling), I mean that was pretty tough tryin' to get all that information on, in that time period. We basically were workin' around the clock tryin' to do it. And we probably permitted some things that didn't need permitted, but I mean we were at the point that we couldn't afford not to be able to continue to operate 'em.

02:24:09
A:
So that was the, kind o' rough couple o' months there. So I guess, and then from there, it really continued to escalate, and the next thing that came up on the power curve was compliance, which has its waste regulations under RCRA. And that really became an issue for, even to today. But the main, it really hit, really start in about November 1985 with RCRA and continued on really hot and heavy through, I'd say '89 or so, tryin' to comply with those requirements.

02:24:39
A:
So, it really just took, it really, the whole life at Fernald changed on December 7th, '84 for everybody. And 'specially the environmental people, operations also, became very difficult to operate under an environment where every day with, you're tryin' to push production where you've got some type of release happening. Either to the air or to the ground, the soils, the drum knocked over, you're havin' to report those then.

02:25:02
A:
You know, we were constantly in a situation of reporting, and apologizing for something that was happening at the site. And it became, and the backdrop of secrecy that was surrounding the site, you know, not really providing the full story to anybody, uh, because of concerns on self-regulation issues, tryin' not to lose it, control it at Fernald. So uh, those were, those were goin' on.

02:25:28
A:
Plus just the restricted information that some o' the stuff was still considered restricted at that time. So you put all that together, and the people were getting little snippets, and they were very, you know, we created mistrust right out o' the chute. Everybody mistrusted us because you know, we'd been operating here under secrecy for these years, obviously have been discharging things to the environment, have been taking exception from regulation, from anybody other than ourselves.

02:25:51
A:
Uh, so, put that whole backdrop together and you've got major mistrust going on. And it took us, I'd say a good uh, well, from 1980, December 7th, '84 and probably until about I don't know, '94, '95 to fully recover from that, so it took a while.

02:26:10

Q:
That's a long time.

A:
Yeah, it is.

Q:
(Coughs) So um, tell us a little bit about the um, the, things that happened that lead up to them actually throwing the switch and shutting the plant down.

02:26:25
A:
Ah, it was kind of an evolution. I'd have to say, it began with a, when the snowball went from here on. We, again, they tried to contain it here, they, DOE, everybody was tryin' to contain the problem here. And when they realized that the couldn't do that, I mean as we got, as we went from a local media attention in uh, early 1985, you know again, we were in the Enquirer and the Post and local papers.

02:26:48
A:
When it escalated from there to national attention, which was uh mid-year 1985, when we started getting CBS Nightly News coming, and then from there it went to 60 Minutes, 20/20, 48 Hours. Their natural tendency was to then not only go from here, but to go to every other site. So they started with Fernald and then escalated to the other sites.

02:27:10
A:
And, uh, you know, so when that happened, uh, you know, I guess life changed here, life changed at the other sites, and uh you know, I guess that was the propelling incident that the guys, woop, what was the rest of your question, I'm sorry.

02:27:28
Q:
Um, Just what led up to them throwing the switch to-.

02:27:30
A:
Yeah, so leading up to that then would have been, so now you've got essentially the entire complex under scrutiny, this site being the lightening rod from that. Basically, we did a series of evaluations of this site and its capabilities and its ability to continue to operate. You know, it really came down to is can this site really under the new environmental posture continue to operate.

02:27:57
A:
Uh, our customers at that time, which was fairly limited to Hanford reactors, and then _____ running up there at that time we were a big client of Departme-, the Army.

Basically, we were using our product for for shielding for tanks, armor for tanks. Uh, our customers were getting concerned that we'd every be able to continue a consistent production stream in light of the problems that were happening at Fernald.

02:28:25
A:
And I think as a result of that queasy feeling that we weren't going to be able to continue the product and the desire to be able to continue to operate those facilities, they made a decision that, that they're going to have do, they're going to move to, move to a more reliable supplier. I think that decision was finally made.

02:28:41
A:
Now as it results, during that decision time frame they were starting to look at the other facilities around the complex and whether we really needed to be making that product. Iron Curtain still wasn't down yet, so there still, I believe, a desire to make product, but uh, some of the reactor sites as a result of that expansion of of the cloud from Fernald was going to the other reactor sites like Hanford and Savannah River.

02:29:05
A:
The reactoring operation was coming under fire and they were having difficulty maintaining operation in their reactors. As a result, the reactors were coming off line, which was then eliminating the need for our product all together. Knowing that, plus having a, you know, your materials have been designed specifically for one reactor in mind, couldn't be used interchangeably with any others.

02:29:25
A:
Uh, and those things weren't operating. We had a two-year inventory backlog here and elsewhere. There was really no need for us. And, ah, so I think that all led to a decision to shut 'er down. That coupled with, ah, the Department of Energy had entered they had, uh, commissioned what they call Tiger Teams at the time. The Tiger Team was basically uh, uh, a team of auditors, but mainly consultants.

02:29:55
A:
Tagging along on those audits was uh, typically FBI and IG, and they just hit Rocky Flats, they decided to go to Rocky first, came in and you know, obviously fined and arrested, and other kind o' things, and they were comin' Fernald next. And so a decision was made at that time, it seemed like a convenient time to pull the switch on this thing. At least bring her down to a standby mode.

02:30:19
A:
So at that point, we decided to shut her down, bring her to a standby. And uh, you know, good or bad, that decision was made so that when the Tiger Team hit here, we were already in a standby mode. We weren't, we weren't producing at the time. We all thought we were on hot standby. We actually went from hot standby, went to cold standby, which basically turned off the switches finally.

02:30:40
A:
And then from there, it never came back up. So basically, we never came back up. Uh, it was July of 19, I believe '89 is when we made the final call, and that was the end of it. And from there on, it became a, it started out as an environmental compliance issue. What do ya gotta do to try to maintain, get this thing under compliance, under, with the expectation we'll start back up. And gradually from (tape ends).

03:01:04
Q:
Great. Okay, so we got up through the point where they threw the switch. Tell us about the RI/FS.

03:01:12
A:
R-I-F-S. Uh, when all the madness began in the December of 1984, we could, obviously, we were following along with trying to come into compliance. In 1985, NL, toward the end of their reign here at the site, we were, at that point in time, considering, we were attempting to con-, come into compliance with the DOE order that had just been passed. That was the same one that we reported on, it was for Superfund.

03:01:38
A:
So a decision was made that we would initiate an investigation into the, what the traditional scope of CERCLA was, which was inactive facilities. So we started an investigation; I say investigation, uh, it really was an R-I-F-S, focused on the inactive facilities. And we were doing it out of our own volition, for compliance with the DOE order. It was 5480.14 was the order at the time which no longer exists.

03:02:03
A:
Uh, so we actually started down the phase of doin' what we call installation assessment, assessing your site, and then starting into a site investigation of the inactive facilities at the site. That started uh, really in late 1985. And uh, really we were still in the planning stages, doin' the work plans, et-cetera, uh, as we moved into '86. 1986 it was a major revolution in the site. A revolution (chuckling) a revelation more.

03:02:31
A:
Uh, in that, that was really the time period when uh, US-EPA, Ohio-EPA really started having their presence known on the site. The Ohio-EPA had issued a series of directors' findings and orders against the site. Basically, ordering certain compliance initiatives to take place. A number of them focused on uh, some of our waste management facilities on this site.

03:02:56
A:
Most significantly though, in Jul-, in uh, July of 1986, a federal facilities compliance agreement was signed between US-EPA and DOE, which basically did, did a number of things, but basically, the intent was to bring this facility into compliance with federal environmental standards. A attachment to that, which was at that time considered you know, by the people probably were signing the agreement, that uh, it was kind of a secondary consideration.

03:03:23
A:
But attached to it within the body of this agreement was a commitment to perform a site-wide remedial investigation feasibility study. Of course I had been working on other sites and had been working on this one, I saw this one, I was in complete shock when I saw this, you know, this signature to this agreement and the schedules that were associated with it.

03:03:41
A:

You know, so obviously, we were gonna take our best run at it, but knowing the magnitude of the scope, it was unprecedented at that time. Uh, and that, again, the s-, the investigation, RI/FS, Remedial

Investigation Feasibility Study, is something which is performed, typically up to that point in time under Superfund regulations, on in active facilities, basically, abandoned facilities.

03:04:03
A:
And here we were, an operating production facility in southwestern Ohio, and we're having to perform a Sitewide Remedial Investigation Feasibility. Number one, it typically is never performed sitewide. You typically focus in on inactive facilities; waste pits, abandoned drums, that, you know, that, you know, groundwater plume. Here we were being requested to apply it to a sitewide basis.

03:04:24
A:
Now, none of us knew what that means, what that meant. You put that on the backdrop of the continuing issues of self-regulation, again, we've continued to draw little lines in the sand, you know, sayin', "Okay, is that enough, EPA?" and you know, kind o' daring 'em to try to push us over the line there again. So it was an interesting, it was an interesting evolution.

03:04:45
A:
But um, the RI/FS then, kicked off and in July 1986 with the beginnings of the preparations of a work, of a work plan, and we had the, some outrageously tight schedules for the compilation of a work plan. And of course we prepared one, submitted it, uh, it was kind o' you know, extremely difficult timeframe to meet. We submitted one, and you know, it realistically didn't meet anybody's target because I don't think anybody knew what the target was.

03:05:12
A:
You know, RI/FSs at that point in time had really never been performed on a site as complex as this. Certainly it had never been performed on anything with radiological contamination, with DOE self-regulation, and uh, you know, with some executive orders given. DOE is the uh, is basically the drivers of the process.

03:05:30
A:
So here we were with this agreement with very weak guidance surrounding how it would get applied, yet we had the responsibility for executing it. So we put together a work plan and actually spent the next two years negotiating out the work plan that would define the scope of work for the investigations and scope of the RI/FS.

03:05:51
A:
Now it's, during that time period, we all started to carve up pieces of that land and start, start the investigation. Ah, so we actually initiated site investigations uh, in the late 1986 and the beginning of

1987, we started drillin' some wells.

03:06:09
A:
And we basically continued on that for the next decade, doing site investigations and working through the RI/FS process, which ultimately ended in the issuance of, of five Records of Decision, which became the basis of our cleanup. But it was an interesting in that here we had a investigation that was focused on inactive facilities being applied to an active operating facility at that time, uh, with the expectation that we were gonna issue Records of Decision for the entire scope of the site.

03:06:40
A:
So as you can imagine, things changed. Regulations changed, guidance changed. You know, we basically had to be out there creating guidance where there was none. Uh, you know, so it was, we were out on the, way out on the front on the edge of this thing, basically the first site to try and move through that process. And uh, it created a lot o' conflict and consternation of how to apply the regulations here, but it clearly drove us down the path to where we're at today.

03:07:08
A:
It was also was some interesting interface issues between an octave production facility and trying to do a remedial investigation. Literally, you know, the crews that I worked with, and I was basically the principle investigator on it from, you know, pretty much from the beginning to the end, so I spent you know, essentially my whole time overseeing this thing.

03:07:24
A:
And uh, you know, we've collected hundreds of thousands of samples. Uh, everything that moved or didn't move, we sampled it. In fact, it's probably the most extensive environmental investigation ever performed. I just can't believe, somebody'd have to prove to me that somebody's ever done one more extensive than the one that was done here.

03:07:40
A:
It was done that way because we were first. And we were drivin' the process, and the regulations and the guidance was changing, so we were always playin' catch-up. But it was interesting the interface that when you moved into a, as you moved into the production area to try and do our investigation. Now initially, we kind o' drew the line at the production area, but EPA gradually pushed us over that line, and we moved into the production area.

03:08:00
A:
And here we were, operating three shifts trying to make product, at the same time, you know, we were expected to go in and drill underneath these buildings and find out what was underneath them. So literally, you know, one shift would break and go off, and we'd pull our drill rigs in on skids and start drilling through the floor o' the building. Ah, then try and pull out before the shift came back on line.

03:08:21
A:
Uh, you know, collecting our samples. That caused for some, you know, consternation on everybody's behalf, you know. We're havin' these drill rigs and drillin' through pipes underneath the ground, and electrical wires shuttin' down the site. You know, I don't know how many times we hit things. The drawings were just terrible on the site. And we're tryin' to drill through the floor o' the buildings.

03:08:40
A:
Uh, you know, we're just tryin' to determine the extent of contamination on the site. Uh, but very extensive investigation. It was interesting interfaces with production. And as production ended, obviously, our role became a little bit easier. Tryin' to do the sampling, but uh, it was interesting.

Q:
I didn't know they were doing that at the same time (coughing).

A:
Yeah, it was, it was a trip.

Q:
That's amazing. That is amazing.

03:09:04
A:
You know, drawing wells off the property, trying to get access, uh, that was an interesting evolution of, tryin' to get, you know, private and public property, tryin' to determine the extent of contamination of the site. Uh, you know, collecting, we collected about five to six thousand samples, off-the-site soil samples. We collected vegetation obviously, radon, air, cistern, groundwater.

03:09:26
A:
We uh, went out and collected uh, captured animals and ground 'em up and analyzed 'em for bio-accumulation. Fish, sediments in the Great Miami River, Paddy's Run we scanned the whole thing, sampled, collected samples. You name it, we did it. Uh, and then of course, we had to deal with all that data (laughing). And write those reports, and that was agonizing, but we're through it.

03:09:52
Q:
So how long did it take, ultimately?

A:
It was a lifetime for me, but uh, it took, like I said, it started in, myself, Tim Poff started it, and I guess I kind o' took it from November 1985 until our last, last Record of Decision I believe was issued in '94 or '95. '95 I believe. So it was in '95. '90, yeah. Actually, it trailed into '96 a little bit, so it was, eleven years, eleven years, it took.

Q:
How did the community react to um, ah, no, I mean, your collecting all these samples and those kinds of things?

03:10:32
A:
Again, that was an evolution of itself. One thing that the RI/FS process brought along with it was an obligation for a community relations plan, which was the first one this site had (chuckling) that a

number of us tried to draft up with absolutely no knowledge of how to do something like that. And it also required a regular meetings with the public.
03:10:50
A:
Uh, so, so we started having those regular meetings beginning, I believe, I believe our first one was 1986. And we had it over at Stricker's Grove was where we started. We gradually moved around the community where we had the meetings, but uh, you know, at first, I have to say that, you know, everybody was just relating to what they read in the media.

03:11:14
A:
I mean the media was just blastin' us on every front for everything that we'd ever done in our heritage, you know, I mean. Anybody from Fernald was just dirt. And you know, it, bein' out in the community, you know, it was pretty tough bein' a local. Anybody knew you were from Fernald, they just, you know, just gettin' on ya about everything.

03:11:29
A:
Uh, but you know, the interest was definitely there. You know, our public meetings that we had, the first one, I remember the first one, I was gonna give the status of the RI/FS process. And I, me gettin' up there, thinkin' I was gonna at least try to, at least inform the community a little bit, talk at 'em as opposed to listen to 'em I think, but uh, kind o' inform them of the RI/FS process, what was goin' on.

03:11:51
A:
And I got about three minutes into that presentation before the, the new FRESH group decided to stand up and just take over the meeting, which they deserved to. And kind o' informed me of uh, you know, what their concerns were, as opposed to listenin' to what this RI/FS was all about. And you know, that basically was the beginning of the process, startin' in the, of that public interaction process.

03:12:16
A:
So I'd have to say it was very, very difficult at the beginning. Very, very stressed relations. The question was, "What impact did we have on the community?" That wasn't known, the data wasn't there, and there certainly wasn't process knowledge. And again, there was just this shadow of doubts and suspicion cast over anything we said, 'cause we represented the site.

03:12:38
A:
You know, I was an old NLer, you know, and uh, you know, Westinghouse, and then we had some contractors, but all of us were paid for by DOE to do these studies, so obviously, there was mass suspicion cast that somehow, anything we were doing didn't have any credibility to it. So obviously, there was a lot of working with the local agencies. We were, it was very important for us to maintain, that, that those agencies maintain a tie to the community 'cause that was our only hope.

03:13:03
A:

Uh, so the agencies then, started doing split sampling with us. Uh, commissioned their own sampling per Department of Health came in and did a large study surrounding the facility that confirm our data, and you know, and it proved out very well that it confirmed that our data was saying was actually correct.

03:13:20
A:
And people at that point in time, once I think, started seeing the Department of Health's data come out and it being just a direct correlation to ours, I think that they started listening, and you know, having some confidence in the data we were reporting was real. Now that obviously made a long evolution of things that we had to look at. I mean there was just a, everybody wants to look at something else, and look at it a different way, you know.

03:13:46
A:
So I mean everything changed; where we used our monitors, how we collected our samples, what we used 'em for. You know, there was suspicion on using our labs, so we used independent labs. So the community I think, it took years, you know, beginning in '86, it took three years before I think there was some acceptance that our data might be real.

03:14:08
A:
Ah, and then I'd say it took another, from '89 'til, like I said, you know, '94, '95 before there was a real good bond, I think, established, so. It, it was, you know, that ten years was always difficult. Because we were always coming, the backdrop was, ya here you are studying the environment, you know, again, a massive investigation involved.

03:14:32
A:
You know, I was in every person's house, and yard, and drillin' a well through their, you know, tryin' to get 'em to sign an agreement to drill a well. And, you know, we're out there with drill rigs drillin' everywhere, you know, four and five drill rigs drillin' around the area. Same backdrop to that, you got the paper blastin' us, you got *60 Minutes*, 20, you know, *20/20*, *48 Hours* all hammerin' on us at the same time.

03:14:55
A:
And reporting this data, you know, and tryin' to have some credibility on, on, tryin' to create some credibility and confidence on your data and what you were saying, and trying to at least lay some concerns on what the impact, real impact o' this site was on people. Uh, so you have that and at the same time, you're tryin' to produce materials.

03:15:16
A:
So every day, you know, you're tryin' to gain credibility on your impact, but every day here, you're reportin' a release. Becames, you know, we became fanatical on reporting every time anybody you know, knocked into a drum. Now, I don't want to belittle it, you know, but bottom line, we reported

everything. You know, if a drum tipped over inside of a building. Even if it didn't get out o' the building, we still reported it, and it ended up in the paper.

03:15:39
A:
So every day, or every other day, they were seeing a release o' this, a release o' that. You know, five pounds o' this released, or there, you know. You know, and uh, so it was very difficult to maintain that balance and credibility, 'cause you're the same group that's both operating this plant having continued releases at the same time, you're trying to communicate data and impact, and gain credibility on your data. It became very, very difficult.

03:16:07
Q:
That's interesting, you know, that all that was going on at the same time. I don't think anybody else has really said that to us. You know, that it was all producing and RI/FS, and you know, all that at the same time.

03:16:17
A:
Yeah, data. Data coming out. You know, RI/FS being done, sampling, and. You know, it was always a concern is where's the, what was the environmental conditions? Not only that, you also gotta put in the backdrop here is that we were producing, not only were we producing, we had a $2 billion improvements project to rebuild the plant. So we were re-permitting, re-building, you know, new tank farm is going in, new production systems are going in.

03:16:41
A:
So the public was looking at, you're studying the environmental problems in the legacy, which was all coming out in the paper, the pits, the plumes, the, you know, air contamination, surface water contamination, the silos. All that stuff was coming out, on the backdrop of releases every day, plus these guys 're out rebuildin' the plant.

03:17:01
A:
You know, we're out there every, every, you know, every inclination is that we're gonna double our production. You know, 'cause we're hirin' like crazy, to try to staff, and we're addin' shifts on production, and we're investing $2 billion into the plant. That's the backdrop, and now you guys 're out tryin to maintain some credibility on cleanup.

03:17:20
A:
(Hits his fists together, knuckles to knuckles) And that's, all these things just came together. And it took the July incident of shutting it down, and then the gradual evolution, and the name change, and the permanent shutdown of s-. After that point in time, everybody's focus got on cleanup. You know, I was always focused on cleanup, tryin' to apologize for the rest and tell 'em.

03:17:42

A:
You know, try not to tell them, but work with 'em and try to understand how these things interacted together. But it was difficult. Ah, but you know, once we went to permanent shutdown, my mission became a lot easier on the RI/FS. Not only because everybody was focused. Not everybody inside the plant wouldn't understand what I was doin' because you know, that was the only mission that was left.

03:18:00
A:
And uh, you know, before, that nobody cared about CERCLA or anything. You know, that was a production mission. We were rebuildin' the plant. Nobody cared what I was doin' over in the corner with my contractors drillin' all over the place, collectin' samples. And all of a sudden, it became the focus, and everybody started tryin' to understand what was going on.

03:18:16
A:
And that, that really became apart, then that, then everybody had a single voice at that point in time. You know, we're all speakin' the same thing. Focused on cleanup, focus on what the data was saying, what the impacts were, and what the future was for the site. And so it became a lot easier after, after '91. It took us a few years to get absolute confidence, but we got there.

03:18:35
Q:
(Coughing) Great. (Comment: Watch your cough.) Thank you. (Comment: Cough break!) All right um, so what do you think is the biggest cleanup challenges that're facing Fernald in the next couple of years?

03:18:50
A:
Well, I. If you look overall, there's technical challenge and then there's other challenge. I mean the most significant issue is logistics. You know, we have a $4.2 billion cleanup project that's being done on basically 135 acres. You know, everybody wants to execute their project on their schedule within their area on, you know. And that becomes very difficult interface issue.

03:19:11
A:
So the most significant challenge is just the human element of interaction of people and projects, not trippin' over each other. And that, everybody's desire to meet their schedule and not impact the next guy, so it, it's a constant interface issue is, that's our biggest challenge, and then maintaining, you know, maintaining schedule through those interfaces is our biggest challenge.

03:19:33
A:
Now technical challenges, you know, we don't have a whole lot o' high-techs goin' on, you know, stuff in our cleanup here. You know, not that there isn't some elements of it that're fairly high-tech. It's mainly we got a, but we were a plant that was in the beginning of the chain like we talked. The first guys, so we have the, we have a huge bulk of contamination.

03:19:51
A:
You know, two billion mat-, pounds of material came through this site. 500 million pounds of it were pure, peeled off as product and shipped out o' here. Now we're, yet to be shipped. I got about 4.4 million pounds, I think, left of inventory. But that 500 million pounds was carved and left. What's left behind is 1.5 billion pounds of material was left here. And that's what we're, that's what the scope of

our effort is.

03:20:13
A:
It's either in the environment, or in the pits, or in inventory, but it's here. And we gotta deal with it. You know, so our, the technical challenges are the volumes. You know, it's consistency, getting a consistent approach and working through it. And then, you know, as far as technical, I'd say, you know, the real technical challenge probably would be associated with the silos and the concerns surrounding it, the direct penetrating radiation, the radon.

03:20:38
A:
The pits have somewhat of a challenge, but you know, to be truthful, the technology being applied there is not real high-tech, so I don't think there's as much a high-tech technology challenge other than some o' the robotics that'll be needed for the silos. I think it's more logistics. You know, day-to-day implementation. This is not a "pick up the ball and run it to the goal line break-away."

03:20:58
A:
This is a day-to-day, execution, large volume, and that's a highly prescriptive set of controls. And uh, they gotta be followed. And that's kind o' the, that's the future, that's the challenge.

03:21:15
Q:
Great. Now they're tearing down buildings pretty quickly, and uh, there's been a lot of discussion about future land use. What would you, personally, like to see done with this thousand fifty acres once Fernald is gone?

A:
What would I like to see done? I, you know, I, I guess I had my ability to participate in that process. Being, you know, I was kind o' leading the effort for, at least for Fluor's side, on the Operable Unit Number 5 RI/FS, which really drove this whole decision. They set the cleanup levels, and it really basically helped set the strategy in which became one of the cooperative working with the community.

03:21:51
A:
I really got my two cents in there. I, I guess I always felt it was best for this site to be somewhat of a park, undeveloped park. Uh, I guess I had always kind of envisioned that. The most development it would ever get would possibly be a golf course, or a cemetery or somethin' like that. But the cemetery is probably pretty out because you're above a sole-source aquifer.

03:22:12
A:
But, you know, I always thought either a golf course, would be the most developed it would get, but backing off from there, I always figured that something like an undeveloped park would probably be the some sort of natural resource, reserve. So right now, the tendency is to move toward that, so I'm happy. I think that's where it belongs, because, there's a lot o' things that come in my mind that play on that.

03:22:34
A:
You know, I know we've set our cleanup levels, the cleanup levels would be protective of much more uh, intrusive uses by humans. Meaning that, you know, you set up your cleanup levels, all these things have to be equal, land use, cleanup levels, they all gotta be equivalent to each other. We've, you know, we have cleanup levels that I think will be, would be protective of a future resident farmer.

03:22:57
A:
Uh, but back of my mind is always the suspicion of, you know, you always have to do, you always gotta do statistical-based sampling to figure out what's there, and that you've cleaned, you've actually attained your cleanup levels. The question is, you know, what have you missed? You know, you've got a thousand fifty acres, is there something that you're gonna miss?

03:23:14
A:
You know, there's always that threat. Now obviously, we're tryin' to do our damndest usin' real-time detection instrumentation, type sampling frequencies, to pick it all up. But the question is, "What did ya really leave behind?" And then the future is, "Did we really, is there gonna be forthcoming information in the future about the characteristics of this contaminant that would render it to potentially in the future be deemed you know, potentially more detrimental to humans than it is today?"

03:23:40
A:
You know, it might go the other way. They might cure cancer and, you know, they might open the cell up and spread it all back over the, you know, rebuild the place, I don't know. Uh, but you know, my tendency to think is that's not gonna happen. I think it's gonna go the other way, and therefore, why not guard, why not guard on, you know, be on the safe side on this, uh, and let's, and let's develop a land use which would you know, tend to limit the amount of exposure people would have.

03:24:10
A:
An undeveloped park would be the absolute limitation I think you ever could do. 'Cause even if you were to put a fence up around the place, ultimately, you end up with an undeveloped park. I mean people're, they're never gonna pay attention to that before too long. How many generations down the line before the fence becomes irrelevent?

03:24:25
A:
Uh, so, you know, I think, I think if we concentrate on propietary institutional controls where DOE owns the property forever and exercises their rights as owners to kind o' try to keep it undeveloped, I think that's probably the best that we can do. And I support that. And as far as access to the site, I, I'd say limited access. I can see, I can see walking trails; I can see a, you know, maybe a bike trail.

03:24:51
A:
But I don't see active picnic areas and things, I just. You know, it's not, I just couldn't see bringin'

my, if I got a choice between goin' here and Miami Whitewater with my kids, I'd tend to go to Miami

Whitewater because you know, it's, I've seen the data. You know, I know the extent of contamination. I just tend to think that there's gonna be, we're probably end up leavin' somethin' behind.

03:25:11
A:
I just, with that, I'd try to like to minimize the potential for human contact, so that, that's my opinion. So I like the way we're goin' right now.

Q:
Great. Is there anything you'd like to add, anything that I didn't ask you that you wanted to get across?

03:25:27
A:
No, I, you know, I think overall, I, I think, one thing I'd like to do is to certainly compliment, you know, all the people I've worked with over the years here who have really added a lot to this process, and I think there's been a lot of energy, especially in the early years, you know, a lot o' people got missed.

03:25:44
A:
You know, it's probably begins to trend to compliment some o' the NLOers. You know, they kind o' left here under a cloud of disrespect, and you know. I tend to look back and look on it, and they did a good job. I mean, if you, you know, that era did, they did what they felt was the right thing. You know, and they operated this plant for well, basically from 1952 until 1985. They did a very good job.

03:26:14
A:
They uh, they weren't completely disrespectful to the environment. That wasn't their intent. They were operating on a certain connotation of what that material, what hazards it presented, and they, they tried to operate within the bounds o' that. You know, perhaps during the later years, they lost some respect for the nature of the material they were dealin', I don't doubt that, and I think that's probably true.

03:26:34
A:
Uh, but I think overall, they were pure in their intent. Uh, they, they were focused on national defense, and I think they did a darn good job of it. They were all locals, it wasn't like they were a bunch o' people flyin' in and out from someplace. These're all local people who grew up in this community, they weren't tryin' to harm the community like, there's suspicion of, you know, from a lot o' people.

03:26:53
A:
I think that they were just good, hardworkin' people that did their job. And I think that uh, they tended to get slated a little bit, slighted a little bit by the process and the timing of things. And uh, think

overall they did a good job. They produced a consistent quality of product for those 32 years, 33 years. In fact, they had the cheapest priced uranium in the world for basically 37 years, and the highest quality.

03:27:18
A:
Nobody in any private industry, could ever, nobody could touch that. Thinkin' a government facility could do that. Now obviously, we have a legacy from it that has to be dealt with, but a lot o' that was not created as a result of just uh, total disregard for the community. I think it was done because, you know, I think in the early years they thought they were operating within the bounds of what they knew.

03:27:39
A:
Things changed, regulations changed, information, science changed, and information was gained, and the regulations changed. And as it changed, it was a sleepy little plant that was, you know, it was kind o' shielded from reali-, you know, from that part of it, and I don't think they necessarily changed like they should've changed. Uh, you know, NRC and others were movin' quickly ahead I think some o' these DOE plants got left behind.

03:28:01
A:
So I don't think it was out of, out of total disregard for the public or the environment, I think it was out of uh, just lack of knowledge, and some lack of respect for the materials that they were dealin' with. Anyway, I think that's one thing that needs to be said. And the last thing would probably be that I think the community has hung in there pretty well.

03:28:21
A:
Uh, I have to compliment Lisa and Pam and, you know, goin' all, Edwa, you know, Carol, goin' back all the years that time and energy that they have put into this place is remarkable. I mean they, you know, I can, starting with, you know, myself ringing doorbells back in '81 to go ahead and collect samples from wells. The time that they have invested in this, from then through the beginning of the chaos in '84 and the public meetings, they were the constant.

03:28:48
A:
You know, I don't care how many meetings we had in a week, they were always there in a common thread, and I just think they just put a lot o' energy, and there's a lot of credit ought 'o be given to them for any cleanup, because they drove it. You know, the EPA's drove a lot, but I think the community drove self-regulation issues to where it ought 'o be, and where it is today. So, that's my, I think that's about it.

Q:
Great. Um, you wanna get nat sound? Let's just roll off some nat sound, which just means that we need some quiet on the set for just about 30 seconds. This is nat sound.