121317 Interviewer: Gene, we'd like to start by having you tell us your name, where you were born and raised, a little bit about your educational background, and how it was that you wound up in a faculty position at Miami University. Just a little background.

121330 Gene: Okay. My name is Gene Willeke, I was born in Hardin County near Dola, Ohio, and on a farm, lived there until I graduated from college. Went to college at Ohio Northern University, which was just five miles away. Got degrees in mathematics and civil engineering there, drafted into the army, went to Stanford. Came back and worked in Washington for a while and then in Chicago with the Great Lakes Illinois River Basin Project with the Public Health Service and went back to Stanford to complete my Ph.D. and worked in public participation rather heavily as well as major public works planning. Went to Georgia Tech and uh, after I was there for seven years was nominated for the position of Director of the Institute of Environmental Sciences at Miami and I came in 1977. Uh, heard about Fernald rather soon after I got here, but there was so little that any of us knew about it that I didn't really have any involvement in it at all until 1984, which is about the time that we began to hear from citizens in the area that they were beginning to have some concerns about it. And then by 1986 those concerns had escalated somewhat. Around that time, a woman who ultimately became one of our students and graduates, Ann Broadus, was a reporter for the Cincinnati Enquirer, and she did the first investigative pieces on Fernald. Had a very difficult time, filed for information under the Freedom of Information Act, we have her files here at the Institute, but it was very influential in uh, bringing the case to the attention of not only southwest Ohio but the nation. Uh, FRESH was formed around that time. I was a participant in an extern program in the School of Education to talk about industrial waste and one of the men on the program was the Superintendent of the Ross School District and he told about some of the problems that kids were having in the Ross School District. Elementary kids being shunned if they lived close to the Fernald plant, and it was a very hard situation for them. And that was around the time when people would joke about Fernald, if they found out that you lived near there or worked near there, they'd talk about glowing in the dark and things of that kind. But for the kids it was really a very serious situation. On the same program was a man named Fankhauser from the University of Cincinnati Clermont Campus who was an activist, a physicist as I recall, and he had taken a number of more or less clandestine trips around Fernald with a Geiger counter and recorded the incidence of high radiation. And then Ohio EPA jumped into it, one of our adjunct faculty members was Director, Rich Shank, and filed a successful action to have Ohio EPA exercise some jurisdiction over that site and its eventual clean-up.

Then we really got immersed in 1989. That was the year when we started orientation field trips for our students and we took a class there and went through the plant. A very difficult thing to do, it took us well over a half day and we had to have urine analysis in and out, which was hard people were afraid to go some of our students were afraid to go. And the site was a mess inside. We were at that time we were allowed to go in the buildings, and we saw the piles of uranium dust laying around and were told about filters that didn't work and a number of things that were bad and production had just stopped two weeks earlier. But they were convinced that it would restart again. Very defensive, very patriotic kind of presentations we got. Went back a year later and things were somewhat better but still not good and it was taking so long to go that we have not been back since on one of our orientation field trips. But that roughly marks the time when

we became very actively involved in it. Then we undertook a research project to identify issues and publics, affected publics in the Fernald area, and a number of our graduates were involved with the site, either as employees of NLO or Westinghouse or Fluor or with either Ohio EPA or U.S. EPA. And one time both the Ohio EPA representative Graham Mitchell and the U.S. EPA representative, gosh what was her name, Kathy Springer I guess it was, were IES graduates and then we had quite a few working on site either with the Department of Energy or with the contractor. Then uh, almost three years later, 1992, uh, Fluor took over and we became much more actively involved at that point and started placing interns there. Then the following year the Fernald Citizens Task Force was formed, Eula Bingham was the person, the convener. And I received a call from her asking if I would be a member representing university communities, which I agreed to do, and I've been on that and a successor, the Citizens Advisory Board, ever since.

122001 Interviewer: If I can back you up just a minute that's a really good overview of a number of years of just your own personal life and also some years at the site. You came to southwest Ohio in the late '70s to teach and to work at the Institute, uh, can you talk a little bit about your perception of this part of the country, southwest Ohio, in that time period, late '70s early '80s, just in terms of either students you observed or just the general area in terms of issues such as environmental awareness or, I think in the real early '80s there was a story about Love Canal over in New York, but just some general impressions about the general public in southwest Ohio in those days in terms of their understanding and awareness environmental issues?

122053 Gene: Well, environmental awareness was very high and that was certainly reflected in our students. We had a very dedicated group of students from the time we accepted our first students in 1971 really up until 1980. Within a couple years after Ronald Reagan was President, that changed somewhat. We had more people interested in making money, which wasn't all that easy to do in the environmental field at the time, although it did become easier. But certainly high dedication, a lot of interest in environmental quality and environmental improvement. Cleaning up bad things and Lord knows we had plenty of bad things up through the late 1970s. The situation was bad in every respect water, air, land and soil pollution, hazardous waste sites. All of this was a very prominent part of the local scene and people were really highly interested in improving that scene, all through that period.

122204 Interviewer: Can you remember the first time you went to the site, was it for that extern visit?

122208 Gene: No it was in 1989 at our orientation field trip, that was the first time.

122213 Interviewer: You had not been to the site before that?

122215 Gene: No.

122217 Interviewer: Do you recall the first community informational meeting or public meeting that you went to or some of …?

12224 Gene: Not very well, uh, it would've been really a couple of years after that. We had been approached by FRESH several years earlier, and at that time it didn't seem to us that we could see a good way that we could be very much help other than to perhaps provide some guidance on understanding what was going on. And about the same time we approached the Conservation Foundation with a proposal to have citizens advisory groups formed at each one of the sites in the complex and then to have a national body composed of representatives of those individual groups. And the Conservation Foundation wouldn't touch it with a ten-foot pole. They said they didn't want anything to do with radiation, nuclear because that just was much too sensitive an issue for them. So it died, but it, well, the ultimate formation of the site-specific advisory boards came rather close to what we were proposing. It wasn't the same thing, I think what we'd proposed was a little better than the way it turned out, but the SSABs worked and what we proposed didn't have enough support from prominent organizations to make it go.

122353 Interviewer: You mentioned in your first trip to Fernald sort of tough moves getting around between security and just uh some defensiveness of part of the staff or employees and high feeling of patriotism or the idea that what they were doing was justified if you will. Can you talk at all about some of those feelings, did they persist over time as the site eventually went into a sort of permanent environmental clean-up mission or in terms of your understanding of the sort of work force and folks that were supporting the Fernald mission? How did some of those feelings either change or stayed the same over time as we moved into the '90s.

122438 Gene: Well the second year they were the same and they didn't change until the site was designated as a remediation site and then it changed officially quite a bit. Unofficially it was very difficult for it to change because prior to that time, everybody was on a need-to-know basis. You didn't tell anybody what you were doing unless you could demonstrate a need to have that information. After it was designated a remediation site, then the communication requirements were radically different. At that point, you wanted to know from anybody who knew anything what they knew that could be helpful in devising a remediation plan. We haven't completely overcome that yet, although we've gone a long ways toward moving in that direction. But for at least the first five years after Fluor took over, it, uh, was a major tension between those old feelings of "need to know," "I can't say anything or I'll get zapped," on the one hand versus the need to supply information on the other. Uh, the employees were justified in their thoughts because they had pledged to not tell anybody anything. They couldn't talk to their wives. I suppose some of them did, but basically they were not supposed to do that. They certainly didn't talk to anybody else and uh, and then to all of a sudden to be told "well tell me what you know," there was an understandable suspicion on their part that "what are they gonna do with this, are they going to come back and get me?" And there were a few instances where that happened, I don't know if there were a lot, but there were some.

122636 Interviewer: Can you talk us a little bit about the first couple of years of the Task Force leading up to the 1995 recommendations, set of recommendations. When you came to the first couple of meetings what were your feelings, what were your expectations, what were your thoughts about how the group was guided or led through a process leading to an initial set of recommendations, just some early experiences on the then Citizens Task Force?

122701 Gene: We were very fortunate to have very good leadership. John Applegate who was the chair was an outstanding chair. Doug Sarno who's our facilitator, was also very, very good. Some of us, and I was one of them, was impatient at the speed which we went through that first year because so much time was spent on educating ourselves as to the nature of nuclear waste, nuclear materials in general, what it took to clean up a facility like this, what kind of options there were, costs, monitoring requirements, safety, health and safety, union relations, all that kind of thing. And it took us many months to get through that and as I said, I was certainly impatient about that. But in the long run, it was the right thing to do because if we had not all come up to pretty much an equivalent level of understanding, we wouldn't have been able to take those next steps that enabled us to come up with the completion report, as we had very different kinds of backgrounds. I was the only technical person on the whole Task Force. To a considerable extent that's still the case, although along the way we've had a couple who also had technical expertise. But, uh, most were neighbors or people who occupied roles that would lead to a substantial concern about what was going on but not necessarily much understanding of what it took to actually do the clean up.

122851 Interviewer: A couple of key elements of the Task Force recommendations have been highlighted over the years were sort of setting clean-up levels and setting what has come to be known as the balanced approach, where the recommendation was to keep most of the low-level waste on site and … (tape change)

130026 Interviewer: A couple of their recommendations that have been highlighted over the years as fairly innovative for community-based advisory group was a the decision in terms of the clean-up level, sort of answering the question, "how clean is clean?" And then the decision to make a recommendation to keep some of the waste on site and then ship some of the higher-level waste off site, which is called the balanced approach. Can you recall some of the discussions and the path that led to those recommendations in those meetings once you, the education process started getting people up to speed about what the site faced and what the whole complex faced?

130109 Gene: Yeah, I remember that really quite well and if one were to look only at the record, the minutes, he'd find that I was the author of almost every resolution. Now, there's some reasons for that. One is that I was regarded by many on the board, or the Task Force at the time, as kind of an outsider because I didn't live close to it, I was not directly affected by it in the same way that they were, whereas quite a few of the others who lived right there. So I was an outsider. As an academic I was viewed with, on the one hand with some suspicion and on the other hand with some respect. Respect because they didn't really quite know what I was, but, well thought, well, maybe he knows something that will be useful to us. Uh, so I ended up being the one who often framed an issue and set forth a straw man to debate and discuss and I usually would consult quite a bit with people to find out where they were and whether they would go along with this, that, or the other thing. And so I ended up being the author of the resolutions uh, and as that neutral, well quasi-neutral party, then the others could discuss that and debate it. With very few exceptions there were unanimous votes in favor of it at the time. That included this adoption of a clean-up level that was something less than background, and we specifically excluded residential and agricultural uses of the land but we did allow almost everything else: commercial, institutional, recreation, and so on. And it made a great difference in the cost, but another

element of it was that we wouldn't have been able to really tell whether we had achieved background levels. That was one of the factors. The other was if we had really tried to get down to that background level we had had another very adverse environmental situation with a moonscape, something that didn't resemble anything but looks like southwestern Ohio. The closest analogy I knew of was Copper Hill, Tennessee, which is one of the most devastated areas of the United States as a result of copper smelting in the late 1800s, and it really did look like a moonscape and that's what we might have had here. Uh, there was a long discussion about it and some were very concerned that people wouldn't accept that and so we had to talk about how protective the designs could be, how effective they would be, the difficulties of trying to ship everything someplace else because the other place which at the time was Nevada wasn't too keen on having the whole world ship its waste out to them when it had to go through Las Vegas over a very difficult and dangerous route to get there. So that was another thing we had to take into account. But we ended up with what I believe and I think the Board also agrees with, a very protective set of recommendations and ones that were less costly than they might otherwise have been, which gave us a chance of cleaning up and reducing that risk, whereas if we had gone to a background level the amount of cash required was so high that we likely would never had had it and we'd still be quite a ways farther back then we are right now. We might never have cleaned up the silos, the waste pits and so on.

130523 Interviewer: Some folks have pointed to, uh, kind of trips individual folks took around the complex or started intensive meetings of folks from other than SSABs they started interacting and to some stimulation activities that the group did as ways to get people to see the sort of complex-wide issues as well as the site specific issues. Can you comment a little bit about the importance of seeing both of what was going on at Fernald locally and also sort of the national level?

130553 Gene: Yeah. Not many of the members on the Task Force really did visit other SSABs although some did, but a lot of us went to Nevada to see the Nevada Test Site and also to Utah to see the Envirocare facility. Quite a few of us went to Brookhaven National Laboratory to see an alternative technology, which has not been adopted on site. Uh, while we were in Nevada we did meet with members of the Advisory Board there and there were a couple of other occasions when we would meet, a few, but that was decidedly a secondary activity. And after we were underway for a year we were clearly ahead of the others in terms of the progress we had been able to make in providing citizen input and getting some favorable reaction to that from both the contractor and DOE, as well as the U.S. EPA and Ohio EPA.

130659 Interviewer: What about the use of the ...

130701 Gene: Oh, you asked about the game, yeah the game. The game was a very crude game, but that was o.k. It did help people understand what was involved, how much dirt would have to be moved and the order in which it made sense to move it. So I think it did play quite a useful role, crude as it was, certainly nothing more than that. A faculty member at Stanford once talked in a class and said, "One significant figure good enough." Well, we were barely at one significant figure here, but it was still close enough to give some sense of what was involved in

moving things, where the highly concentrated contaminated soils were and where they weren't, and that was really quite valuable.

130801 Interviewer: Can you talk a little bit about, let's say the time period from roughly 1996 to 2000 when after that initial set of recommendations, the Board sort of looked at a variety of issues and ultimately focused in the last year or two on future use and stewardship type of issues?

130824 Gene: Well, after the 1995 report there was some question whether the Task Force should continue to exist and uh, we pretty much we decided that, yes we did need to exist because the execution of the recommendations is going to be just as important as making the recommendations in the first place. And we had a unique role; we were the only ones that really had a free reign to talk to anybody on site regardless of where they were. If you were inside, you were restricted to going through channels and your contact with other parts of the site was much more constrained. Only the Fernald site manager for DOE and probably the president or maybe a couple of the vice presidents of Fluor had similar access, but we had very wide-ranging access. We could ask anything whether it seemed to be relevant or not. One of the more important of those came about in regard to what were called special nuclear materials. We were concerned about how much money was being spent on security at the site and we didn't see any particular reason for doing that. So we asked at one meeting. I don't recall who had asked, I was one of them but I wasn't the only one, "Why is it, why do we have so much security?" They said, "Well it's because of these special nuclear materials, these are commercial grade uranium materials and uh, they're not a waste product." Well it was the first we'd really heard about that, most of us had heard about it, because since they were not a waste they were not included in any of the operable units and yet, that was sapping a great deal of money. So we immediately came up with a resolution which was sent to the Secretary of Energy asking for getting that stuff off the Fernald site and taking it somewhere where it belonged, most likely Oak Ridge, which was done and it did in fact reduce the costs rather materially over a fairly short period of time and caused us to realize that we had to go outside the waste box in order to deal with all the problems at the site and we've continued to do that. We've raised questions about every aspect of the remediation plans, the feasibility studies, and the remedial measures that have been proposed. Sometimes we've been able to point out things that were not being done very well. We raised a lot of questions about vitrification and other things on site that resulted in major changes. Transportation is probably the biggest. We would not be shipping waste material by train to Utah if it had not been for the Board, because we asked that that be considered and it ultimately was and was found to be good and so now we're doing it.

13128 Interviewer: What was the alternative scenario for transportation?

131131 Gene: Trucks, lots of trucks and one train, one unit train of say 40 cars holds so much material that it would have been like a steady string of trucks going out of the Fernald site, which would have caused major local traffic problems as well as increased risk of an accident of some kind that would not have been good for some aspect of the environment.

131203 Interviewer: Can you think a little bit, talk a little bit about what you see as a limitation or point for a Citizens Advisory Board, even an effective one, beyond which they can't influence policy or funding beyond a certain point? There's a role for the CAB but then other groups, whether that be Congress or the regulatory community, have to also put something in place to get something done. What are some of the limits of even an effective CAB?

131236 Gene: Well, we are least effective in trying to get more cash. We are much more effective in altering the way things are done on site, the kinds of alternatives that are considered, the way they're executed, and also the way citizens are involved. But the fiscal decisions are so encompassing. It's not only our site it's all the other sites in the complex, and all the other sites in the complex are rated against all the military bases and all the other needs of the country and whatever the Congress or the President or both consider to be important from a budgetary standpoint, that our influence is much less effective than it is on these other matters. But that doesn't minimize the importance of having the Board and the things we're able to do there.

131338 Interviewer: How have you seen Fernald and the CAB try to position themselves within this competition for funding within the complex because in terms of issues such as sheer size of the site and perhaps aggregate risk compared to other sites, it's a fairly small corner of the nuclear weapons complex, so how does Fernald try to position themselves to get funding vis-à-vis the other sites?

131410 Gene: Well it is small but it's not vanishingly small. It's big enough to be important and the actual risks on that site are really fairly large. For example, we have the largest supply of radium in one spot in the world, right there, and that's not very much, it's something like ten pounds I think, but ten pounds of radium is a heck of a lot of radium and there's no other place in the world that has that much, unless it's off in Russia somewhere and we just have no knowledge of it. But I don't think even that's the case. Radon was a very big factor. There's still some things that could happen on site that would impose substantial risk both to the workers and to the surrounding community. But the other thing that we've tried to do is say, "Look we're ahead of this game, we know what we're going to do, things are working well the other sites are not. Let's press forward so that the lessons that we've learned here can be applied elsewhere and it will be money well spent." There's a certain amount of selfishness in that I'm sure, but not so much. There really is a substantial logic to it, and we've been able to make that logic work on at least a few occasions.

131533 Interviewer: What do you see as the scenario whether it be weather or release or what have you that might pose the greatest risk, albeit perhaps a small probability of something like that occurring out there?

131549 Gene: Oh, well, the worst thing I suppose would be a really big tornado that would go right through the site and hit the silos. If that were to happen, then we'd have a crisis on our hands. And it's hard for me to imagine anything else of a natural sort that would be in that order. It's possible to envision a terrorist scenario, I suppose, which somebody would come in and put some plastic bombs on the outside of one of the silos and blow a hole in it and let the same material escape, but uh, I guess I don't think that's too likely.

131635 Interviewer: How do you see the relations between DOE and the surrounding community or public? How has that changed let's say over this last decade in terms of either amount of communication or amount of individual influence or things of that nature?

131655 Gene: Well, one certainly gets the impression that DOE doesn't do anything unless they've checked with the Board and with FRESH. Uh, there was a point at which this went overboard, which the Board was being asked to really make the decisions, and that lasted for almost a year. That's not the case now, I don't think, I'm pretty sure it's not, but it was for a considerable period of time there and that went beyond what, in my opinion, a board should do. We really don't have the kind of expertise and the range of involved citizens to make those kinds of judgments.

131747 Interviewer: When was that, in the years immediately following the first set of recommendations?

131751 Gene: I'm going to say it was about '97-'98, I've forgotten exactly which year it was, but that was approximately it when we were going through some real difficulty deciding what to do about the silos as well as to some extent the waste pits.

131807 Interviewer: What do you see as the biggest challenges facing the CAB right now for the next say a year or two?

131816 Gene: Well, I think there's still a tension, well there's bound to be a tension between remediation and stewardship. Uh, in order to reduce the risk you got to do the remediation stuff, but you can't just do the remediation and then start thinking about stewardship. You've got to do both at the same time, but there are times at somewhat cost purposes and that's a little difficult. But coping with reduced funding, funding that's lower than the level necessary to get it all done is another one of the real challenges here. I don't think trust of citizens is much of an issue anymore, I think that we pretty much made that case.

131907 Interviewer: There's been some challenge in the last year or two in terms of trying to recruit new members to the board. I don't know if that just reflects the amount of time it takes to serve on one of these boards or about a little bit broader issue in terms of general public or community interest in what's going on out there. I don't know if you have any reflections on some of those issues as you have a mature board now that's almost ten years old.

131935 Gene: Yeah, we do. It's disappointing to me that the counties and townships have not taken a more active role. We did have active involvement in Hamilton County Commission and we've had some Township Trustees, but that's not nearly as strong as it might be and Butler County especially has been absent from that, at their choice they were given the opportunity. People from Ross, right next door, were given the opportunity and they chose not to participate, although they at times have been very active opponents of something that came out of it, which they could have had an opportunity to influence by being on the inside or at least to understand

better so that they would have come up with maybe a different position that they would advocate publicly.

132036 Interviewer: Any ideas why these folks have demurred from participating over the years or?

132044 Gene: Well not really. My conjectures would run something like this. One, they don't understand how serious it is, and number two, they've just got so many other things on their plate that people are really crying out about. We got a bunch of bridges in Butler County right now that are in bad shape, according to the Cincinnati Enquirer, the same thing in Hamilton County, and by and large local elected officials work on things like that. They work on bridges, they work on water lines, they work on sewer lines, they collect trash and take care of nuisances and things of that kind and that's about it, and this is not in that order of things.

132128 Interviewer: This, uh, Living History set of interviews is being funded by the Ohio Environmental Education Fund with the idea that teaching high school aged kids about the environmental history of the Fernald site would be beneficial ultimately for them to understand the way human beings interact with their environment and produce adverse impacts and what people in communities do about it when that happens. You know, you've been here over twenty years as an educator yourself, do you, what are the sorts of messages when you get around to talking to students about Fernald that you would like to either you tell them yourself or see educational projects put into the school system for perhaps educating the next generation about what's gone on out here?

132215 Gene: Well, there's certainly not much information about it. People, it's not high on anybody's agenda. So awareness remains an issue. I'm never very happy when it's only awareness, I really would like to see things that go deeper than that, but you know, what we know about innovation tells us we have to start with awareness and only then can we really have a good chance of getting deeper. So I'm very pleased that some of the schools are trying to do that awareness building and uh, I don't think it's gonna go away anytime soon. But soon might be twenty years. If I look out twenty years, will people then look back on this as something really important or will it be one of those things that happened in ancient history and uh, having lived long enough to see some of the things that are now regarded as ancient history by school age kids, including our students here. Our students were born about the time I came here and uh, the things I lived through are not necessarily important to them but they were certainly important to us back when it happened. When the Cuyahoga River burned and we had landfills that would get renewed every couple of years when the stream flooded and would carry the landfill down, well they weren't landfills they were dumps, they would carry it downstream so you'd have a brand new one again. That's not part of anybody's recollection, even the Depression. I was born in the depths of the Depression and the Depression is ancient history now. So the same thing I think could well happen at Fernald, which is even less prominent as an important aspect of the southwestern Ohio scene even right now then some of these others were, so it's not going to be easy. But for those who make the effort, I think they'll find it very rewarding.

132433 Interviewer: You had mentioned that in the earlier years of the CAB there were some efforts to get people from Ross involved and it was tough and now today when you see the changing demographics, with some new people moving into the area, new residential development. How would you characterize just the general level of community awareness of what the Fernald issues are out there and what are some of the barriers or difficulties for folks learning about it? It's a lack of information or a lack of time to go out and find the information or?

132511 Gene: To some extent I think it is lack of information. We know that the number of people who even read newspapers is relatively small. It's smaller than one would expect from the kind of people who inhabit these houses, relatively affluent. But a number of affluent people don't subscribe to any newspaper. We have some newspapers in the area; the Hamilton Journal probably gives it the most coverage. I don't even read the Hamilton Journal on a regular basis although we get it here at the office; there's just so much time I can spend on that. It's not big enough to attract the national scene, except maybe once every ten years or something like that and it has, Fernald has been on the national scene several times, but it's not enough to make it a salient issue. And uh, the nature of the site is such that somebody who lives even a mile away from it, unless somebody tells them about it, is not going to be aware that there's anything to be concerned about. Now in the, up until just a few years ago there was a substantial effort on the part of the operator, the contractors, not to even identify the site. When you drive along Route 128, you do not see a sign that points to the Fernald Environmental Management Project. The water tower used to be painted red and white checkerboard and the name of the plant was the Feed Materials Processing Center, so one might reasonably have thought, "Gee, maybe they produce animal feed there just like Purina out in St. Louis." So there was an active effort to discourage knowledge of the site for a long period of time. That's no longer the case, but we still haven't taken some of those steps that would really identify it or the consequences, I occasionally will almost go too far and drive past the road to turn off to go into the site. I don't do that very much anymore, but ...

132721 Interviewer: And the way the hills roll and the dairy farms right there, if you're not paying attention ...

132728 Gene: That's right, if you're not paying attention you could go right by.

132732 Interviewer: When did you find, this is a more recent history, when did you find out about this fiscal year 01 reduction from what ...

132743 Gene: A month ago, just ...

132744 Interviewer: What did you think about when you heard about that?

132748 Gene: I just heard about it in January and uh, I was surprised. You know I wasn't any more than surprised because I didn't know enough about it until a few weeks ago at our regular CAB meeting.

132805 Interviewer: How do you think the next year will unfold in terms of not necessarily which scenario gets recommended by the CAB, but the CAB has been placed in a fairly important role and leads sort of leading the involvement for discussing some of the alternatives for re-base lining it? What do you think is facing the CAB in some of those discussions over the next few months?

132829 Gene: That's really hard for me to sort out. I haven't figured it out yet. I don't really know what it's going to be. In part because the level of detail at which we've discussed it thus far has been a little too general for us to make concrete statements and recommendations, but that may be forth coming and if it is then it'll be easier for us to do it, and that would be the time in which we would probably be somewhat more influential.

132902 Interviewer: I've got just one more question and I don't know Andrea might have one too.

140024 Interviewer: Yeah, as I said the Fernald site is going to have a historic marker placed out there, perhaps near the access road near the entrance. And you know you've been involved with the site now for roughly a decade as an active member of the Advisory Board, as a interested citizen, scientist, and educator. What would you like to see as maybe some points on a historic marker or points of reference for future generations so that in 25 years from now Fernald will be remembered for something? What would be some things you would put on that?

140106 Gene: I think it would be important for us to, in the first place, honor the degree of commitment people in the area who worked there made to the operations that went on, that they did feel a high degree of patriotism as contributing to the defense of the country and that they gave it their best shot. Somewhere in there, I would also like to see wording that because of a lack of knowledge about how serious some of the effects of radiation and radiation products were that we contributed to health problems and lowering the environmental quality of the area and that once this was recognized the federal government, along with local people, jointly participated in cleaning it up and making it a place that would be safe for future generations.

140221 Interviewer: Do you have any other final comment? That's a good, good statement. One of you guys have any questions?

140229 Interviewer 2: I, I was wondering,Gene, if you could describe a little bit more say for the next 10 years, what the challenges facing the clean up could be for the Citizens Advisory Board?

140241 Gene: Yeah, I think it's going to be more dealing with the details. You know, it's fairly common to say that the devil is in the details and I think that that's been true at Fernald, and I think we're going to have to continue to have some involvement in the details that carrying out the remediation of both the waste pits and the silos. We're in kind of a lull right now, a few years when there isn't a great deal of activity there that is either controversial or that anybody knows about. But I'm not completely satisfied in my mind that we know enough about how to deal with those silos safely and effectively and we're going to have to watch out for the details and how

that's done. And that's where I see one of our biggest challenges to be. I think the broad outlines of stewardship can be formulated with some ease and we're pretty far along in that right now. There will be details about that as well that will need attention and I don't think they're gonna be as hard to work with but again, it's primarily working on details. I don't see any major conceptual issues out ahead of us yet. There probably will be some, but I don't know what they are.

140419 Interviewer: John Applegate commented in a publication that in his experience at Fernald and just his general observations about the Advisory Board that Citizens Advisory Boards are the most effective when they make recommendations and they have more challenges when they get into the sort of day-to-day or sort of the mundane or routine monitoring of decisions or recommendations, that they are more effective when they can make recommendations.

140442 Gene: Yeah, sure, that's right. I agree with that uh, and in part it's because we can't see what's going on on a day-to-day basis. We have to see something that, say, Doug Sarno can lay out for us as "here's something that's important." Or maybe somebody in the Board becomes aware of something that they can bring into the discussion. Uh, then we can begin to cope with that, but whether somebody puts their goggles on or their protective gear or carries out things exactly as they should be, there's no way we're going to know that and it's a level of detail that we shouldn't have to deal with.

140529 Interviewer: I heard someone remark in the period of your absence that as something that's not necessarily good is that CAB meetings and the monthly clean up meetings are becoming the replays of each other at times because all we're getting is briefings and updates of the day-to-day progress and maybe that's something that's going to be inevitable when you move from a design phase to the actual implementation phase.

140556 Gene: It is, it is. Interestingly that's one of the mistakes I sort of think that Fluor may had made when they took on the project. I think they expected to be doing the routine clean up stuff much sooner than they were able to. They had to spend so much time on getting ready to do that, preparing the proper documentation and deciding what needed to be done that they were several years behind the time when front-end loaders and back-hoes and so on were actually working to move things. But uh, once you do start doing that, as we are with the waste pits right now, unless something goes wrong you are in a very routine operation for several years and one month is going to look very much like the month before. I don't think there's any way to avoid that. When we get into the silos that may not be the case but uh, it certainly is for everything else.

140700 Interviewer: I heard something interesting at the last CAB meeting that gave me pause in terms of the way of environmental laws are structured in general and I think it was Tom Schneider who said, we were talking about the impact of re-baselining on missing milestones, and he basically said, "We can't do anything about this milestone until it's missed." That up until a point, two days before the milestone, if something hasn't been done, there is a limit on what a regulator can do. I don't know if Fernald is going to teach us some lessons about how

environmental policy has limitations as well in terms of its intersection with the funding side, so in terms of getting milestones accomplished.

140746 Gene: When a regulator operates vis-à-vis a regulated community you are in very much the same situation you are with a professional baseball team. You can be behind 13 to nothing with two out in the ninth inning and win the game. You know it isn't very likely, but you can't really say to somebody we're gonna call it off right now because they can still make runs and they can continue to win. And that's kind of where the regulators are with the regulated community. If the regulator comes in two months before a deadline and says, "You're gonna miss this," a regulated community member can say, "You don't know that, we might, may make this. We have some things that we haven't exactly done, we haven't done yet, so we may do it." So Tom was right, there isn't much they can do. They can warn, they can agitate, they can talk, but there is no action, I'm aware of, that they can take.

140854 Interviewer: That would be true with private industries as well?

140856 Gene: Sure, yeah.

140857 Interviewer: Have you seen much difference in Fernald in this context, that this is a case where one government agency is regulating another as opposed to regulators, say federal regulator, trying to regulate by private company, is it about the same level of challenge and frustration or …?

140913 Gene: No, it's higher. The worst case, and I gave a paper on this couple of years ago at the National Association for Environmental Professionals, is when you try to regulate within your own community, it's much harder. And one of the best examples I know of was the case where the Department of Energy was trying to do some things that it also had responsibility to regulate for private entities. Well they were much more harder on the private entities than they were on themselves because it's so much harder to regulate yourself or somebody who is a part of your family, and the family gets to be an extended family. Now when we have a state versus the federal government, then that's a little different. But your EPA and DOE go to Congress, appear before the same committees, have some of the same constituencies. That's really hard, much harder than it is to regulate private industry. Private industry you can go out and say, "Well, you don't clean it up I'll shut you down," and you can do it. Can you shut down the city of Dayton, the city of Cincinnati, Hamilton County, Butler County, the Department of Energy? You can't do that.

141033 Interviewer: I also see there's a certain contradiction or tension when an action or penalty against DOE is defined, let's say, as an incentive to act when at the same time we're crying over the fact that there isn't enough budget to do the clean up.

141053 Gene: Well, the penalty is a public relations thing. Nobody wants to be on somebody's worst list, and in some respect that is taken over from command and control. The alternative to commanding somebody to do something is to say that such and such a company is the worst polluter in Hamilton County or the worst polluter in the state. You don't really like to have that

kind of publicity, your shareholders don't like it, you don't like it yourself, your employees don't like it, so it's another kind of incentive. It's not a substitute for it always, but it can be an important supplement. It does work.

141139 Interviewer: There's logic behind that …

141143 Gene: Sure, exactly!

141144 Interviewer: Andrea just wrote here, do you know of success or failure or challenges or problems that other CABs, you mentioned a couple of times that Fernald, especially in the early years, were sort of out ahead of the others CABs, was that just because it was formed earlier or because of leadership …?

141158 Gene: No, I think it had better leadership. We certainly had a superb contractor, our facilitator, resource person. But some of the other CABs, Hanford comes to mind, the people are dispersed over several states. They don't have the day-to-day contact with each other that is the case here at Fernald. When they come together to meet, it's very costly and they meet for long sessions. We meet for a half a day once a month, they meet for a couple of days when they come together because it's so hard for them to get together and so costly to do it. And I think we're in a more fortunate situation in relative to making a board work.

141249 Interviewer: Have you ever been at one of the national, inter-site meetings?

141252 Gene: No, no I haven't. I haven't been.

141253 Interviewer: I have seen that different CABs have a totally different take-on how they should relate to the headquarters and how they should relate to their sites too. Some of them took on sort of a cooperative, "we're all in this together approach," and others took it as a resource competition model of, you know, "we need to get ours."

1413115 Gene: Yeah, zero-sum game.

141319 Interviewer: The goal of that workshop was to try to develop some national recommendations on stewardship that would apply across the complex we didn't have a lot of success. Anything else?

141330 Gene: I tell you I'm out of time.

141332 Interviewer: I appreciate your time. You did a great job.