120020 Interviewer: State your name and where you're born and a little bit about your personal background…

120028 Bob: Sure, yeah. My name is Robert Tabor and I go by Bob, you know, Bob Tabor. I was born in Harrison, Ohio. And I have lived there pretty much all my life with the exception of a few years in my early, my late teens and my twenties. I have always stayed in vicinity. I have some exposure to living in greater Cincinnati. But Harrison is basically my hometown, the country I grew up in. So I have been somewhat close to the vicinity of this site. I am employed at the Fernald site and I have been employed there since 1981. I became employed there as a millwright and that is currently my status, I'm a journeyman millwright by trade. My activities kind of spanned across the board into other realms other than just performing in my trade status and my classification. I'm a labor leader inasmuch as I'm a member of the Fernald Atomic Trades and Labor Council. Early on in my career at Fernald, somehow I got engaged in labor affairs. I have held different offices in the labor organization. I have been a trustee for a number of years. I was a trustee for the Fernald Atomic Trades and Labor Council. I've held the office of financial secretary and treasurer for a few years there. I have also held the position of director of health and safety for the Fernald Atomic Trades and Labor Council, better known as safety chairman. And I have served on a number of the committees throughout, you know, the Fernald company, so to speak, over the years, still participate in a number of committees there. I'm extremely active in the safety arena, and I'm on a special assignment and have been probably for the last, I am going to say and just guess 8 years plus, maybe even more, late '80s, probably even longer than that. I got involved as a wage person basically working in what would really be more of a, some would consider it a salary function, but it was an effort by the company to integrate labor into what you might say participating in, you know, management functions, a better way of doing business. And was selected to work in our Total Quality Management department and under the direction at that time of Bob Kispert. And I have transitioned in and out of that world a few times. I left there and became the safety chairman for the Fernald Atomic Trades and Labor Council. And then leaving that position, got back into support work, basically supporting our work groups, safety work groups over there in that particular concept, in that particular entity. That took me back into the TQM world again. Currently I am a part of the Enhanced Work Planning and Total Quality department, attached to that department. That's basically my 40-hour a week assignment. Other than when I have the opportunity to work over time and I literally end up picking my tools back up. So, I have an opportunity at this site to kind of straddle the fence of getting a good understanding of management functions, labor integrating into those particular functions, working with the projects, the development of those projects and the plans in the remediation world. Uh, I have also been fortunate, I guess because of my background, of having a good understanding of management functions as well as the labor functions, and being able to still maintain doing some hands on, and having a good feel for the real world, you know, where the rubber meets the road, so to speak.

I have had the opportunity to integrate into a lot of the public functions such as I am a member of the Fernald Citizens Advisory Board. I am also a member of the Fernald Community Reuse Organization. I have actively served on a number of the Fernald Citizens Advisory Board Subcommittees. Currently there is only one, which is the stewardship committee, and I am active in that. I have had an opportunity to be active in the Fernald Living History Project since

its conception and try to stay, you know, active in that particular arena. So most of the immediate public functions that basically have, you know, have a great deal of influence or input upon the decision-making and direction of the site overall, I have had the fortunate opportunity to participate, you know, at that level of what's going on as far as with the future of the site. But when I began my career at Fernald, hiring on May 11th of 1981, I came on board strictly as somebody very unknowledgeable of the site. And I just basically was working with my tools as a millwright.

120636 Interviewer: Let me take you back before you were employed at Fernald. Tell me a little bit about just when you were growing up, what were some of the things you thought you might do when you grew up? Who were some of the heroes that you had had either in popular culture or sports or …? What kind of a sort of work profile that you think you may be getting into as an adult when you were young, first out of high school or even younger?

120711 Bob: Well, that's interesting you should ask. Yeah, the community I grew up in was a basically not large, that community, it was a small community. Uh, you went to grade school in that community and basically you were the most part only familiar with your classmates and maybe a few other folks around you. And almost all of your classmates were people that were, lived close by in your community. People maybe that in your younger years that you might say were your playmates or what have you, were probably people that lived just close by, within a few blocks from where you lived. For the most part almost your entire class was local, and this was one to the types of communities where you practically could have walked to school. There still wasn't a lot of bussing that was done, you know, out in the country at the time. Uh, one of the fellows that was my classmate, his name was Charlie Nelson. And Charlie's father, Don Nelson. It just was uh…the Nelson's, along with a number of my other classmates, we not only grew up in the same community there, but we also went to the same community church, and Charlie's dad was Plant Manager of Fernald. Which was quite interesting inasmuch as at a very young age he had an awareness that there was an atomic plant, you know, nearby. You might not know the exact location of where that particular plant was, but I thought it was interesting that Charlie's father was, in fact he wasn't very sure what his position was but, you know, later on he came to find out that he was the plant manager at Fernald for uh…let me see, I guess it was National Lead of Ohio at that time. Then one of my best friends, who lived just up the street from me, was also in my grade school classes, his father worked at the plant. So there was some familiarization with some of us young kids, about the fact that an atomic plant, you know, was in the vicinity. But the fact that I guess simply due to the nature of the business that these plants were in our national security, nobody really knew anything about what went on over there. All that you knew was that it was an atomic plant only because your parents or friends' parents, you know, worked there. You really didn't know anything else, period.

As a young kid, I was somewhat of a dreamer as far as what I thought I might want to do in the future. I was always, liked aviation, and really had a yearning to somehow get involved in flying some nature or other … Planes and aviation was my fantasy as a child as well as a big hobby of mine. Did a lot of model building, that type of stuff and had a natural knack for, you know, mechanical aptitude. 'Course my dream started to dwindle away a little bit early, early on 'cause I figure around probably eight grade or my freshman year, my eyesight begin to get a bit

distorted there and I had to begin wearing glasses. And, of course, back in those days it was always well if you didn't have 20/20 vision you couldn't be a pilot. So you know, those dreams kind of faded away and I guess my direction of interest began to change a little bit. As far as interests as a kid, I was really big on guns and hunting. Those were natural interests of mine. I liked things like fishing, sports to some degree, and I had a relatively natural aptitude towards sports, things like hunting and fishing and mechanical applications. So I think the fact that most of my family as far as my genetic family and a background of folks were basically involved in…what will we call it…uh… they were lay people, you know what I mean? They were welders, millwrights, mechanical type of people, trades people. Uh, I grew up in a family though that basically, my stepfather, my entire family leaned more towards the business world. It was a little bit of a different environment. My natural aptitude was probably reflected a lot by what my, you know, background was genetically. The environment that I grew up in led me into more the business world, and the white-collar world. I was fortunate enough to get an excellent high school education. I went to a prep school, military prep school, and college after that. Uh, went into the Marines when I was about 23, thereabouts, get out of the Marines just served regular tour of duty, and got out of the Marines and got married. And continued going to school, and working at the same time. Began raising a family and then I got consumed into trying to make a living. And I basically worked for a number of large corporations, companies like Allis-Chalmers, Revlon Corporation, let's me see here, Alkon Laboratories, Procter and Gamble, American Cyanimid. Over the years, my early years, you know, probably my late twenties through my thirties, or mid-twenties though my thirties, I spent a good portion of that time in management type of functions, mostly in marketing, sales and things of that nature. Pretty much got tired of what I call the middle management rat race. I went though a number of companies, never ever getting laid, you know, never ever getting fired from any of those companies, but a lot of those companies especially in sales and marketing areas, when they change their national sales personnel or change higher-up management levels, it seems like the spin off is that levels, you know layers down either get laid off or they bring on board a number of the folks from previously where they were employed. And in my mid-thirties I kind of woke up and realized that this was taking me nowhere because I was really not able to plant my feet, you know, in any place. And I went through what a lot of American families go through, I got divorced in 1974. Changed from about a 30, 35-thousand-dollar–a-year job to about a 14-thousand- dollar-a- year job. I started driving a dump truck in 1974 in a gravel pit, and got back into the layman's type of work. I worked for a company that laid a lot of pipeline, I did a lot of excavation and construction type of work. That led me into some other areas of endeavor, eventually went to work in a steel plant as a pipe fitter. The plant closed and I got laid off. I went to work down South in the area of Charleston and Savannah as a iron worker and I guess basically my background and mechanical aptitude led me into areas that were where I found a comfort level of working. So things like pipefitting and doing steel and iron, that type of things, were somewhat natural or, you know, came easy for me.

121615 Interviewer: How did you find out about a job opening in Fernald, you said, like 1981, and how did you think about that in terms of your earlier experiences with folks that worked in some place called an atomic plant? What did you think about that?

121627 Bob: Well, I never gave it that much thought quite frankly, at the time. How I come by pursuing this job here was just really kind of a, it was just out of the clear blue. I had been down south working as an ironworker and didn't like the fact that I had been almost out of town for a year trying to make an income. I was really trying to find myself, you know, a good wage job in the area, you know, and I really did not want to get back into sales and into middle management functions in some corporation. I just basically wanted to try to stay in the trade field if I could. My dad told me about some of the folks, he used to work at Dolly Madison, and uh, he told me about some of the folks that he worked with, uh, who were making applications out here at Fernald. I gave that some thought and he said, "Why don't you go out there and put in an application?" I said, "Well, I did not know they were hiring and I'll just do that." So I was on my way to make application out here and one day I stopped by my best friend's house in Harrison, the Siegleman family, and I was talking to Dave and he said, I told him that I did not have too much time. I got to go over to Fernald because I had to put in an application over there. And he says, "Well, my uncle works over there," he said: " let me give my uncle a call." It just turned out to be that, his uncle, I'm not sure what he did at this particular time, I think he was involved in something that had to do with accounting with the company at that time, and I really didn't know if there was any jobs available but Dave knew what I was interested in. So he called his uncle up and it just turned out that his uncle had just had lunch with one of the foremen who was in charge of I guess basically, you know, running maintenance out here at the Fernald plant. And so he just basically put in the good word for me. I came out and had an interview with the Human Resource Manager at the time, Homer Bruce. And you know, I mentioned a few people that I knew, my background and some interest I had in the plant. They asked if I would be willing to take some aptitude tests, they didn't have any openings for pipe fitters, but they had some openings for millwrights. He spoke with the maintenance foreman at that time and indicated to him what my, you know, background and aptitudes were to determine whether or not, you know, he would be willing to look at me as hiring me on as a millwright inasmuch of the background work that I did was that of a millwright, but under a different classification, you know, where I worked previously. So I went ahead and took their millwright tests, and I guess I scored relatively well, and that led to an interview with their maintenance foreman and an additional interview with Human Resources. Then they made me a job offer and I was really happy about that 'cause I thought, boy, next week I would be able to go to work. But what I didn't realize was the security clearance and all the paperwork you had to fill out for that. That's when they informed me it would be another nine to thirteen weeks before I'd get hired. I just simply told them that I couldn't wait that long so I had to go back south and pick up where I left off as far as iron working and, you know, having some income. But I did indicate that, you know, when the security clearance came through, if everything was still okay, I would be willing to still look at a job offer. So I went back to Savannah, Georgia and continued working as an ironworker. And one day I got a call from my mother and said that Fernald had called and wanted me to report to work on a Monday, on May 11th 1981, and I think that I got that call on a Thursday, and I just told my foreman down there well I was dragging up. I packed up my goodies in my little Volkswagen and came back to Ohio and started to work on a Monday. That's how I got involved, you know, out here. It was just by chance, through others being hired, and in fact that the fellow that my dad told me about was going to be hired out here, he and I literally started the same day, you know, and so it was just a follow up lead from other folks that I knew that worked elsewhere. So I've been here since 1981.

122120 Interviewer: Can you tell me a little bit about your early experiences out here including what kind of security briefings that you might have had. Sort of the sights, and sounds, and smells, and atmosphere of a real active plant in the early-to-mid '80s. It's a lot different now. It's kind of quiet. There's clean-up activity, but I imagine it was a lot different in the early to mid '80s in terms of the numbers of people, the sights, sounds, smells, experiences. Just a little bit reflection on that including what kind of initial security briefings you might have gotten.

122157 Bob: Well, I can't recall specifically what they might have said back then. You had, I think by the, from the length of the security application and from what they told you would take place because they kind of forewarned you that ... I'm gonna make the assumption that some department of the government, I am gonna assume that it was probably the FBI or a division thereof that does some really heavy investigation, that they would probably be talking with a lot of people that I knew because, I mean, you had to really, really go back in your security application where you went to school, who your teachers were, who your neighbors were, where you lived all your life, uh, uh, relatives, friends, I mean, they wanted to know just everything about you from the time you were born.

122258 Interviewer: How did you feel about that?

122301Bob: Well, I felt that that's really a hard number to, you know, to recall with that kind of information. And I thought , Jiminy Christmas, you know, I mean these people gonna, would be out there trying to, you know, uncover, turn over every little rock that you've got. And uh, you know, you always, maybe some folks have in their background things that they would not want to be revealed. Fortunately, I never had any bad experiences that way that I worried about that too much, but I just certainly began to get somewhat of the perspective about, you know, this was a high profile type, you know, of a job. To take thirteen weeks to check you out is a long time, and especially as you're getting checked out people making phone calls and wanna to know why those people came around to interview them and stuff like that. So, yeah, whoever was hired to do the security clearance, I know that was another branch of the government. Those folks would go out there and did go out there and they spent a lot of time talking to relatives, friends, strangers, you'd never ever think that they would talk to that knew you to confirm a little bit about your background and see if whether what you have in your application as well as what they discover about you would in fact qualify or disqualify you as a potential employee as far as a risk of security. At that time we were still, I guess, developing materials for the nuclear weapons complex, which you weren't quite sure still at that point, you know, in your career how Fernald fit into the works because they didn't give you a big explanation that Fernald was just one of many plants, and this part is what we do here and stuff here go some place else and this is all it's about. You just knew that you were going to work at Fernald and you're gonna be checked out from A to Z and if you weren't squeaky clean they didn't hire you. That's kind of an interesting thing because back in those days the basic kind of issues that plague a lot of work forces, you know, being in that business today, you didn't have a lot of the kind of stuff went on in another industry. You know what I mean? You didn't have things like drugs to worry about in your work force. You didn't have things like, you know, a whole lot of alcoholism or family problems. You know what I mean, your workforce is pretty squeaky clean when they hired

them, so you might say your work force is basically somewhat of a high caliber work force as far as the human nature of the individual goes to begin with. And everything was kind of tight lipped. You really got to know more about what went on in this plant mainly after you worked here by simply understanding what the functions of the plant operations were. Uh, as far as security goes, they had informed you when you were making an application that those things would take place, as far as talking to neighbors and friends. And when you came to work here there were some basic instructions as to some understanding of what was expected of you, and you went to work. Uh, you basically were expected to somewhat stay in your area, you know what I mean, and do your job. And there was quite a bit of hands-on training in that perspective. Things were nothing like they are today or like they began to become in the late '80s. I mean there was minimal training. You didn't have near the high level of training that you have today with respect to safety. I don't recall getting anything like lock and tag training back in those days. You just hired on, and somebody basically showed you the ropes, you basically were expected to know the functions of your craft line. Somebody worked with you for a while so you got to know what the equipment was that you might be working on, you know, how to make those repairs. And then of course it was up to you basically apply, you know, the skill of your trade in doing that and ...

122805 Interviewer: When you say you were millwright in that kind of initial position, what were some of the types of production activities that you directly worked on there in the early years as what you are calling a mill rite, what was that?

122820 Bob: Well, a millwright is not a pipe fitter, which means that I do not do piping systems. A millwright is not an electrician, and that is self-explanatory. Electrician handles electrical stuff. . A millwright is not an instrument mechanic, who does instrumentation type of work. Uh, he is not a carpenter, obviously, somebody who works with wood or things of that nature. He basically does somewhat everything else. He is somebody that handles heavy industrial equipment, conveyers, dryers, processing types of equipment, mixers, tanks, metal fabrication, duct work, most your industrial equipment, reactors, uh, anything that is usually a heavy piece of equipment uh that needs repairing is basically what a millwright does. You do a lot of fabrication, assembly work, of that equipment, disassemble that equipment. Handle pumps.

122944 Interviewer: What sort of proximity or handling did you get involved with …. **(tape cut)**

130015 Interviewer: What were your feelings like the day they did the temporary shut down?

130030 Bob: OK… (Interruption by Interviewer)

130036 Interviewer: Yeah, my question about did you have access to or proximity to what we may call hazardous or radioactive materials, what, what did you…?

130044 Bob: Oh yeah, right. I have been very fortunate over a long period of time to be involved in what you might say, gaining a considerably better understanding about the nature of this business, you know, having been in it for a while. As the evolution of what went on at

Fernald, as Fernald evolved from production days into basically stopping production and moving on to the remediation field, I had an opportunity to basically get involved in a lot of, I would say, I won't necessarily say, the sciences. But I was fortunate enough to be in a position to get an additional education, to get additional exposure as to environmental hazards and things of that nature, and get a better understanding of the materials that you were dealing with over the years and what those hazards were because all of a sudden we went from this is the way we did these things in this environment then, this is the way you are doing things in this environment now and it's a far cry from what it was. But yet the materials are still the same and you wonder why are you doing it this way today as opposed to why you did it that way then? And through this span of time you had the opportunity to say wow, you know, these are the hazards of those materials which back then you were quite unaware of.

130234 Interviewer: Can you give me an example of one kind of material that there was some kind of significant changes and practices?

130239 Bob: Sure. You know it was a routine thing working as a millwright. When I first came on in May, my first thirty days I worked with somebody, very close with another millwright, learning, you know, learning the ropes. Where the plant was, maybe where I was going to initially begin to work, the kind of equipment that they had there, some of the stuff that would be commonplace as far as fixing something. But other things required, you know, specific knowledge of that piece of equipment and to learn a little bit about it with somebody who might be mentoring you doing some OJT (on-the-job-training). And one of the first plants that I began working in was Plant 4. Plant 4 was one of our, I would not exactly call it a refinery, but it was a transition plant from taking what we did at this plant on the chemical side of the house over to the metals side of the house so to speak. Understanding that this basically was a uranium processing type of plant. In Plant 4, they received the materials predominantly from Plant 2 and 3. And they began a conversion of taking the orange oxide as we refer to it or yellow salt, whatever you want to call it, yellow oxide, and converting it to green salt. Which basically was a final chemical form of the uranium before it literally was reacted, or if you want to say smelted, you know, out of the form that it was in into a pure metal form. Plant 4 was a plant that was a…at one time I think had up to 10 banks of reactors, you know, it was a huge building that had a large bay in the middle. From the ground floor up it had four floors and the building was built around this big square open space in the middle of this building. And on one side there was a bank of five, as I recall, five reactors that had various stages to them that ran from the top floor down. And, over in the other side was a bank of reactors. Like I said, I recall five each on each side. The time I hired in, in '81, they were not in full production like they were back in some of the early years. They were in production you know 24 hours a day. And I, it was obvious to see that it was a busy place when I hired in and they were only using three of the reactor banks. I used to think, "My God, I wonder what this place was like when they ran all these simultaneously." It is the same way over in 2 and 3, they had a number of mixing pots over there, your boil-down pots. And I think they would operate three or four of those, and I believe as I recall, it has been some years and I think they had a set of 14 down there. Two sides of the building and one section had seven each. Now, I maybe wrong about that but that is what I think that I recall. But at the time we hired in they were only using probably about little more than one third of what they used to in full production. They run three banks, reactor banks in the primary

reactor, and talcum (?) in A, B, C level. You know, it has been a long time, that was in the early '80s and here it is almost 20 years later. So, there are certain things I don't specifically recall right to the details as what it was while I was hands on working.

For the most part, Plant 4 was a conversion from the chemical side to the metal side. There was some, a lot of ammonia, in the process of converting these materials, that was introduced into the reactors. There was a lot of hydrogen fluoride. This was a building that, see it's behind up there? The tall building was Plant 7, and the one directly behind it to the right was Plant 4. Will you see those two bays of lit up windows there and two little spindle vents on the top of it. And it was Plant 4. All those windows were fogged up all the time. You couldn't see through it. The other buildings you could, the window panes were clear, you could see though them. The window panes in 4 were always kind of foggy, looking like the kind of glass that was just frosted. Well what was that from? You know that was always your first question. Boy, what has made these windows so you can't see out of them? Well, that just happens to be the nature of the atmosphere that inside over these years caused those windows to become frosty like that was HF, hydrogen fluoride. And as you know fluoride has an etching effect on glass. That's just one of that things you learn from high school chemistry, I mean, if you retain it. So you were dealing with some pretty dangerous materials, like hydrogen fluoride, let alone, you know, not really having a whole lot of awareness about concepts of exposure. Back in those days the word exposure didn't mean a lot. Routes of exposure, you know, like inhalation, ingestion, skin contamination, those were just terms that you never heard at all. So you didn't think about the fact that the stuff that can be in the air, even though you didn't see it, you know, the microscopic particles you could have been inhaling stuff that can be harmful to your health, either immediately harmful or possibly harmful or later on having some latent effects health wise.

You know, I like what I did. I always enjoyed the challenge of a dangerous atmosphere. I know when I worked in a steel mill probably it was one of the nastiest jobs that I've had in my whole life, but it was one of the most challenging jobs and was one of the jobs that I liked the best. I guess mainly because there is a certain sense of adventure of trying to outwit, you know, the machinery and keep it a rocking and a rolling, so to speak. Of course, it is always a challenge to stay alive in an atmosphere like that you know…don't get yourself in a situation where you could get really, really, hurt and maimed for the rest of your life. I had a number of close calls when I was in that industry and I was kind of glad to be out of that industry. As dangerous as that industry was, you know, there was always a challenge. I guess that same spirit carried over with me, you know, when I came to work at Fernald. You know there was a challenge here, trying to keep this process equipment in tune because your job in maintenance was to keep them online and to keep downtime to a minimum. It wasn't long after my first thirty days, and I got bumped out of that shift by somebody who worked second shift. They had seniority rights and the next thing I knew I was working second shift. Second shift had a very minimal maintenance crew. But the challenge of keeping the equipment going and being able to do a real good job at it, it was interesting. There were some things that you got to know about because as you performed your work, others who had years of experience on you would tell you about those dangers. There was a level of safety. If you had to go in there and wade around in acid, obviously, like a floor with was covered with some kind of product that would literally eat your shoes up, or something in that effect, you know. They weren't so naïve back then to say, hey

wear rubber boots, you know, it was just basic common sense. Wear these gloves. Respiratory protection was not something that was readily evident early on in the production years. I came along in '81, and it wasn't too long after that and you began to see people begin to wear respirators. I don't recall, but when we first began using a lot of respiratory equipment, even though we were still in production, we hadn't reached the day and age where the radiological controls were being maximized. They were very, very minimal. That's not saying we were dealing with a science and did not know something about it. It's just saying that a lot of the kind of things that apply as controls today environmentally, relative to the environmental laws, these types of operations back then were exempted from them just like these plants were exempted from OSHA regulations. I mean you, you know, were working in a high security, a profile, and a business that the government had a nice tight little net around those operations and all your other government agencies just simply kept their nose out of your business. And so you know, you weren't in the business of trying to kill people, but you were in the business tying to make production and make schedules and make a high quality product. As you performed your job you got to know a little bit about things. You know hydrogen fluoride is not a fun type of thing when you inhale it. Scrubber pumps, wet floors, two or three inches of stuff on the floor, that possibly is pumping solutions that scrub your off-gases that had hydrogen fluoride in it. Those particular solutions, they're a little hard on the body if you came into contact with it. A lot of your off-gas products. Getting into bag houses, dust collectors, a lot of the oxides when bags would bust, you know, the clean side or what was normally the clean side of your dust collector. You know, you have a lot of oxides.

131413 Interviewer: What was being collected in those bags?

131414 Bob: Those usually were off-products, the oxides of things that you produced in order to keep these things from directly going to atmosphere. A lot of companies had bag houses or had dust collectors, if you want to call them. I can remember when I worked at the steel plant, as environmental laws began to hit industries, you know, in somewhat the late '70s and early '80s about emissions. Companies had them, but they weren't well maintained. And then eventually, you know, because of emissions, a lot of companies they began to, I guess, pay some attention to those things. I think at Fernald they basically understood why they had them in their system from a design perspective. And for the most part I think that they maintained them, but not to the level that they did later as to the level that they did earlier. Because I truly believe that production drove the system. If you got a hole in the bag and it wasn't too bad, well, you know, you just kept on going until you couldn't go any longer and then you really needed to shut down. 'Cause a lot of times we would go in and clean these bag houses or clean the dust collectors or replace the bags in the dust collectors, there was a lot of the product that was on the clean side of that collector that, you know, should have stayed on the contained side of that dust collector. And you could see obviously that they waited a long time before they changed those things. And any time you are getting leaks, or breaks or holes in your bags and dust collector and you are breaching the system, even though a lot of that material oxides being of the metallic nature and probably oxides of, you know, of a uranium, those things are somewhat heavy in nature, a lot of it would still be in the bag houses or on the floor and obviously you'd had an opportunity for that that stuff to be vented to the atmosphere as well. And that was never one of the fun things to do. I never much really liked working in the dust collectors because usually it was nasty dirty work a

lot of potential for airbornes, really confined spaces. Some of the design of those dust collectors, they weren't amenable to really doing the work easy, sometimes very difficult installing some of those bags.

131709 Interviewer: You mentioned that you remember you had some close shaves working in the steel business. Can you recall an instance or experience where your adrenaline kind of went up when you were at Fernald, and you went, "I better back off." Or there's something that was a little at risk above the norm.

131727 Bob: Yeah, I can say I've had a couple that I would consider to be experiences that I would not want to repeat at Fernald. I recall working at Plant 4. Without going into a lengthy discussion, you know, of exactly how the process worked, a lot of the gases and a lot of the things, the chemicals that were introduced, and sometimes when I say chemicals, it does not necessarily mean they were liquid. But they were either ammonia, gasses, or hydrogen fluoride, you know, liquid turned into some type of a gas introduced into the system when you're reacting the oxides to take them to a another form, UF3 to UF4 or whatever.

131827 Interviewer: UF means uranium fluoride?

131830 Bob: Yeah, uranium fluoride, or uranium hexafluoride, there was various processes. I wasn't into the chemical dynamic, so to speak, of, you know, exactly what the processes were. All you know was you were getting yellow cake from Plant 2 and 3 and they were here and there and they were reacting things with it. The product that came out through the system that went into the hoppers down here was something else and then it went from here to another plant to start another chain in the evolution of the final product. But in Plant 4 there was a term called "seal hopper." And basically part of your system, the product that you had, and where the product went. Uh, with certain hoppers the product itself, due to the product level in that hopper if you want to call it, which might be a bend you know what I mean? Here's a bend, products coming down and it's allowed to be trickled out with some kind of a little auger or screw down here so much of the time and they keep it at a certain level because the product itself becomes a seal between the closed system of the gas, you know, off-gas system, maybe not off-gas but your gas system and the product itself. The product basically is the seal. As long as that hopper is full of product, the gas is up in here, better in there for whatever reason, cannot breach into the open atmosphere. But if for some reason you would lose your product seal, where it would all come down and augur out, now I have an open pathway from what was being blocked off by product forming a seal and the atmosphere down here, you could run into a problem. Every once in a while there would be a breach while we be lose we call a seal in those hoppers, and that product seal basically allowed certain gasses to expose to atmosphere. And I can recall one day beginning to walk down the steps from the 4th floor where the maintenance office was over in the southwest corner. And I kind of looked up, man, and here is this huge fog bank beginning to fill up the crane bay, and I mean it is rapidly expanding and it is moving your way. And you had an idea, if you worked there long enough, you knew exactly what that was. And that was HF. When I say a fog bank I'm talking about something that is dense enough that you would not be able to see eight or ten feet through it, I mean, it blanked out everything on the other side. It would be almost like a white-out. And you know that from your experiences at least as a

millwright, if you had worked on equipment, and you had worked on securing various types of packing on screws where you might have HF leaking, and sometimes HF when it's hot it's totally invisible. You don't know that there is any there until you get a whiff of it. And when you take an inhalation whiff of that stuff, you inhale that stuff, it instantly just about jerks your head right off your neck. I mean, it's one of those types of things where you instantly react to jerk your head back out of the way of the path of that particular, those fumes, because the body simply cannot tolerate the inhalation of HF very long. I mean, just one small breath of it is enough to make you physically react to try to get out of the path of it. So, you know that you are not going to be able to stand in that atmosphere and take a number of gulps. In fact, one good breath of that stuff almost stops you from taking a second breath. Uh, I can recall starting down the stairwell, which is an open stairwell in the plant, not a closed stairwell. And all of a sudden here was this fog bank coming and I instantly realized that we've got a HF release in the building. There were no alarms going off or nothing else. And it was just a question of, can I hold my breath and run down four or five flights of steps or four floors, it would be more than flights, because sometimes it would be two flights to get to a floor, you know what I mean? So that's exactly what happened. By the time I got to the first floor, fortunately, the overhead door on the south east corner was opened and I was on my knees at that particular point, just basically it was all that I could do to get out of that building to get a breath of fresh air because there was no way you could breathe what was there. And that wasn't, I don't know if I'd call it a horrifying experience, but it was an extremely unpleasant experience because you may think you can hold your breath and run down four or five floors of steps. But it's different than, you know, swimming under water a length of the pool holding your breath than it is trying to run 100 yards and hold your breath. You just can't do that. Of course, if you are not able to hold your breath what you're gonna do is that you are gonna to be forced to inhale that particular atmosphere in the environment and it only doesn't take but a second or two and it just knocks you down. That was a very unpleasant experience and one that I recognized that could easily entrap somebody, that if they got caught up in that concentration and that concentration was to persist for any length of time, a person possibly could really be fatally injured. Either the fact that they may possibly suffocate, I don't know, or maybe blister their lungs. HF does not have pleasant effects on the body. That was, in my experiences at Fernald I would call that really a close call.

That happened one other time, too. Almost the same thing, only that time when it happened, and again we still had no alarm systems that went of that warned you because those things would have had to be activated manually and if somebody else didn't recognize that you had a release and didn't take the time. I mean, most of the time what you did was say hey, listen it's the time to get the hell out and you just make an exit and save your own skin. I don't think that anybody really had a responsibility to go sound the alarm to let everybody know, or there wasn't any automatic protection system. Or if there was, it didn't work. I will assure you, though, that after that second event they began to take some notice to that and say, "Hey, where are the alarms in that building?" So everybody knew, so if they might have seen one, they can at least manually activate it to evacuate the building. Was there somebody that had the responsibilities for that? Well, to tell the truth I do not know if they did or didn't. All I know was that there was not any alarms, and it was the second event of that. This particular time, I recognized from the first experience that I can't make it to the bottom, I'm going back up to where I came from. If the whole building fills up, well it may. But, I went into the foreman's office and I opened a

window and stuck my head out of the window and breathed the air there. 'Cause I figured it was just as safe there until that system got fixed and they vented the place than I was trying to make it to the first floor and exit the building and have a path though that particular the cloud of HF. Those were the only two major experiences that I had there that I would consider to be somewhat of a bad experience.

Had a lot of exposure to green salt. I mean it was not uncommon to make a repair and breach the system and pull the stuff out. You were wearing whites back in those days. White coveralls. You went to the service building at the end of the day to change out. We had a dirty side and clean side. Lord, the people on a routine basis, especially operators, you would be…, those white coveralls would be just literally green. You know, there would be more green on them than there would be white. Well, that's green oxide. And, the quality of oxide that was on the coveralls which were on the floor. And the quantity of green-salt that you've seen sometimes that was breached from the system's chain of air breaks, you open it up you drag out a chain, you drag out two or three bushel baskets full of stuff on a pan. You drag the chain over across the floor you spill it all over, you got to hose it off, run it down the drains. Nobody thought nothing of it. A lot of times all that stuff was done with nothing more than your coveralls. No respiratory protection. But as times went on, as times went on, you know they began to introduce respiratory protection, half-masks. As times went on towards the latter part of '80s, they were still in their production days. They had developed some radiological controls or evaluations. I can recall how it is different from today. They would go out and make some kind of evaluation that was done through some formula. This particular thing radiologically was so hot, by today's terms, had the potential for certain dose admission radiologically. And they would estimate through some kind of a formula, due to the nature of how hot that material was or that piece of equipment. And you are only allowed to work 14 hours in that environment. And that was 14 hours for a week. So if you worked on that particular piece of equipment, well let's take another example. Let's say it rated out 10 hours. And they told you what it was, I don't know if it's marked out in a piece of paper, it was up to you to keep track of it. 10 hours you can work. Let's say you worked five hours on that piece of equipment. Well, you just ate up 50% of your exposure time a week that you were allowed. Let's say the next piece of equipment you worked on they had an evaluation of and they said, "Well, you could only work on that piece of equipment 4 hours," well, you just ate up 50% of exposure time for the week. 50% percent of a 4-hour rate for the week would be 2 hours, so I couldn't on the next piece of equipment more than 2 hours. And they would factor that in, in the planning of their work at that particular time. But years prior to that that didn't exist. And there was some kind of equipment you get into, I can recall in Plant 5. Let me see here. Oh, what was the name of those type of reactors? They weren't our reactors in the hot wells. I mean the rock wells. Uh, there's a term I'm looking for. Basically it's an electromagnetic induction. Melting, smelting, well maybe not smelting. Induction pots, where you put the uranium, not the ingots but the derbies. You melt the derbies down into a liquid metal and pour it into a mold. You came up with then an ingot. Induction furnaces I believe they called them. And those induction furnaces sometimes leaks on those things and seals… **(Tape cut)**

140011 Interviewer: Go ahead and talk a little bit about one type of safety device that you used sometimes to detect the HF.

140033 Bob: Yeah, the HF stuff was somewhat interesting in Plant 4. There were certain types of pieces of equipment that you would perform routine maintenance on as a millwright. It might be tightening up a packing, you know, on a particular screw or something of that effect because either product was coming out of it or an operator reported that, you know, you were having some stuff escape or something of that effect. If it was something in the system, after you've been there awhile you pretty much got to understand the process, so you basically kind of knew what the equipment was doing as well as the mechanical mechanics of the equipment. If it was equipment that I recognized a lot of times that had a particular packing or something of that effect, had the potential for leaking HF, understanding that under most circumstances HF is a gas especially when it's hot it's relatively invisible, you do not know that any there until you get a whiff of it. And just the smallest little pinhole stream came out, you may be back two or three feet from it and not know it as it hits the atmosphere it dilutes. It's diluted enough that it doesn't give you a real negative effect on the body. But if you get over right next to it if you turn your face right in front of it and if you are that you are taking it directly in, and inhaling it, obviously you would know that it was HF and it was there. As one of the safety precautions a lot of times to detect and also so you don't get your hands right in front of because that stuff can burn your skin as well, uh, we'd occasionally have a little sniffing bottle that was full of ammonia. It was a little squeeze bottle and the air went in, passed over the ammonia, ammonia vapor, ammonia atmosphere would exit the little nozzle on that squeeze bottle. And if you squeezed that right into and around where the packing was, if HF was coming out of that packing immediately it would precipitate and turn into a white fog and you could see exactly and detect exactly where that stuff was and maybe what the amount of it was and determine you know what, wait a minute here, I think maybe I'll go back and maybe get myself a respirator or I'm gonna grab some rubber gloves before I reach in there and handle that. Or I may stand off the side there while that stream is coming out, start tightening up the back packing and try to keep my limbs, my arms and my face stuff away from the direct path of that particular gas escaping out of that packing, you know. It was one of the detection methods that you had. But if there was some ammonia in the environment, and a lot of times there was, just, you know, in the atmosphere, in the environment you are working in, maybe in a minute form it wouldn't take much that when you got HF directly in contact with it, it would precipitate into that white fog. That's mostly what you would see rolling through the buildings. Of course, back in those days it was, "Well, that stuff won't hurt you." And occasionally a broken window pane would be replaced, they put a nice clear one. It wouldn't be a month later and that looked like the rest of the building. And you are always saying to yourself that the stuff won't hurt you. Ah, there isn't any of that stuff around. Yeah, well, if that's the case how come all these windows are fogged up and how come if you put a new one in a month later it's all fogged up, too? Stuff wasn't predominantly evident to you that it was in the building because you could breathe fine without, you know, the detection of an unusual smell or taste or anything. But if you were right directly in it or it was precipitated out of, breached the system or precipitated something that you could see obviously you knew it was there. But you knew it was there anyhow because, hey, if that glass is getting etched, it is not getting etched by good clean air, you know, it's getting etched by the nature of the environment that you are in. And I don't think that they did a lot of industrial hygiene type of measurements back then.

There was a lot of processes that I'm sure some of these old timers had worked here for years, you know, had some tremendous amount of exposures especially exposures of inhalation due to oxides in the operations of what they did. Plant 5, man, had a ton of rotating equipment, jolters, and spanning and clanging, you know what I mean. It's impossible not to have a fair amount of airbornes, and probably if we were doing monitoring, especially air monitoring equipment in those particular manufacturing arenas back then, you'd probably be blasting some of those monitors off the scale as far as, you know, airbornes. But they didn't use those type of detection technologies back then, whether they were available or not. They still weren't used. And I'm sure that you know, because people didn't feel any immediate effect like you would if you were standing right in a cloud of HF, you really didn't maybe didn't give much thought to the fact. If you felt okay and you went home okay and, you know, you weren't hurt, I guess it was just business as usual. You just worked at an industry that had these particular things, you thought you understood the risks, you know what I mean. You felt okay. I'm 60 years old, I believe that my health is relatively good. I don't believe the short period of time that I was exposed to these environments in my working career from '81 though about '89 that it's done a lot of major damage to me. I mean it may have and that may prove to be a little later something different that I don't know about. I'm fortunate enough that through the citizens' lawsuit that took place at this site. We haven't touched on that, and probably won't go into that, but there is a workers' suit that followed that allows the workers that worked there at a certain particular time in their life to get some lifetime medical monitoring. And I do that every year out at Drake Hospital. My annual physicals that are given at work as well as my physicals that are given to me at Drake thus far have not detected any significant health effects that may have come from where I worked. But I can't tell you for sure that there aren't any, you know what I mean? Just because I feel okay today doesn't mean that I'm not aware that there was a tremendous amount of exposure. It just means that I don't know if in fact that's going to have an impact on me, from the exposure that I had. I've been a non-smoker all my life. When I do my tests my lung capacity is still real good, even though I've had a few good whiffs of HF. I've been fortunate to be careful in what I've done. And, of course, 1981 to 1989 is only about eight years, and during those years even though we were in production, it was not the same level of production when everything was operating and clanging and banging and you had a lot of stuff in the air.

140836 Interviewer: Let's talk a little bit about the transition in the mid to late '80s and the role of labor unions and area residents in changing some of the things that happened at Fernald and ultimately in closing down production. What were some of the changes that happened and how did the workers, including yourself, feel about those changes while they were happening?

140900 Bob: Well, the union was always there. And uh, they have always been somewhat active. As far as safety goes, there weren't safety committees like there are today. There was not near the effort to have what you call employee involvement, you know what I mean? The whole philosophy of doing business today in work America is a lot different than what it was in the '70s and '80s. The only safety protection that the union had was contractually provided for in their contract for the 25-man safety team, which they were called safety representatives. There were 25 of them. Back in production days, it just turned out to be that these individuals were kind of just physically located where all plants and operations were going on. There wasn't hardly an operation that ran that one person in the union, regardless what local they were in,

understanding that the Fernald Atomic Trades and Labor Council is a metal trades district council. I don't know how many district councils there are in Ohio, but there's not that many. Maybe a dozen, sixteen, I don't know what it is. But a district council covers a large region. The Fernald Atomic Trades and Labor Council is a metal trades district council specifically assigned to the Fernald site. We represent, I think, currently about 12 or 14 different locals. At one time it was more, at a later time less. But what I'm driving at is regardless of what trade category, like I'm in the carpenter/jointers local 2380. That incorporates carpenters and the millwrights. The local plumbers' union 59 covers our pipe fitters. Another local covers a different type of trade, skill, and category, but we are all part of Fernald Atomic Trades and Labor Council as far as a bargaining unit goes. And the union back then was active safety-wise to the level of the contract provided for the formation of a 25-man safety team, those individuals were known as the safety representatives. To my knowledge that was the only avenue as far as representation goes for the worker at that time.

141154 Interviewer: So if a worker felt that there was an issue they ….

141155 Bob: (Interrupts) They could appeal to and bring a safety representative into the situation and get union representation, you know, through that safety representative. They were basically, physically somewhat located throughout our entire plant operations. So that, you know, there was almost at least every building or every plant operation had a safety representative. Whether he was somebody that belonged to this local or whether he was somebody that belonged to that local, he was still a safety representative of the Fernald Atomic Trades and Labor Council. And I was a member of that safety team as well at one point in time, and then being safety chairman, directed that team at one point in time, too. And they still exist today. But that probably was the…from a worker's perspective was our only avenue of safety as far as representation goes. I mean, yes, we had medical departments here, but you weren't familiar with radiological control aspects and you weren't familiar with industrial hygiene things. I don't know if way back when we started we did compliance-based training or not. There's some training that has been around for a long time. I think we were taught if we have a fire, what to do in case of a fire and stuff like that, operate the fire extinguishers. When the rad (radiological) control stuff started coming in, they gave you a little bit of schooling on things of that nature. So that you understood, you know, how that stuff maybe was evaluated.

141338 Interviewer: What changed in your opinion when the public started becoming aware of releases into either water, groundwater or atmosphere. And there became more focused attention on health safety, environmental issues at Fernald. How did that impact the workers and the site as a whole?

141400 Bob: Well, there was an event that took place, for some reason I keep thinking that event was in 1989, or may have been a couple of years before. I am not quite sure. We had a major, I think, release. There had been some releases before. I in fact I can recall one time, just backing up a little bit on the conversation here. You know, I'm not going to sit here and tell you that as an industry, well I will sit here and tell you. In some industries I know in work America, some industries may have been aware of what the environmental regulations were and sometimes maybe they felt that to totally comply the way that they were supposed to would be a very costly

way of doing business. A lot of industries would take short cuts like they would do emissions at nighttime when you can't see them. You know, bypass this particular piece of equipment because it would cut operational costs. Not overload their systems and they would just vent to atmosphere. I think that probably went on in a lot of your power plants. You know, I think at various times emissions are greater than they are at other times. Of course, a lot of standards and regulations are in effect today and a lot of regulatory controls and inspections go on, and it's not quite as evident. Back in to old days, my Lord, there was tons of companies, even Interlake Steel probably one time had ways of sludge ponds or something else there alongside a river. And you've got those types of industries various types of things that should not escape to your environment do escape and they get into your waterways. And, you know, I can remember years back when I wasn't even in the hard-core labor type of work, traveling up in Akron and Cleveland and one of the rivers catching on fire from all the pollutants. Those were news stories. So, you know that industry over the years in America has degradated, you know, the environment to some extent, maybe not so much today as back then or as freely as it was back then.

I don't have any hard-core evidence that Fernald did any of that other than things that I can visually see with my own eye. And I am not here to say that it was done intentionally. But it could be that these operations were no different than any other operations in America and possibly there were some short cuts taken. Whether or not you could ever prove it on paper, I don't know. I can recall one morning coming to work from Harrison down Willey Road and as I approached the site my wife says, "Oh, man, look at that beautiful big red fog bank over there." And what that big red fog bank was, was nitric oxide that had escaped sometime through the night, whether intentionally vented or whether the system went down. What you'd expect to happen is that it goes up in the air and it just dissipates into the atmosphere and nobody knows the difference. But sometimes, various types of atmospheric conditions, instead of going up it comes down. And it settled out as a big old fog bank. I said, "Man, I bet when Bob Gardner gets to work", because at that time he was in charge of that particular plant. At least that's who I though would be getting all those phone calls. I said, "I bet that phone will be ringing off the hook this morning when the public sees this big red fog bank out here on the other side of Willey Road and Paddy's Run." I mean it was really a huge cloud of just nasty looking red, and I knew immediately what that was, you know. Heck who's to say many times does that happen? Well, you know, the same thing goes with oxides getting out and the rain washing them into the groundwater and the groundwater getting contaminated. Late in the '80s and mid '80s there, there began to be some questions about, uh, for whatever reason. Don't know what started it. Lisa Crawford could speak really well to that subject matter, but myself I don't know exactly what's started it. But somehow there was some suspicion that wells of residents very nearby the plant were contaminated with a higher level of uranium than what was considered to be the safe drinking water standard. I think that there was some denial by the government that that could be the fact. Then eventually I guess there was some proof that it was a fact and then I guess it was that finally somebody owed up to it and said yes. And that started one big, I don't know if I wanna say mess, but it started the ball rolling towards, "Hey, what's going on out there over the years?" "How does this impact our environment?" "How does it actually maybe impacted maybe the people around the plant who have been exposed to drinking this water?" "If their wells were a higher level of contamination,

has it impacted our gardens?" "Has it impacted the air that we breathe?" "What about this stuff?" "What is the level of contamination?" "How do we know?" And then, I think that we were still operating then and either saying, "No, nothing to worry about," or "Hey, we'll check this out for you." You know, as a worker I was engaged in the work, I wasn't really following a lot of what was going on in the outer perimeters. Where I lived it didn't impact me, so I wasn't paying a real close attention to that type of stuff. But I do recall the event that basically was the initial event that led to the shutdown of production days. We had a particular breach in a …as I recall in a dust collector that set on the south side of Plant 9. And I don't know if it was a sizeable breach or not. But anyhow, uh, I recall a number of our people working on that and making the repairs. I don't know how I missed out on the overtime or missed the opportunity to work on that piece of equipment after that had happened, but I was one of the few millwrights that did not. Because shortly there after there was a major investigation and, you know, the FBI was in here talking to people and talking to our workers. And I recall the union getting extremely involved in that because flat out it was a scary scene, 'cause a lot of people thought, "Boy, oh boy, you know, they are going to try to place the blame on somebody for failure thereof." And people were fearful of talking to any investigative type of people, let alone possibly FBI-type of folks which I believe they were. The union stepped in and said, "Well, nobody is talking to nobody unless you give us guarantee to immunity of repercussions." And that finally was, I think, negotiated, and it was a very, very high-profile scary time because they talked to a lot of people. They talked to me, but obviously not having any hands-on experience of that particular event I felt somewhat exempted from any repercussions that might occur. But I do recall being involved with the …, you now, with our …, as a labor leader at that time, I think I was a trustee or something in the union. I recall that that was a high profile type of a thing that was going on with the company, and the union was greatly involved in protecting its workers from any repercussions that may fall out from that particular event. I don't how much longer it was thereafter, but eventually there was an announcement, I believe in 1989, that production ceased and then officially the plant closed in 1991. There was a lot of confusion when they said the plant was closing, what that really meant was that the operations were shutting down, but the plant wasn't physically closing. A lot of people thought that it was. I guess from that point forward it was like well I guess we are in the remediation business because that was the beginning of it.

142305 Interviewer: How did these lawsuits get developed? You were mentioning earlier there was the citizens' lawsuit and the workers' lawsuit, what were the time frames for those?

142311 Bob: Well I think that was around the same time, too, that it all began. I don't know exactly what that time frame was for that. But, I don't know if it was in the…it was not in the late ,70s or early ,80s. That was, I think that was the later '80s there, but 1985, beyond there some point, maybe the ,80s, the mid or late ,80s. It became a high-profile thing, and I think that it was simply driven by, you know, the potential for environmental degradation impacting safety and health concerns of the public. Those people who lived nearby the plant began to ask a lot of questions. I'm not sure what precipitated it, but I would think that because the government was somewhat in denial initially that it prompted a major investigation or a lawsuit to investigate, maybe, to find out the truths. And the end result was a suit for liable damage. I guess that is legally how that evolves.

142430 Interviewer: And the workers followed a similar path?

142431 Bob: Yeah, later on I think that they did. I don't think the workers were as successful or effective as was the public. I mean, you know, there I was a worker at the site and I think I ended up with something like about 600 bucks out of that workers' lawsuit. I am sure we had people in the public nearby that ended up in the thousands of dollars of award by the courts. But the important thing as far as I'm concerned as a worker and I think some of the conditions of that public lawsuit as I recall if you were a worker or even more…if you lived near the plant and you were a worker here you were not able to sue this company because you were a worker. But if you lived near this plant and you weren't a worker than you were. I believe that was part of the stipulations or something. Workers were forbidden to become part of the public lawsuit. Later on the workers got involved in a collective lawsuit. And the good thing that came out of that was the medical monitoring. I got very little financial reward out of that compared to the years of exposure that I had. But I am happy to say that, you know, I get this medical monitoring and it gives me some level of comfort of knowing that I have a way of protecting my health.

142609 Interviewer: Can you talk a little bit about the growing amount of public or community involvement in Fernald activities, clean-up activities and the development of a citizens' advisory board and your participation in some of these activities?

142618 Bob: Yeah, you know, that's an interesting area. I think the government after this initial lawsuit possibly seen the potential for this type of thing to snowball. Not only from Fernald, but from one plant to the other because I'm sure the same type of things that were going on in the place possibly were going on someplace else. And sooner or later people would pick up on, "Wait a minute here, maybe we've got a problem at Rocky Flats, maybe we've got a problem at Hanford, maybe we..." And I think as time has passed it has shown that yes, they have had problems at some of these places. Maybe there are certain things that precipitated out of those situations as far as lawsuits or, you know, public concerns. But to get back on track, I think the government got a message maybe after Fernald. And it was obvious that I think the better way of doing business would be to begin to involve the public in some of the decision-making or least some of the recommendations that might be made relative to future operations or remediation at this particular point. I know if I was Mr. Government, that's what I would do, because if you involve the public and they concurred with this is what we should do and something was not to work out, at least they were part or the decision-making of a wrong decision. You know, it makes it a heck of a lot less likely that you as the government might have some recourse because obviously those who would want to take recourse were part of the decision-making process. If you are not part of the decision-making process and you make a huge boo-boo, I think you literally lay yourself open for a considerably more liability than you do if you have the buy-in to those who might be the ones who want to prosecute you. So, basically deciding to do business a little bit differently has certainly been in the best interest of the government from a liability perspective. But I think overall it's a smarter way to do business to begin with because now you can begin to educate the public. The public they are taxpayers and it is their dollars who will be out here cleaning this up. Even if I am a worker, I am in the public, too, it's my dollars, too.

And some of these public input processes, specifically like the site-specific advisory boards. I can recall when the idea of doing those first came forth. I was involved enough with the union at that particular time that when they wanted some labor input, I was fortunate enough to go to Chicago as I recall at some kind of a workshop where they were discussing the nature of how to develop these site-specific advisory boards and what they wanted to do. And it wasn't long there after, that, you know, a few months down the pike or six month down the pike that they were talking about forming one at Fernald. And either because of my opportunity of input and had participated in some of these processes initially and because of the position I occupied in the Fernald Atomic Trades and Labor Council, which is kind of a person that takes a lead role in getting involved in a number of these things that go on around the country, you know, relative to the site and represent the labor flavor, so to speak, in a lot of these workshops or conferences. I had an opportunity to become a member of the Fernald Citizens Advisory Board and took in the entire process of how that was initially structured. I think that has probably been one of the smartest things that the government has done through the whole process of the operations of these plants. Because the public really has a right to be involved and I think that they have a lot of good input and good ideas. It's very difficult when you are in the inside and you really understand something, either from a scientific perspective or from a very, very realistic perspective, and you are dealing with somebody from the outside whose perspective is only from perception to defend either your position, you know what I mean, from half truths. And in the minds of some, perception is real. The truth of the matter is these are the facts, and if you can get people to deal with what the facts are then you can arrive at a much better solution to things.

150012 Interviewer: How effective or ineffective has that process been in the past year or so?

150019 Bob: I believe the Fernald CAB, Citizens Advisory Board, has really been effective in laying out the path for remediation at this site. And one of the things that is going on right now is looking down the pike to the future with respect to maybe life after Fernald when clean-up is finished. I know that when this whole thing started off, it started off with a clean-up plan that looked like it was going to be 25 years in the making and X number of dollars. I know, because nationally, I went to a couple of national workshops working on the BEMR, which was the Baseline Environmental Management Report. That was a huge undertaking. And I participated in two of those workshops, one I don't recall where it was. It might have been in Denver, Albuquerque or someplace. Another one took place in Washington, and that one was really taking care of the state of affairs overall, collectively at each of the sites. Fernald was able to get ahead of the game and in the manner which the CAB was structured, there was a good cross-functional representation of individuals with some really good leadership early on so that this CAB began to really take on a very, very smart way of doing business. It had the foresight to see hiring a professional consultant in this particular field to help manage the activities so that basically the members could be more the decision-makers and hear the information rather than the collectors of the facts. The manner in which the company became engaged in supplying resources and supplying the CAB with information. The way we went about, and when I say we I mean as much as I am part of the CAB, went about the approach to figuring what comes first, what do you need to do first, what level of clean-up, finalizing those things, turning in records of Decisions, understanding the entire environmental processes, once your site had become a Superfund site and all that stuff kicked in. And then, very fortunately, personally having the

opportunity of taking the DOE/Westinghouse School of Environmental Excellence gave me a great insight to and understanding of environmental regulations and how those things tied together and how all this impacts what you have to do.

We've reached a point in time now when I guess it's the time you have to look to the future of once you do clean up these sites. This thing started out as like a 25-year objective, then turned into a ten year plan, which obviously couldn't be met and then turned into an accelerated plan. And we've been at it since the mid '80s trying to get it into the full remediation swing and right now you have a RD and RA phase of these processes and literally implementation of building plants to treat and we are doing a lot of, you know, disposal. So what happens when this is all done? What is it going to look like afterwards? Right now I think they still have '06 target and some of those things extending to '08 and some of those things even extending to '010. Some of those things that were at '06 being pushed to '08, and maybe things were '08 being pushed to '010. That's ten years down the pike and ten years down the pike the schedule could look different. Even though with the new contract that was just recently announced last week, that contract…what's the word I want to use? That contract would encourage you to pull in your timelines. But my involvement into those particular activities that go on in management led me to believe that if the funds are there, that we possibly are going to be able to hold those timelines or maybe they will make an effort to pull them in. But I don't know, you know.

Listen, these new contracts are really asking, in my opinion, to do almost the impossible. They want more work done in a smaller amount of time and with less people and less money and that sometimes is not an equable formula as far as I am concerned. But nonetheless, I guess, you have a number of people that were involved in the design of those contracts that feel that some way it is possible to accomplish, you know, those things. And I guess that's the path we are headed down. But at some point in time, you know, we will reach the done stage for the most part. Then becomes some other major issues which are really on the screen right now. You know stewardship, which is mostly environmental stewardship. But there is even labor concerns, you know, relative, what about the stewardship of the vested interest that the employees have, you know. Who is going to be responsible once you no longer have a contract with a contractor and these things go away? You currently have people who are retired, what about those particular things that their funds and their retirement that are going on now. What about those medical monitoring things? What about the medical insurance you are entitled to? There is this human side of it from a stewardship perspective. But I guess there are agencies that are beginning to get involved in addressing that. I know I have a big interest and big concern of that even addressing those issues through the CAB. But environmentally, you know ,what about the stewardship of the land? Who's going to be here to look on after the monitoring, you know. We have decided to instead of shipping everything off this site to have a cell. What about the ongoing technologies that might be necessary or available for monitoring the cells to make sure that we have an environmentally safe environment around here? And then, you know, I think early on in the CAB's exposure to all this, people were pursuing to clean up this site to pristine and then became aware that is not necessarily a reasonable condition to meet, and settled for something of a compromise between what something that might be considered to be a reasonable clean up level. Taking the water clean up level to that of the safe drinking water standard and

then the ground clean up to a particular standard that would be relatively safe for everything except for possibly residential farming, that kind of stuff.

What's going to happen in the future? Well, I guess, my perspective as not only a worker but a taxpayer and a citizen, I have a hard time swallowing spending 4 ½ billion dollars on 1,050 acres principally of which just a small portion, a couple hundred acres being the major area of degradation. Cleaning it up over a course of X number of years and just leaving this site useless, you know, in my estimation, if that was what you were going to do then you should have just put a fence around it and forgot about it. But if you are going to spend that kind of money to clean this place up, I think it should have some future usefulness. And I think that that future use can be things that might tend to take what has been for years maybe a bad taste in the public's minds to leaving something behind that in the future that our public and our children can be proud of that has some type of…maybe some type of a museum. Someways that we can leave some type of a documentation of a history of the nuclear, the Cold War era and even going back even further than that. What was this land like before farmers and Americans ever, you know, early Americans ever got here? How about our Native Americans, what went on here? Lord, this site has a tremendous history, culture of Native Americans on it, and I think that there is something very promising to look for that can leave, you know, a necessary story for future generations to give us a good understanding of what took place in the past, why did it take place, you know, and what are some of the things that affected our ancestors, that affected the public that brought about the direction that we are going today?

150958 Interviewer: Last question. What kind of a message or lessons learned would you like children you know 20, 25 years from now to learn about in textbooks about what happened in Fernald, kind of over this 50-year period that we are now about to commemorate?

151017 Bob: That question brings one thing to my mind and something that is practiced a lot of the way we do business today. Before you engage in doing anything, always take into consideration what is it that I'm about to do, who does it impact, and how does it impact them? If way back in the 1950's, when we begin to do nuclear exploration and make bombs, and I think that we knew that there would be some legacy waste problems, if we would have thought about how is this going to impact and who it's going to impact would we have made the same darn decisions back then as we would make today knowing all that. A message for the future to our kids, or any future generations is, "Listen, think about what you are going to do. This might be your immediate objective, but if there are various subsequent impacts on others around you or future generations, you need to take that into consideration now not later." Other little things come to my mind. What's that old saying? Pay now or pay later. Let me tell you what, the cost to build the bomb was a lot less than the cost to clean up the mess. And, you know, if we would have thought about that back then, would we be making the same decisions? If we would have anticipated what the costs were going to be today and the repercussions are going to be today, you know, I'm inclined to believe that we would not have made the same decisions. We would have made the decisions otherwise. This is a tremendous cost that we as taxpayers, we as citizens of this country who literally own these facilities, not the government. Look at what we are paying in order to protect our environment. Hopefully, the lessons that we learn out of all of this is to do things that won't in fact degradate human life and won't degradate the environment

and that we plan a little bit better. So that we don't, first of all don't do what I just said and run the risks of degradating human health and safety and the costs of what it takes to clean up the environment after. I would hope that, that would be the lessons would be to learn to do business differently.

151245 Interviewer: That's a wrap. Thank you.