

ORIGINAL

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Title: **BRIEFING ON SITE DECOMMISSIONING**
MANAGEMENT PLAN (SDMP) - PUBLIC
MEETING

Location: **Rockville, Maryland**

Date: **Monday, October 7, 1996**

Pages: **1 - 73**

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3 ***

4 BRIEFING ON SITE DECOMMISSIONING
5 MANAGEMENT PLAN (SDMP)

6 ***

7 PUBLIC MEETING

8 ***

9 Nuclear Regulatory Commission
10 Commission Hearing Room
11 11555 Rockville Pike
12 Rockville, Maryland

13
14 Monday, October 7, 1996
15

16 The Commission met in open session, pursuant to
17 notice, at 2:05 p.m., the Honorable SHIRLEY A. JACKSON,
18 Chairman of the Commission, presiding.
19

20 COMMISSIONERS PRESENT:

21 SHIRLEY A. JACKSON, Chairman of the Commission
22 KENNETH C. ROGERS, Member of the Commission
23 GRETA J. DICUS, Member of the Commission
24 EDWARD McGAFFIGAN, JR., Member of the Commission
25

1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

2 JOHN C. HOYLE, Secretary

3 KAREN D. CYR, General Counsel

4 CARL PAPERIELLO, Director, NMSS

5 MARGARET FEDERLINE, Deputy Director, Division of
6 Waste Management, NMSS

7 MICHAEL WEBER, Chief, Low-Level Waste and
8 Decommissioning Projects Branch, NMSS

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P R O C E E D I N G S

[10:00 a.m.]

CHAIRMAN JACKSON: Well, good afternoon, everyone.

Today, the staff will update the Commission on the status of the Site Decommissioning Management Plan or the SDMP. The staff last briefed the Commission in May of '95 on this program when I was just showing up, as I recall.

The Commission is provided a detailed description of the program every other year. In this nonreporting year, the Commission receives just a summary of significant SDMP activities, however given that you essentially have a new Commission you should keep that in mind in terms of on-the-spot renormalization of your remarks.

Along with this briefing, the staff has prepared a commission paper, SECY 96-207, that describes the significant SDMP activities and the paper details progress on removing sites from the SDMP and notes that six sites have been removed since May of '95 and five other sites have had decommissioning plans approved. However, the NRC itself is faced with a number of policy issues that I hope we will discuss today, including DOE acceptance of Title II and custody for long-term institutional control and so that is a request to have you explicitly discuss it. And the possible use of a generic environmental impact statement for a number of uranium thorium contaminated sites. And that is also a

1 specific request. We look forward to hearing the staff's
2 views on these issues.

3 Finally, let me say that there is a direction-
4 setting issue paper on decommissioning of materials licenses
5 as part of a strategic assessment and rebaselining. The
6 Commission looks forward to receiving stakeholder comments
7 on this issue at upcoming meetings in Colorado Springs,
8 Chicago and Washington.

9 Now, I understand that copies of the staff's paper
10 and charts are available at the entrances to the meeting so
11 if my fellow commissioners don't have any beginning
12 comments, Mr. Taylor, please.

13 MR. TAYLOR: Good afternoon. With me at the table
14 are Carl Paperiello, Margaret Federline and Mike Weber from
15 the Office of Nuclear Materials Safety and Safeguards.

16 At the last briefing of the Commission on Site
17 Decommissioning Plan in May of last year, there were
18 Commission suggestions and, following those suggestions, the
19 staff will focus today on three specific sites to emphasize
20 the policy, regulatory and technical issues associated with
21 the decommissioning of sites under the Site Decommissioning
22 Management Plan and the staff's involvement with the public
23 in this program.

24 Margaret and Mike will present the meeting.
25 Margaret will provide an overview and background information

1 on the Site Decommissioning Management Plan and summarize
2 staff responses to previous Commission direction. Mike will
3 address the current SDMP issues, focusing on those three
4 sites that I mentioned and for which environmental impact
5 statements are currently being developed.

6 These sites do illustrate the regulatory policy
7 and technical issues that are associated with some of the
8 more complicated sites under our plan. Mike will conclude
9 the presentation with discussion of the common issues for
10 these sites, reliance on long-term institutional controls
11 and the staff's forward view of the program. Margaret will
12 continue.

13 MS. FEDERLINE: Good afternoon. We appreciate the
14 opportunity to meet with you this afternoon to discuss
15 staff's approach to decommissioning the tens of sites where
16 licensees propose solution to decommissioning falls outside
17 the envelope of the regulations.

18 Now, the regulations define decommissioning as the
19 release of property for unrestricted use following the
20 termination of a license. Now, less than 10 percent of our
21 materials licensees require this complex decommissioning,
22 primarily fuel cycle and industrial facilities.

23 Although under controls, routine controls, usually
24 there is not an eminent threat to the public health and
25 safety, these sites do have the potential to have doses in

1 exceedence of public dose limits, so this is the source of
2 our concern.

3 Now, the sites present unique concerns with
4 varying degrees of hazard, sophistication of remediation
5 approaches and varying degrees of cost. Now, some
6 responsible parties may not be able or they may be unwilling
7 to commit to decommissioning and so this is another
8 complexity in the process.

9 Additional complexity comes from litigation that
10 is involved as well as the extensive coordination that is
11 involved with the interested parties. Now, despite the
12 complexity that I have laid out, progress in the program has
13 been steady over the past year. As the Chairman indicated,
14 11 sites have been removed, six since May of 1995 and this
15 exceeds the goals that we had set for ourselves.

16 We do have a poster that is very difficult to see,
17 but this establishes our 1997 goals.

18 CHAIRMAN JACKSON: Could someone lift that up?

19 MS. FEDERLINE: This establishes our 1997 goals
20 and gives you an idea of where we stand right now. The
21 little pink diamonds represent -- and these are the various
22 components of our decommissioning process so it just gives
23 you an idea of where we are.

24 We do have 45 sites that are left, though, on the
25 list so we have a lot of progress that we need to make.

1 Although we routinely consult --

2 CHAIRMAN JACKSON: Thank you, Mike.

3 [Laughter.]

4 MS. FEDERLINE: Although we routinely consult with
5 the Commission when we terminate a site from this list, we
6 thought it was appropriate today to discuss these technical
7 policy issues with you and get your ideas on any other
8 approaches that we should be considering.

9 Could I have Slide 2, please?

10 [Slide.]

11 MS. FEDERLINE: Today, I will briefly discuss the
12 background of this program, I will discuss the previous
13 briefing and Commission direction, what activities we have
14 taken to respond to the Commission direction and I will
15 summarize the current issues that are facing us. Then Mike
16 Weber will discuss some example cases and get into the
17 technical, regulatory and policy issues for each of these
18 specific cases. Then we will summarize how we see moving
19 forward in this program.

20 Could I have the next slide, please? Slide 3,
21 please?

22 [Slide.]

23 MS. FEDERLINE: Thank you.

24 The SDMP program has largely been initiated in
25 response to Commission and congressional reviews. Back in

1 1989, there was a review of NRC's decommissioning procedures
2 and criteria and GAO reported that certain sites had not
3 been decommissioned appropriately and that the
4 decommissioning process had taken too long. In August of
5 '89, there was a House subcommittee hearing and the
6 Commission committed to improve its decommissioning process
7 and provided direction to the staff to develop a site
8 decommissioning management plan which is summarized on this
9 slide.

10 The Commission approved the plan in March of 1990
11 and it incorporates the three components that I have listed
12 here on the slide. First, it identifies the contaminated
13 sites requiring additional NRC management attention, it
14 attempts to identify the policy and legal issues that we
15 believe have impeded speedy decommissioning and it presents
16 a program management approach to resolve the regulatory and
17 legal issues and to oversee site remediation.

18 Now, as the Chairman mentioned in her opening
19 remarks, we do provide a biennial update to the SDMP plan.
20 This is a complete revision of the plan. On the alternative
21 years, we provide you a summary of just the activities that
22 have been conducted to fulfill the plan.

23 May I have the next slide, please?

24 [Slide.]

25 MS. FEDERLINE: Remediation continued to lag in

1 1990 and 1991 and the Commission felt that it would be
2 important to establish an action plan to compel timely
3 cleanups. So in April of '92, the Commission approved the
4 Site Decommissioning Management Action Plan. This
5 identified the interim release criteria that would be in
6 place until a rule could be put in place. It also stated
7 the objectives for timely remediation. And another
8 important aspect was it confirmed finality. It ensured
9 licensees that if they decommissioned to an approved
10 decommissioning plan, the Commission would not come back and
11 revisit this decision.

12 In 1992, there was additional congressional
13 interest in the program. The Senate Governmental Affairs
14 Committee held a hearing and they focused on their
15 dissatisfaction with EPA in putting appropriate standards
16 into place and, at that point, they acknowledged the
17 additional effort that staff had been putting into
18 completing the decommissioning program.

19 But in 1994, the General Accounting Office
20 reported on a review that they did in 1993 saying that there
21 was slow progress being made in the decommissioning program
22 and they acknowledged the increased efforts that the Agency
23 was putting into the program but they noted issues that are
24 really outside the control of the Agency. Those are
25 litigation concerns, coordination issues. They noted sites

1 that couldn't meet the unrestricted release criteria and
2 they also noted the limited availability and high cost of
3 off-site disposal.

4 So with that as a backdrop, the staff last met
5 with the Commission in May of 1995 and we have taken
6 numerous actions to respond to the Commission direction
7 following that meeting. We have evaluated the continuity of
8 project management, we have evaluated the business process
9 reengineering, we have consulted with the ACNW on the
10 regulated community and we have implemented program
11 improvements described in the '95 SECY paper.

12 Because of time, I will just touch on one or two
13 of these. In the area of evaluating continuity of project
14 management, we provided a memo to the Commission in late
15 1995. We did evaluate the turnover of our project managers
16 in the decommissioning program and that we concluded our
17 assignment criteria were appropriate but, as with any
18 program, as the program matured, the people got rotational
19 assignments, they were promoted into other positions and the
20 turnover was really, we felt, a result of the maturing
21 program. But we wanted to look further.

22 Although you can expect some turnover, we felt it
23 was important to look at the management tools and the
24 training that could perhaps provide a bridge over any staff
25 turnovers that were occurring. We did put in place a Site

1 Decommissioning Management Plan database which allows us to
2 track the commitments and track the next actions despite
3 turnover of project managers.

4 CHAIRMAN JACKSON: Has there been any turnover
5 since that, since December of '95?

6 MR. WEBER: Yes.

7 CHAIRMAN JACKSON: And how many sites have been
8 affected by that?

9 MR. WEBER: I can't give you a specific number but
10 I know that there has been, even in my own branch, turnover
11 where project managers have been assigned to other projects
12 and in some cases they've come back and in other cases they
13 haven't come back.

14 CHAIRMAN JACKSON: So what impact does that have
15 on the work at the sites?

16 MR. WEBER: What we try to do is manage that
17 turnover so that we minimize those kinds of impacts. We
18 hopefully work the new project manager and the old project
19 manager together for some time so that there is a turnover
20 of useful information, commitments, assignments. We have
21 tried to mitigate, to the extent we can, through management
22 of that activity so there is continuity in the direct
23 supervisor for those activities.

24 CHAIRMAN JACKSON: Have you, in fact, verified
25 that there is minimal impact?

1 MR. WEBER: We believe that there is minimal
2 impact but we often hear from the licensees concerns about
3 new project managers coming on board, concerns that it is
4 delaying the turnaround time on some of the reviews, the
5 decommissioning plans, things of that nature.

6 MS. FEDERLINE: One additional aspect that we put
7 into place is a decommissioning manual chapter and this
8 provides guidance from soup to nuts on how to conduct a
9 decommissioning and a decommissioning review, just to ensure
10 that if a project manager is newer, that there will be a
11 continuous source of guidance and we feel that that is going
12 to be very effective. That will go into place very shortly.

13 CHAIRMAN JACKSON: I think it is important that
14 you, in fact, track what the impact is. Otherwise you have
15 no basis for judging the effectiveness of the bridges and
16 not unduly affecting progress at these sites.

17 MS. FEDERLINE: Next, I will just touch upon the
18 implementation of program improvements that we described in
19 our '95 SECY paper. We felt it was important to promote a
20 more focused review of the site characterization data with
21 the decommissioning plan and so we have now, as -- we used
22 to do those in series. Now we do them in parallel to make
23 sure that any review of site characterization data is
24 conducted in light of the decommissioning approach that is
25 planed to be used at the site. And we really feel that this

1 gives us a more focused review.

2 Another respect, and this was one that ACNW picked
3 upon, was the importance of confirming that contamination
4 has, in fact, been released.

5 What we have done in the past is highly dependent
6 on our confirmatory survey program. What we would like to
7 do is enhance confidence in the licensee's own measurement
8 program and so we have put into place some additional QA
9 measures, we're doing some end process inspections that
10 allow us to develop confidence in the licensee's process,
11 and therefore, we can back off on our own confirmatory
12 measures program.

13 CHAIRMAN JACKSON: Before you go on, I think also
14 the ACNW had recommended that in terms of how you prioritize
15 the sites, that you try to quantify your approach to that as
16 much as possible.

17 I think back in May I had asked you a question
18 about how well you'd been able to quantify the risks and
19 fold that into your prioritization. Have you been able to
20 do any of that?

21 MS. FEDERLINE: Yes, we have made some progress in
22 that area. We've developed a hazards prioritization system
23 which we are applying to the terminated license reviews.
24 This actually gets into the risk posed by those sites and
25 the immediacy with which we deal with them in our program.

1 We're also implementing --

2 CHAIRMAN JACKSON: So you're saying, you, in fact,
3 then do use them to prioritize?

4 MS. FEDERLINE: Yes, we do.

5 We're also developing a screening methodology to
6 review the sites where previous disposals had occurred. The
7 Commission had directed us to give some scrutiny to those
8 sites at the time the facility was decommissioned and what
9 we've defined as a process for risk significance as to
10 whether any additional action needs to be taken at those
11 sites. So we are moving in that area.

12 CHAIRMAN JACKSON: Have there been any where
13 you've come back and decided there is need for additional
14 action?

15 MS. FEDERLINE: Yes. Let me ask Mike to address
16 that in detail.

17 MR. WEBER: In terms of the risk posed by the
18 contamination?

19 CHAIRMAN JACKSON: No. The Commission -- I thank
20 Dr. Federline for bringing that up -- in fact, did ask that
21 the staff look at sites where previous disposal had occurred
22 and reevaluate in terms of risk, et cetera, or as you would
23 say, hazards prioritization.

24 The question is were there sites you found where
25 there, in fact, was need for additional action. If so,

1 what's been done?

2 MR. WEBER: Absolutely. We're in the front edge
3 of the application of that screening methodology that
4 Margaret referred to. In fact, we haven't published that
5 yet for broad use by the license community, but we have been
6 applying the same sort of methodology.

7 We've applied it, for example, at the University
8 of South Dakota where we found in that case it was suitable
9 to release the former disposal because the contamination
10 didn't pose that great a risk.

11 In other cases, however, like the sites we'll be
12 talking about today, if you applied the methodology, you
13 will find that they have enough inventory, enough activity,
14 to pose significant risk such that this kind of high level
15 review is appropriate.

16 CHAIRMAN JACKSON: I guess what I'm also trying to
17 get at is whether you think there's any vulnerability in
18 terms of having any significant number of previously
19 disposed of sites having to be reworked in some way?

20 One is thinking about it both from a policy
21 perspective in terms of the application of the methodology
22 but also a resource perspective in terms of what this is
23 going to look like going forward relative to those things
24 already on the list.

25 MS. FEDERLINE: Right.

1 CHAIRMAN JACKSON: I haven't quite --

2 MS. FEDERLINE: We feel that we need a method so
3 that we focus our resources on those sites that are most
4 important. We feel, between the hazards ranking method --
5 we feel we have a pretty good handle on the sites that are
6 existing on the SDMP.

7 The wild cards are the terminated license reviews
8 and we feel like we have hazards methodology that we are
9 applying there.

10 CHAIRMAN JACKSON: So you're saying with respect
11 to the already terminated licenses, you're just now
12 beginning to apply these screening criteria?

13 MS. FEDERLINE: That's correct.

14 CHAIRMAN JACKSON: So in x months, you'll have a
15 better handle on just how large the issue is? Is that a
16 fair statement?

17 MS. FEDERLINE: Right. Yes.

18 CHAIRMAN JACKSON: So when do you think you'll
19 have your hands around that?

20 MS. FEDERLINE: I would think it will probably
21 take us an additional -- in terms of the terminated license
22 reviews, we've got about 7,000 more of those to go. We
23 already have identified sum six additional sites that will
24 be put on SDMP, but it will probably take us the rest of the
25 year to complete the terminated license reviews and have a

1 full appreciation for what the impact might be.

2 CHAIRMAN JACKSON: So next spring, say March, you
3 could be providing by March a report to the Commission on
4 the status of that review of the terminated licenses?

5 MS. FEDERLINE: Yes.

6 MR. WEBER: Yes. I wanted to amplify a little bit
7 what Margaret said.

8 In addition to the terminated license reviews, we
9 also, of course, anticipate that the timeliness rule will
10 stimulate licensees to submit notifications like these
11 former burials. So you really have, now, two different
12 populations to deal with.

13 The timeliness rule does not, itself, apply to
14 formerly licensed facilities, but it does apply to licensees
15 that currently operate and have these unused outdoor areas
16 or formerly used buildings.

17 I think by next spring, we'll have insights into
18 both the old burials as well as the application of the
19 terminated licenses.

20 We have, as a first step in applying that hazards
21 methodology, applied it to sites that were identified as
22 being contaminated as part of that terminated license
23 review.

24 We went through and we wanted to correlate the
25 scores they got through the Oak Ridge ranking system versus

1 what we believe the relative risk may be. So we're trying
2 to benchmark our systems so that we can have some confidence
3 when they do identify a site with a fairly high score that
4 indeed, it is a site that warrants more attention.

5 CHAIRMAN JACKSON: This is the kind of question or
6 it retracts into the kind of question that Congress is
7 particularly interested in.

8 MS. FEDERLINE: Yes.

9 CHAIRMAN JACKSON: In terms of how we are working
10 off the problem, and you mentioned finality and this is part
11 of that process.

12 MS. FEDERLINE: Right.

13 CHAIRMAN JACKSON: Commissioner Dicus?

14 COMMISSIONER DICUS: With both, some sites might
15 be added to the list in the foreseeable future because of
16 the work we're doing on the terminated license, together
17 with any sites we might have already released thinking they
18 were decontaminated or they didn't need to be contaminated
19 when found out they do.

20 Who is accountable for cleaning up these sites,
21 particularly some of these, the licensee obviously no longer
22 exists, the company is gone, the people are gone?

23 I think there is a process in place, but I need --

24 MS. FEDERLINE: Our first intent is if there is a
25 licensee, then the licensee is the responsible party and we

1 attempt to recover.

2 If there is not a licensee in place, then we
3 attempt to go after the current responsible party.

4 MR. WEBER: The propertyowner in most cases.

5 MS. FEDERLINE: Yes.

6 CHAIRMAN JACKSON: What tool do we have, what
7 enforcement tool do we have?

8 MR. WEBER: My understanding is if somebody is in
9 possession of source special nuclear by-product material,
10 that if we have an adequate safety basis, can issue orders,
11 for example, to compel action.

12 MR. TAYLOR: That was an action we took, I can't
13 remember the exact date. We knew we needed incentives to
14 get site cleanup, so we presented a program some four or
15 five years ago during a period of some of the matters that
16 Margaret mentioned of an approach, and the Commission
17 approved using enforcement orders and certain -- I can't
18 recall the specific amount -- civil penalty levels which
19 would be accrued separately for ultimate use of
20 decommissioning.

21 I think perhaps one or two of you remember those
22 policies that we presented to the Commission.

23 We actually, to the best of my knowledge, have
24 issued one order -- isn't that right?

25 MS. FEDERLINE: We issued an order to Chemetron.

1 MR. TAYLOR: Chemetron. With regard to the rest
2 of the work that's been going on where there are licensees,
3 we've been able to work and try to get sites cleaned up.
4 There's quite a list that we've gotten off the list and
5 gotten acceptable release criteria and we hope finality, so
6 those policies are still in place.

7 We knew when we asked for that authority and
8 decided to do it, that we hoped we didn't have to do it.
9 That was a very important act by the agency. The issuance
10 of that one order was a very important action. It was
11 Chemetron in Ohio.

12 CHAIRMAN JACKSON: Do you think it tended to
13 accelerate things?

14 MR. TAYLOR: I think it has, but I think it helped
15 us to make progress.

16 CHAIRMAN JACKSON: Good.

17 MR. TAYLOR: Showed we mean business. Many of
18 these sites have been around a long time.

19 MR. WEBER: I'm reminded also, we did issue a
20 confirmatory order in the case of the Pawling site in New
21 York. No order was negotiated with the parties, but that
22 was one mechanism that we had to establish a suitable remedy
23 for the contamination at that site.

24 MR. TAYLOR: A slightly different order, but it
25 was to accomplish a cleanup.

1 MR. WEBER: The Commission's general expectations
2 in the area were laid out in that 1992 action plan. There's
3 a whole section in there on how we ensure or compel timely
4 remediation.

5 CHAIRMAN JACKSON: Okay, thanks.

6 MS. FEDERLINE: Next slide, please.

7 [Slide.]

8 MS. FEDERLINE: SDMP sites warrant a special
9 oversight and management attention because of a complex mix
10 of technical issues, regulatory issues and policy issues.
11 Among these are the importance of public involvement.

12 We believe the staff efforts to involve the
13 public, though they are extremely timeconsuming and resource
14 intensive, are extremely important.

15 I've been out to some of these sites and have seen
16 the proximity of homes to some of these sites and it's very
17 understandable that people would want involvement in the
18 process, and we've been trying.

19 One way that we've been doing that is through for
20 the most highly contaminated sites, developing environ. tal
21 impact statements. There are environmental impact
22 statements underway on all of the sites that we'll be
23 discussing today and we can illustrate how that process, we
24 believe, provides some transparency and consideration of
25 options for disposal.

1 The three sites we've chosen today, because of the
2 diversity of SDMP, are not necessarily representative of all
3 the sites because the conditions do vary widely among the
4 sites.

5 They are illustrative of the complex issues that
6 face us when we address any one of these sites. That's why
7 we thought it would be useful to walk through them with you.

8 No one common issue that you'll notice as we walk
9 through those sites is the potential need for institutional
10 controls at these sites, and this is historically different
11 than NRC's regulatory approach in the past.

12 Our general approach has been to establish an
13 unrestricted level that we can walk away from, and for the
14 vast majority of sites that is achievable and reasonable
15 because it does not incur the long-term monitoring costs
16 that would be present with institutional controls, but for
17 the highly-contaminated sites it does in some cases make
18 sense to consider institutional controls and we are doing
19 that as part of the residual radioactivity criteria rule.

20 Let me now turn it over to Mike, who is Chief of
21 the Low Level Waste and Decommissioning Projects Branch.

22 I also want to introduce the project managers who
23 are on the front row. We have Jim Kennedy, who is the
24 shieldalloy project manager. We have Jim Shepherd, who is
25 the Sequoyah Fuels, and we have Heather Astwood, who is

1 project manager for the Parks Township site.

2 CHAIRMAN JACKSON: Before you begin, Mike, I have
3 a question I want to ask you about the SECY paper.

4 In 96-207 you indicate that the Staff is also
5 evaluating the feasibility of a generic environmental impact
6 statement.

7 MS. FEDERLINE: Yes.

8 CHAIRMAN JACKSON: And addressing the onsite
9 disposal of uranium thorium waste, and you talked about,
10 what, I think 10 to 20 sites that would be affected, and
11 there are various obvious resource and regulatory benefits.

12 The question has to do with are there
13 vulnerabilities? I mean based on your experience at -- your
14 past experience with respect to decommissioning sites, how
15 accepting would you anticipate the public would be, have you
16 looked at the legal issues, and is there enough commonality
17 over the 10 to 20 sites with respects to geology, hydrology,
18 extent of contamination, proximity of residential areas, et
19 cetera, that you really believe that -- or am I asking you
20 this too soon in the process?

21 MR. WEBER: Good questions.

22 CHAIRMAN JACKSON: But what I'll then do is, if
23 they are good questions and you would not like to answer
24 them, you will get them as part of the SRA.

25 [Laughter.]

1 MS. FEDERLINE: Well, let me just start, and Mike
2 can continue.

3 We are just at the onset of that. We felt it was
4 necessary to do a range of these sites before we
5 contemplated a generic, so we have really not embarked upon
6 the generic assessment yet and we have considered all of the
7 issues that you brought up.

8 There is diversity and complexity among these
9 sites and it could be very difficult.

10 CHAIRMAN JACKSON: Okay.

11 MR. WEBER: We have developed a task plan to
12 develop the generic environmental impact statement.

13 The first phase of that is the feasibility
14 analysis.

15 Of what we have seen so far, or let me take a step
16 back, when we described our intentions in last May's
17 briefing as well as in SECY 95-209, we said we wanted to
18 complete draft environmental impact statements on several of
19 these sites that we will be talking about today.

20 I think we had hoped to complete three drafts
21 before we initiated the generic environmental impact
22 statement.

23 As Margaret pointed out, the intent was to see how
24 much similarity is there in terms of the alternatives
25 available, in terms of the impacts that may be associated

1 with the decommissioning actions.

2 I would think from our interactions at the three
3 sites that we are -- in the four sites that we are
4 developing EIS's on now that if a generic EIS were pursued
5 the public would want some other process that they could be
6 involved in in the implementation of the results of the
7 GEIS.

8 CHAIRMAN JACKSON: Right.

9 MR. WEBER: I think there would be a lot of
10 concern if we did that and excluded the public from having a
11 meaningful voice in the process, so that would be something
12 we would have to look at in terms of moving forward with
13 that plan.

14 But we did think if we do find sufficient
15 similarity there that it only makes sense to try to address
16 this issue generically and not continue to piecemeal it, and
17 that is what we have got to weigh -- what are the tradeoffs
18 with that generic approach.

19 CHAIRMAN JACKSON: And I guess your SECY paper
20 also indicated that onsite disposal of material at those
21 sites requires an exemption from our existing regulations --

22 MS. FEDERLINE: Yes.

23 CHAIRMAN JACKSON: -- supported by NEIS, and the
24 question is, is there anything or are you far enough along
25 to say whether the regulations themselves perhaps need to be

1 changed instead of granting a number of exemptions or are
2 you going to be evaluating that as part of your --

3 MS. FEDERLINE: Well, we are considering that as
4 part of the residual radioactivity rule and generically
5 implementing standards we would be able to look and say for
6 a few very highly contaminated sites institutional controls
7 might be allowed.

8 CHAIRMAN JACKSON: And so that would require
9 regulatory change, right?

10 MS. FEDERLINE: Yes.

11 CHAIRMAN JACKSON: That is an interesting issue.

12 MS. FEDERLINE: It would be desirable.

13 CHAIRMAN JACKSON: Right, okay, thank you.

14 MR. WEBER: If we could have the next slide,
15 please, Slide 7.

16 [Slide.]

17 MR. WEBER: The first slide I'll be talking about
18 is the Parks Township shallow land disposal area. That is
19 the initial SLDA.

20 There is also a Parks Township operating facility
21 that is immediately adjacent to the SLDA and we have to keep
22 the two separate.

23 I think the Parks Township site is a good
24 illustration of some of the technical issues that we are
25 working on. Now all these sites have technical regulatory

1 and policy issues but this one particularly is useful in
2 illustrating some of these technical issues.

3 The site is located in Parks Township,
4 Pennsylvania, and that is about 30 miles northeast of
5 Pittsburgh. It covers -- the entire land area is about 114
6 acres, but out of that only about 1.2 acres actually are
7 occupied by waste trenches.

8 The trenches are illustrated on that photograph,
9 that oblique area photograph aside of Margaret, and I have
10 illustrated on that with white tape one of the trenches so
11 you can see that it's one trench in a cleared area.

12 There are additional trenches there and you will
13 see that in the map in the next diagram.

14 Now these waste disposal trenches were constructed
15 back in the late 1950s through about 1970 to take wastes
16 that were generated at the Apollo nuclear fuel processing
17 facility, which is just downstream -- or upstream.

18 NRC or at the time the Atomic Energy Commission
19 had a regulation on the books, 10 CFR 20.304, that
20 authorized disposal of radioactive waste provided certain
21 limits were met, and that disposal did not require prior
22 site specific authorization by the Commission and in 1981
23 NRC rescinded that regulation because it encountered various
24 problems with those prior disposals and it felt that it was
25 more appropriate to approve them on a site specific basis.

1 The burials at Parks as I mentioned took place
2 between 1959 and about 1970. The site has some rather
3 undesirable features. One is that it is rather close to
4 residential areas. If that aerial photograph had a slightly
5 larger area, you would be able to see just off the slide
6 homes. The town of Kiskimere is located in close proximity
7 of the site.

8 Last year we showed a video to the Commission at
9 the Commission briefing and I believe you saw some of the
10 homes in that video.

11 It is also located above shallow groundwater and
12 the immediate residents use groundwater.

13 Finally , it is above a deep coal mine. About 80
14 feet down is mined out area where coal had been extracted
15 about a century before or so and now you have all the
16 problems that are associated with line collapse and
17 subsidence.

18 Go to the next slide, please.

19 [Slide.]

20 MR. WEBER: This next diagram is a map showing you
21 the general location. The blue is the Kiskiminetas River,
22 which flows from the bottom of the slide up towards the top.
23 The black area is the general outline of the site. The
24 orange dot which is just to the upper left of that black
25 area is the active Parks Township operating facility and

1 across the river you see something labelled KIWPCA -- that
2 is the Kiski Valley Water Pollution Control Authority.

3 They unfortunately find themselves in possession
4 of a sewage lagoon that contains sewage ash with about 3
5 curies of enriched uranium in it.

6 This we believe came from the discharges that
7 occurred legally from the Apollo facility over the years.

8 Could I have the next diagram, please?

9 This is a blow-up of the area and the blackened
10 areas represent the trenches themselves.

11 You can see that on the northern part of the site
12 there is a dry run. It's an intermittent stream and then
13 there is a cluster of about nine trenches to the right and
14 one trench to the left.

15 Trench 1 is the trench that is outlined on the
16 aerial photograph that you have before you and I didn't show
17 all the trenches because it would get a rather busy picture.

18 In addition, there is Trench 10, which is down
19 closer to the operating facility.

20 The houses that I mentioned earlier are just to
21 the south of that road that is along the southern boundary
22 of the site.

23 Could I have the next slide, please?

24 [Slide.]

25 MR. WEBER: Now as I mentioned, the waste that is

1 located in those trenches originated from the nearby Apollo
2 fuel processing plant and principally the wastes were
3 residues from uranium processing where various wastes have
4 been treated to remove the enriched uranium because the
5 uranium had value.

6 In addition to the uranium, which is in both
7 highly enriched and low enriched forms, there's naturally
8 occurring or natural enrichments of uranium, thorium
9 polychlorinated by phenols and various volatile organics, so
10 you can see that both we, the NRC, and the state,
11 Pennsylvania Department of Environmental Protection, have
12 interests in the successful remediation of the trenches.

13 The trench volume is about 600,000 cubic feet of
14 contaminated waste and soil, and in total we estimate about
15 anywhere up to 6 curies of uranium in the trenches.

16 There is some uncertainty and that is one of the
17 technical issues that I will get to later.

18 COMMISSIONER DICUS: Quick question.

19 The PCBs and the organics, are they mixed in with
20 the other or are they separate as opposed to mixed waste --

21 MR. WEBER: Yes, as best we can tell, they are
22 intermingled.

23 Of course, the controls that were in place at the
24 time this waste was placed were a lot less than you will
25 find today at operating facilities.

1 Although this material has been there for several
2 decades, to date we have noticed no offsite contamination of
3 groundwater or surface water.

4 There has been some limited migration of both
5 radiological and chemical constituents but when I say
6 "limited" it's on the order of a few tens of feet from one
7 of the trenches, at least for the uranium.

8 The next slide, please.

9 [Slide.]

10 MR. WEBER: The licensee in considering what
11 alternatives would be appropriate at the site identified
12 three principal alternatives.

13 One is disposal offsite. That is by far the
14 conventional decommissioning route where all the
15 contamination down to release levels is removed from the
16 site and taken off and disposed of at a licensed facility
17 that may be licensed to receive radiological waste or
18 chemical waste by EPA or a state or in some cases a state
19 agency that may have authorized both chemical and
20 radiological waste disposal, mixed waste disposal.

21 Another option that was considered was exhumation
22 of the waste, treatment of the waste and then disposal or
23 stabilization of the waste onsite -- so-called SOS option.

24 Then finally there is stabilization in place.
25 Stabilization in place is the licensee's preferred approach.

1 That is what the licensee has proposed in addition to
2 assessing these other alternatives.

3 Thus, they would stabilize the material where it
4 is in trenches by placing an engineered cover on top of it
5 and then constructing various engineered groundwater
6 barriers to provide long-term protection of the groundwater
7 immediately beneath the site.

8 These groundwater barriers could include, for
9 example, grout curtains, slurry walls, and hydraulic control
10 borings, all of which are intended to provide long-term
11 protection of the groundwater.

12 Of course, the questions with this arise how long
13 are these going to work, how effective will they be, and who
14 might be required to maintain them in perpetuity, as long as
15 the waste poses a hazard.

16 Thus another option or another provision in the
17 proposal is to institute some sort of long-term land use
18 restrictions and institutional controls to maintain these
19 barriers to provide protection.

20 The existing regulations, as we talked about
before, certainly point to unrestricted release as the
21 endpoint for decommissioning, and if the waste trenches were
22 disposed of or stabilized where they are, of course, that
23 would be a different end point. Thus, we initiated the
24 environmental impact statement to consider the alternatives
25

1 as well as the impacts.

2 Go to the next slide, please.

3 [Slide.]

4 MR. WEBER: This background lays the discussion of
5 some of the key technical issues. We need to resolve these
6 issues as part of the development of the environmental
7 impact statement. We also need to resolve the issues in
8 actually authorizing the decommissioning, and that would
9 follow after the record of decision on the environmental
10 impact statement. One of the key technical issues is
11 potential reconcentration of the enrichment uranium into a
12 critical mass.

13 CHAIRMAN JACKSON: Is that real or hypothetical?

14 MR. WEBER: Well, that's what I'm going to get to.
15 There is sufficient mass inventory in the trenches to form a
16 critical mass and so what we're talking about here is the
17 potential long-term concern that somehow the uranium would
18 be solubilized or leached from its waste form, transported
19 to some distance, and then reconcentrated through
20 precipitation or absorption into some form that would be a
21 critical geometry and thus, give rise to the uncontrolled
22 criticality.

23 CHAIRMAN JACKSON: You have mentioned that this
24 had been around, some of this, for a while. Do you have a
25 good handle on what has prevented this kind of

1 reconcentration into a critical mass heretofore?

2 MR. WEBER: Time is one important factor. We
3 estimate that it would take tens of thousands of years, if
4 not longer, for this process to work in order to get
5 sufficient reconcentration.

6 We've conducted a thorough review of this amongst
7 the staff and we recently concluded that although it's
8 conceivable or possible that you could have a
9 reconcentration, the likelihood is extremely remote and
10 therefore, it doesn't deserve additional consideration as
11 part of the EIS development.

12 So we've satisfied ourselves that it's so remote,
13 so unlikely that it doesn't warrant additional review at
14 this time.

15 We will have to, at the time of licensing, again
16 revisit this in terms of a safety evaluation. That may
17 require additional review of this issue.

18 CHAIRMAN JACKSON: When you do that safety
19 evaluation, do you intend to apply some kind of a risk-
20 based methodology not unlike what you might even be looking
21 at at a repository, for instance?

22 MR. WEBER: The dilemma that we have in these
23 kinds of assessments is getting a handle on the
24 probabilities. First of all, there's great uncertainties,
25 as you can well imagine.

1 The waste forms are heterogeneous, there's various
2 wastes in there. We'd have to estimate how likely are all
3 these different factors that would have to align themselves
4 in such a way that you would have sufficient
5 reconcentration.

6 That's our challenge. We're not thinking at this
7 time about a full-blown PRA-type approach, probabilistic risk
8 analysis, but certainly, we will have to quantify, to some
9 extent, or use some qualitative basis to estimate what those
10 probabilities are.

11 That's what we've done to date in developing the
12 conclusions we've reached, but certainly we may have to take
13 that a step further in response to public comments, as well
14 as in our response to our need to satisfy ourselves in the
15 safety evaluation process.

16 CHAIRMAN JACKSON: It strikes me that if you're
17 doing a safety evaluation, that's essentially what you are
18 doing, trying to get your hands around those probabilities.

19 MS. FEDERLINE: Yes.

20 MR. WEBER: Yes.

21 COMMISSIONER McGAFFIGAN: How much HEU are you
22 talking about? Is that classified?

23 MR. WEBER: No, no, it's not classified; it's part
24 of the public record.

25 The next issue is source term characterization and

1 that's there for a key reason, because there is uncertainty
2 about how much HEU is there.

3 I believe the estimates that I had were anywhere
4 from one to three tons of enrichment uranium in the
5 trenches. So you have certainly enough, well enough, have a
6 critical mass, but the question is, when that is distributed
7 throughout 600,000-plus cubic feet of waste, when you have
8 to rely on various mechanisms to both dissolve and
9 reconcentrate the uranium and transport it and the right
10 geometries, it's a rather iffy proposition.

11 CHAIRMAN JACKSON: It's iffy all around.

12 MR. WEBER: The third issue is groundwater
13 protection.

14 As I mentioned before, there is shallow
15 groundwater nearby; people use the groundwater to a certain
16 extent. There are nearby users and thus, we would seek and
17 the licensee and the community wants a high confidence that
18 if the waste were to be left in place, it would not pose an
19 unacceptable hazard to the groundwater.

20 If you rely on institution controls and you place
21 a suitable cover on top of the waste, groundwater becomes
22 one of the principal, if not the principal, pathways through
23 which human exposure could occur over the long term that
24 would be of concern at this site.

25 Therefore, we are closely evaluating the

1 licensee's technical demonstrations in terms of the
2 durability and the institutional controls, as well as the
3 engineered controls, that are designed to provide long-term
4 protection with the groundwater.

5 Could I have the next slide, please?

6 [Slide.]

7 MR. WEBER: The near-term schedule for resolving
8 these issues is laid out on Slide 13. We are, I should
9 mention, cooperating fully with the Pennsylvania Department
10 of Environmental Protection.

11 We signed a memorandum of understanding with them
12 on the cooperation for remediation of all the SDMP and
13 related decommissioning sites within the Commonwealth of
14 Pennsylvania this past summer.

15 They are an active participant in our review.
16 They are participating in our development of the
17 environmental impact statement and they have certain
18 interests with respect to not only the radiological
19 constituents, but also the chemical constituents.

20 We believe that a coordinated, government response
21 in this case makes the most sense and that is the reason why
22 we are cooperating so closely with them.

23 Our plan is to publish the draft environmental
24 impact statement in March of 1997. That is a slip from what
25 we had previously forecast, the reasons being we had some

1 delay in resolving this criticality issue.

2 We are also, as I mentioned, cooperating with the
3 State, just allow enough time to get our comments resolved
4 with our contractor, with the NRC staff, and with the
5 Commonwealth. That's pushed the schedule out to March of
6 1997.

7 We have, as Margaret mentioned earlier, initiated
8 some special public involvement activities at these three
9 sites. We have what we call a public information roundtable
10 which includes stakeholder representatives of all the
11 different interests in the vicinity of the sites.

12 We would allow a 90-day comment period on the
13 draft EIS and we intentionally schedule the public meeting
14 on that draft EIS well into that comment process, so that we
15 allow people time to read the document, become familiar with
16 what we're saying, ask questions, and then make their
17 comments known to us, but also give them some time after
18 that meeting to refine those comments or supplement those
19 comments as part of the public comment process.

20 We would hope to publish the final EIS early in
21 1998 and a review of the decommissioning plan would occur
22 shortly thereafter.

23 COMMISSIONER McGAFFIGAN: Will there be a
24 preferred alternative expressed in the EIA?

25 MR. WEBER: Yes, there will be. I think it's

1 NRC's practice to identify a preferred alternative. We did
2 so with the Shield alloy site. We concluded that there were
3 no obviously superior alternatives for that site, and I'll
4 get into that in a little bit.

5 COMMISSIONER McGAFFIGAN: You hinted earlier that
6 one of the themes today is going to be institutional
7 control. Is institutional control of the site likely to be
8 the preferred or is that something that's --

9 MR. WEBER: That's the licensee's proposed
10 alternative or that's one of the components of the
11 licensee's proposed alternative, so that is one of the
12 issues we'll have to deal with as part of the EIS.

13 COMMISSIONER McGAFFIGAN: Is there any constraint?
14 You mentioned earlier that regulatory changes would be
15 needed to use institutional controls. Is that a constraint
16 on the EIS process or is that something that can work in
17 parallel?

18 MR. WEBER: I think it's something we are actively
19 resolving in parallel. We'd like to identify a number of
20 mechanisms that may be useful or valid to provide for the
21 long-term institutional controls necessary.

22 Our hope, as we move forward also in parallel with
23 the development of our final rulemaking on the residual
24 contamination criteria, is that we would be able to identify
25 some off-the-shelf, institutional controls that at least

1 could be used as a starting point for tailoring and applying
2 on these specific sites.

3 MS. FEDERLINE: Let me just add before Mike goes
4 on, as you've noted, we've addressed the technical issues
5 that relate to Parks Township. There are also policy and
6 regulatory issues that apply to this site, but because of
7 time, we opted to feature only one set of issues for each
8 site.

9 MR. WEBER: If I could have the next slide, we'll
10 turn to our next site which is the Sequoyah Fuels
11 Corporation site in Gore, Oklahoma.

12 [Slide.]

13 MR. WEBER: We're using this site to illustrate
14 some of the regulatory issues that we face with some of the
15 more problematic SDMP sites.

16 This site is an 85-acre, industrial area on a 600-
17 acre site. It's located about 75 miles southeast of Tulsa,
18 Oklahoma, just outside of Gore.

19 This site, you may be familiar with, processed
20 uranium concentrate to produce uranium hexafluoride. They
21 also processed uranium tetrafluoride to convert back into a
22 more stable form.

23 The licensee is currently unable to provide
24 conventional financial assurance, which is one of the
25 regulatory issues that we typically face at this site. That

1 exacerbates the difficulty in finding a suitable remedy for
2 the contamination that is at this site.

3 I'll be describing how much contamination is there
4 and what the likely remedies are going to be, at least as
5 proposed by the licensee.

6 To illustrate this, if you take the existing
7 volume of waste that's at that site and multiply by
8 conventional waste disposal fees, the cost to remediate the
9 site for waste disposal alone, for off-site disposal, ranges
10 anywhere from hundreds of millions of dollars to upwards of
11 a billion dollars or more. When we're dealing with a
12 licensee that has limited financial assets, that certainly
13 makes this something of a problem.

14 The licensee is also required to remediate the
15 site in accordance with an Environmental Protection Agency-
16 issued order for hazardous waste under the Resource
17 Conservation Recovery Act Program. So we are cooperating
18 closely with EPA.

19 Like Parks Township and Pennsylvania site, we have
20 a site-specific MOU here for the Sequoyah Fuels facility.
21 That was signed a couple of years ago and we're actively
22 implementing that to ensure that we provide a coordinated
23 government response to the site.

24 COMMISSIONER DICUS: Let me ask a question about
25 that.

1 This remediation under EPA, does that require
2 removal of the hazardous waste or simply stabilization,
3 since we're looking at maybe on-site disposal here as well?

4 MR. WEBER: Much like our program, EPA is on the
5 front end of those decisions and so they are leaving open to
6 various different options. They are going through a phase
7 process, so they've recently completed site characterization
8 and a little bit later on, I'll get to the specific next
9 steps. You can see that we're moving through the process in
10 tandem.

11 COMMISSIONER DICUS: It might be fair to say that
12 some decisions or is it fair to say, let me put it in the
13 form of a question, that some decisions we might make
14 regarding this site would be influenced by what EPA does?

15 For example, if EPA decides that the waste needs
16 to be removed, will that influence our decision and vice
17 versa?

18 MR. WEBER: Certainly, it could. That's one of
19 the reasons why we cooperate with them. One of our concerns
20 is, frankly, if that is required, what impact would that
21 have on the licensee's ability to remedy the rest of the
22 site.

23 COMMISSIONER DICUS: Exactly.

24 MR. WEBER: So both EPA and NRC recognize that
25 we're dealing with a finite pot of resources and we need to

1 cooperate to ensure that's used in the most protected way
2 for the public.

3 MS. FEDERLINE: One of the important things here
4 is that we develop our environmental impact statement in the
5 same time frame that EPA is developing its documents as
6 well. That way, we get a time sequencing approach. If
7 either agency raises a problem, we'll know about it in a
8 time frame that we can do something about it.

9 MR. WEBER: Unlike our process, they are not
10 constrained to an EIS development, so to some extent, they
11 are a little bit lighter than we are in terms of moving
12 forward, so we've got to really do our best effort to keep
13 in parallel with them.

14 MR. REITER: Just on this question of resources,
15 how far can NRC reach within the corporate structure that
16 Sequoyah Fuels --

17 CHAIRMAN JACKSON: The Commission can't discuss
18 the --

19 MS. CYR: That is the subject of an ongoing
20 litigation. The Commission staff issued an order and
21 various pieces of it are pending currently before the
22 Commission and boards.

23 MR. WEBER: Could I have Slide 15, please.

24 [Slide.]

25 MR. WEBER: I mentioned earlier I'd give you some

1 estimates of extent of contamination at the site. There's
2 about more than 7 million cubic feet of radioactive waste at
3 the site in the form of building soil, contaminated
4 equipment.

5 There were also, much like the Parks Township
6 site, former burials under 20.304 of our regulations, and
7 the contamination here, unlike Parks Township, is not
8 enriched, it's natural isotopic ratios for the uranium.

9 There is some radium also at the site as bleed
10 through as part of the uranium hexafluoride process.
11 Approximately 9 million gallons of raffinate sludge still
12 exists in the ponds at the site from a solvent extraction
13 process and there you have uranium, radium and various
14 chemical contamination. Those ponds contain about 35 curies
15 of uranium.

16 All told, there's at least 122 curies of uranium
17 at the site and the licensee estimates that's in excess of
18 181 metric tons of uranium. There's additional uranium that
19 is still in the facility itself and so you're probably
20 looking at something on the order of 200 or so tons of
21 uranium at that site.

22 There's also significant uranium groundwater
23 contamination and contamination of the groundwater by
24 nitrate and arsenic. That's one of the things that EPA is
25 concerned about. There is some migration of that

1 contamination.

2 CHAIRMAN JACKSON: How stabilized is this site?

3 MR. WEBER: It is under the control of the
4 licensee. There is a fence around it, but the contamination
5 continues to migrate in the groundwater.

6 One thing that works for the licensee is there are
7 no near distance users of the groundwater. As best we can
8 tell, the groundwater is migrating in the direction of the
9 Arkansas River and thus --

10 COMMISSIONER DICUS: Yes, we've had the sample at
11 the request of the Governor's office in the past. It is
12 then off-site, the groundwater plume?

13 MR. WEBER: There is some off-site contamination.
14 Could I have the next slide, please?

15 [Slide.]

16 CHAIRMAN JACKSON: Go back for a second.

17 MR. WEBER: Okay.

18 CHAIRMAN JACKSON: Technically, this is more
19 difficult than the previous example?

20 MR. WEBER: There are technical challenges. This
21 does not have the criticality concern that we have at Parks
22 Township, but you have similar technical challenges in terms
23 of characterizing heterogeneous wastes that were disposed
24 of, figuring out what to do with the wastes, what are
25 practical remedies for the contamination at the site, so

1 there are technical challenges.

2 CHAIRMAN JACKSON: So at this point, the
3 contamination is not really stabilized in the sense of
4 preventing further off-site migration?

5 MR. WEBER: Correct. Some of the contamination,
6 the old burial sites, have covers on them, but some of the
7 contamination sits there in open impoundments and has not
8 been stabilized.

9 CHAIRMAN JACKSON: Okay.

10 MR. WEBER: This next diagram is a site map and
11 I've illustrated in orange there, the areas where the
12 principal contamination exists. You can see the --

13 CHAIRMAN JACKSON: You see a lot of it.

14 MR. WEBER: Yes, there is a lot of orange. If you
15 look at the main access road off Highway 10 coming in on the
16 righthand side of the diagram, there's a little road up
17 beyond the guard house. The processing facility is right
18 there on the top end of that road where most of the
19 processing occurred.

20 Much of the rest of the site consists of the ponds
21 with the raffinate sludge, the old burial areas, storage
22 cells, runoff from when they had the 1986 accident, there's
23 a plume that transported to the southeast from the accident
24 back in 1986, and so on.

25 You can see there is a lot of surface

1 contamination. The buildings are contaminated. It is a
2 challenge to decommission this facility.

3 Can I have the next slide, please?

4 [Slide.]

5 MR. WEBER: For the decommissioning, the licensee
6 has at least conceptually proposed that an approach similar
7 to that taken for uranium mill tailings be pursued where a
8 design would be developed for a more or less conventional
9 uranium mill tailings cover. The contaminated soil,
10 building rubble, et cetera, would be consolidated into an
11 on-site disposal cell. The rest of the site would be
12 released for industrial use, which is of great concern to
13 the local residents that it be used -- some residents prefer
14 that it be used in a productive way. Other residents are
15 concerned that the contamination be removed entirely from
16 the site.

17 And then if an on-site cell is used for the
18 stabilization of the contamination, some sort of long-term
19 controls, again, would be appropriate to ensure that the
20 barriers are suitably maintained, the site is monitored and
21 so forth to ensure that people do not dig into the waste and
22 become exposed to the contamination. So, again, here we
23 have an institutional control issue.

24 Some of the key regulatory issues are depicted on
25 the next slide. One, I have already mentioned and that is

1 the financial weakness of the licensee. Our challenge and
2 the licensee's challenge is to find a safe and protective
3 solution within the capabilities of the licensee. This may
4 prompt imposition of interim measures. For example, you
5 brought up, Madam Chairman, about stabilizing the waste for
6 some interim period. That may be appropriate and necessary,
7 especially if we see that decommissioning might drag on. It
8 may be better to stabilize the waste in some interim form so
9 that we don't have as great long-term concerns as we
10 otherwise would have.

11 We have already talked about the need to
12 coordinate with the EPA in the coordination of the schedule.
13 Our desire is that there be a coordinated response to make
14 sure both agencies are satisfied that whatever remedies are
15 selected are going to be protective of the public and the
16 environment.

17 CHAIRMAN JACKSON: Mike, is the EPA's cleanup
18 schedule as aggressive as ours?

19 MR. WEBER: I believe so. In fact, I believe
20 theirs might be more aggressive than ours in terms of -- I
21 mentioned earlier, they don't have the environmental impact
22 statement process to go through, which allows them to
23 streamline their reviews a little bit more than ours.

24 And then, lastly, the institutional control issue,
25 what controls may be necessary to provide for the long-term

1 protection of the public and the environment. That raises
2 associated issues of how durable these controls are, how
3 effective they will be in protecting the public and who is
4 going to carry them out. Should it be the federal
5 government, the state government, the Cherokee Nation, some
6 private firm, rely on land use controls, deed restrictions
7 and so forth.

8 Schedule of activities on the next slide, Slide
9 19, we have recently commenced the environmental impact
10 statement analyses to lead ultimately to the development of
11 the draft EIS. We are further behind here because we
12 recently completed the scoping back in May and we are
13 preparing the scoping summary report, both the public
14 comments that we received as well as the participation from
15 the various cooperating agencies and we have reviewed the
16 site characterization report submitted by the licensee this
17 past spring and summer and provided comments. Similarly,
18 EPA had the licensee prepare a site characterization report
19 and has been doing a review of that information.

20 I list here, in response to Commissioner Dicus's
21 question, the corrective measure study that is being
22 conducted by the licensee is due to EPA, I believe, it's now
23 in three months or four months after the remedial facility
24 investigation is accepted. That is a document that looks at
25 what alternatives are available to remedy the contamination

1 at the site. So, much like our process, EPA will then go
2 through a process of evaluating what various alternatives
3 exist and how likely they are going to be in succeeding in
4 stabilizing the contamination, protecting the environment.

5 Based on our understanding of their schedule, that
6 would be due sometime the first quarter of 1997 and you can
7 see that our draft EIS should be out in the fall of 1997, so
8 there is a little bit of a lag there but we are doing what
9 we can to keep abreast of their schedule so we can
10 accomplish this coordinated response to the licensee.

11 May I have the next slide, please?

12 [Slide.]

13 MR. WEBER: The last site that I will focus on is
14 the Shieldalloy Metallurgical Corporation site which is
15 located in Cambridge, Ohio. This is illustrative of some of
16 the policy issues.

17 Again, as Margaret pointed out, we have policy,
18 technical and regulatory issues at all three of these sites
19 but we are focusing in on the specific sets of issues to
20 illustrate them. This site is on about 130 acres, it is 70
21 miles east of Columbus and it is in between Cambridge, Ohio,
22 and Byesville, Ohio, on Route 209.

23 Unlike the previous two facilities, this facility
24 was never in what you might call a conventional nuclear
25 business. The contamination that they have on site arose

1 from the processing of metal, feedstock materials, ores and
2 chemicals and the contamination that came along for the
3 ride, the uranium and thorium contamination, was there in
4 trace quantities but they found themselves in sufficient
5 quantities to require a license from the Atomic Energy
6 Commission and, more recently, from the NRC.

7 The licensee is currently in Chapter 11 bankruptcy
8 and has been going through a detailed and extensive
9 reorganization planning process. They initiated bankruptcy
10 back in 1993 and are still responding to the Bankruptcy
11 Court on schedules for developing the reorganization plan.

12 One of the principal environmental liabilities
13 that they have to deal with as part of that reorganization
14 is the decommissioning of this site in Cambridge, Ohio, as
15 well as their sister facility in Newfield, New Jersey. And
16 I believe the Commission recently received a SECY paper on
17 the Newfield site because there are some licensing issues
18 that are also involved in that case.

19 Could I have the next slide, please?

20 [Slide.]

21 MR. WEBER: Much like the Sequoyah Fuels facility,
22 there is a large volume of contamination at the site, seven
23 million cubic feet of contaminated slag and sediment that
24 currently is stockpiled in two piles on site. If you want
25 to envision that volume, that is about a football field

1 stacked 160 feet deep of waste, so it is a fairly large
2 area. Although, I must admit, when you go to see the site,
3 it doesn't look as large as the volume would speak to.

4 At this site, there are elevated concentrations of
5 natural uranium and thorium in the slag and, of course,
6 their associated decay products. There are also anomalous
7 concentrations of various decay products including thorium
8 230, protactinium 231 and actinium 227. It is unclear why
9 these concentrations are elevated but the best we can tell
10 is perhaps the site at some point in its past processed
11 uranium or, I should say, processed sidestream chemicals
12 that were sidestreamed from a uranium processing facility.
13 And it may be that some of the decay products bled through
14 the uranium processing stream into the vanadium
15 concentrates, for example, that may be at the site.

16 This issue came to our attention through a
17 response to allegations. An individual alleged that there
18 was off-site contamination beneath his home. We initiated
19 an initial response and ultimately we discovered that there
20 were several tens of properties, off-site properties, that
21 contained elevated levels of natural or of radioactive
22 materials in slag that may have been removed from the site
23 over the years to be used as construction backfill. So that
24 is another related issue that we have to deal with at this
25 site.

1 There is also slag and sediment that contain
2 elevated levels of metal constituents including vanadium.
3 For example, there is some vanadium contamination in the
4 wetlands immediately adjacent to the west pile.

5 Much like Pennsylvania and the Oklahoma
6 facilities, we are cooperating with the state of Ohio, both
7 the Ohio Department of Health, Ohio Environmental Protection
8 Administration and the Attorney General's Office in
9 resolving some of these issues.

10 May I have the next slide, please?

11 [Slide.]

12 MR. WEBER: You have seen this map before in our
13 briefing earlier this spring. We used the Shieldalloy site
14 to illustrate how we were applying some of our performance
15 assessment techniques in the decommissioning program. This
16 was the one site that was discussed. In the middle there,
17 on the map, you can see the orange area, those are the two
18 piles. The so-called west pile, which has a cover on it,
19 and then the east pile which presently is not covered. The
20 processing facility is in between those two piles and I
21 depict there in blue Chapman Run which is a stream that
22 flows from the south to the north and ultimately discharges
23 into Wills Creek, which is the water supply for Cambridge.

24 Could I have the next slide, please?

25 [Slide.]

1 MR. WEBER: The licensee's proposal at this site
2 is to stabilize the contamination on site, to leave it
3 pretty much where it is and place a cap on the two piles
4 and, once again, some type of long-term institution control
5 will be necessary or would be necessary to provide
6 protection to the public and the environment. However,
7 unlike the previous two facilities, Shieldalloy wants to
8 continue to conduct their line of business at their present
9 site. Now, I should point out that they ceased processing
10 licensed radioactive material at the site in 1972 so the
11 present owner, Shieldalloy, really never processed uranium
12 or thorium at the site, even in the trace quantities that
13 originally led to the slag that is on site. They acquired
14 that when they purchased the property back in 1987. So they
15 have not been doing licensed activity.

16 Nevertheless, they still have an active NRC
17 license and I should point out, I think, our recent update
18 on the SDMP, there is a field in the site review, the
19 attachment to the SECY paper, where we list the license as
20 expired. That's in error. The license is active and we
21 continue to maintain that.

22 The next slide, please.

23 [Slide.]

24 CHAIRMAN JACKSON: If you are looking at long-
25 term institutional controls, as you go about doing your

1 analyses or you require certain submissions from the
2 licensees, are costs of the particular long-term control
3 scenarios factored in?

4 MR. WEBER: Yes.

5 MS. FEDERLINE: Yes, they are, in the
6 environmental impact statement.

7 MR. WEBER: Now, our ability to quantify those
8 costs is, of course, a function of what option will
9 ultimately be selected.

10 CHAIRMAN JACKSON: Right.

11 MR. WEBER: But we have been looking at ranges of
12 costs as far as the different alternatives and clearly any
13 approval of the decommissioning plan which would ultimately
14 lead to the final resolution of the site would have to
15 include some sort of provisions for financial assurance if
16 needed and, as we will see a little bit later in terms of
17 transfer to DOE, there are certain financial aspects that
18 have to be addressed.

19 The next chart, Chart 24, highlights several
20 issues in assessing the long-term impacts. These are issues
21 that are technically driven but have policy implications.

22 First, I want to point out that these dose
23 estimates that are on here are based on what we believe are
24 conservative calculations and I have to say that at the
25 outset. We did have our public meeting on the environmental

1 impact statement, we had comments on the one side saying you
2 can't believe what NRC is saying in the environmental impact
3 statement and then, on the other side, the licensee was
4 concerned that perhaps we had overestimated the impacts and
5 thus made the situation look worse than it really was.

6 We have done that in light of some of the
7 uncertainties that we presently have with the data at the
8 site. Those conservative estimates are driven in two ways.
9 One, in terms of the scenario that we assume in doing the
10 calculation and, by scenario, I refer to what assumptions do
11 we make in terms of how someone might be exposed to the
12 contamination. You will see three different scenarios
13 there, scenarios A, B and C.

14 Scenario A is largely an industrial scenario.
15 What kind of exposures would you expect if somebody used
16 that site for 2,000 hours a year in an occupational setting.
17 They weren't growing crops, they weren't drinking the
18 groundwater, et cetera. Primarily, they were being exposed
19 through the direct gamma exposure route.

20 Versus scenario C, which is a resident farmer
21 scenario. This is typically what we have used in developing
22 our decommissioning criteria. It is what EPA often uses in
23 looking at the cleanup of some of the contaminated sites
24 under the Superfund program. Not the disposal of the waste
25 but the cleanup, where you are going to release the site for

1 unrestricted release.

2 You can see there quite a dramatic impact in terms
3 of what scenarios are assumed. For example, if you take
4 stabilization in place, scenario A would be estimated to
5 give a dose of about 8 millirem per year versus scenario C
6 would be about 464 millirem per year. The contamination is
7 the same; it is just we have changed the way in which we
8 have assumed someone is going to be exposed to the
9 contamination.

10 The conservatisms are also driven by the parameter
11 values that we select. For example, in the leach rate for
12 the slag, how much of the radioactive material will leach,
13 at what rate and how quickly will that be transported in the
14 groundwater beneath the site? And that drives the dose
15 estimates that you see in this chart.

16 The third thing I would point out is that the
17 maximum dose, without controls, as you can see in the
18 improved cover column, is 30 millirem for stabilization in
19 place, which is desirable because, of course, that's less
20 than our public dose limit in Part 20 of 100 millirem per
21 year. Thus, it is apparent that if the scenarios we assumed
22 are appropriate, that you may not need the kind of long-
23 term institutional controls you may need at other sites, for
24 example at the Parks Township site where you have sufficient
25 inventories of enriched uranium in the trenches. It is

1 something that we have to carefully weigh, of course,
2 because if you use a slightly more conservative scenario,
3 the doses will be driven up.

4 This is principally driven by the assumption that
5 no one is going to live and grow crops and drink groundwater
6 immediately out of the east pile because it is a small area
7 and because of the rocklike nature of the slag.

8 If somebody were to dig a garden there that they
9 would quickly realize that this is not the best place to
10 grow your vegetables.

11 The fourth point is that the offsite dose is
12 limited.

13 It's six millirem, based on the calculations that
14 we have done in the environmental impact statement, so you
15 can see in all cases whether any action is taken or the site
16 stabilized in place the dose would be below 10 millirem per
17 year.

18 Finally, in the far-right column you see the cost
19 estimates ranging anywhere over three orders of magnitude
20 from about \$.3 million to in excess of \$100 million -- so
21 depending on what option is selected, it has significant
22 impacts on the costs of decommissioning.

23 This sets us up for discussion of some of the key
24 policy issues on Slide 25. I mentioned the scenarios that
25 we have assumed and how the conclusions that are drawn are

1 driven in some part by the scenarios.

2 The doses to the public based on the scenarios
3 that we used in the draft EIS are expected to be below 10
4 millirem per year with the application of effective
5 institutional controls, and that is desirable because it is
6 a small fraction of our public dose limit in Part 20.
7 Without those controls we still believe the doses would be
8 below the public dose of 100 millirem per year because of
9 the reasons that I previously cited.

10 We have assumed minimal intrusion into the pile
11 due to the nature of the slag.

12 The calculated doses, as I pointed out earlier,
13 are believed to be conservative and thus if you took a more
14 realistic view of how someone might be exposed or what some
15 of the parameters are and how they might drive those dose
16 estimates, you could find reduced doses.

17 So just to summarize that slide, we have the
18 policy issues associates with what scenario is assumed, how
19 conservative should we be in doing those calculations, and
20 again the questions of institutional controls, how durable
21 are they, how effective, and who should do them.

22 Schedule of activities -- we are a little bit
23 further along on the shieldalloy site.

24 On Slide 26 you can see we have published our
25 draft EIS in July and we have already begun receiving

1 comments on that draft EIS.

2 We had a public meeting on September 16th in
3 Cambridge, Ohio. We had about 100 people turn out for the
4 public meeting including state and local representatives,
5 elected officials, and some Congressional staff members, the
6 licensee of course and other interested members of the
7 public, so there was a wide variety of people who
8 participated.

9 We had media coverage as well.

10 CHAIRMAN JACKSON: How do you make use of the
11 results of the public meeting?

12 MR. WEBER: We transcribed the meeting. All the
13 comments that come in have to be evaluated in terms of
14 finalizing our EIS.

15 We are already aware that an individual has
16 proposed an alternative that was not considered, so we have
17 committed that we would consider that in the final
18 environmental impact statement to see if that is an
19 obviously superior alternative -- as an example.

20 But we are obligated to respond to the comments
21 that we receive as part of the finalization of the EIS and
22 we often find that those comments are useful because they
23 may point out information that we did not have access to or
24 in this case an alternative that perhaps we didn't
25 specifically identify.

1 We would expect to publish the final EIS in August
2 of next year, August of 1997, and again the decommissioning
3 plan would follow shortly thereafter.

4 On Slide 27, if we could summarize what we have
5 seen so far, some of these issues are unique to each site.

6 As an example of that we have the potential
7 reconcentration into a critical mass at the Parks Township
8 facility.

9 But there are certainly common issues and they
10 include what exposure scenario should be assumed, how
11 conservative should the calculations be, what is
12 appropriate, how can we be sufficiently protective and yet
13 not go overboard in being unrealistic, how durable are
14 institutional controls, who would do them, how effective
15 might they be and how long can they be assumed to last.

16 Closely linked to that then is Government custody.

17 One mechanism to provide for long-term control
18 might be state or federal ownership, very similar to what is
19 already in place for the uranium mill tailings program where
20 the Department of Energy is responsible for the long-term
21 custody of tailings disposal facilities, and then the cost
22 effectiveness of the remedies -- the age-old question since
23 we are operating in many cases below the public dose limit,
24 below the adequate protection threshold, what role does cost
25 have to bear in our considerations of the various

1 alternatives.

2 As we pointed out earlier, there is significant
3 public and some Congressional interest in these sites. For
4 that reason, we initiated these public information
5 roundtables, and we have been engaging the public or at
6 least trying to throughout this process so that they are
7 aware of the issues and they participate actively in the
8 identification of those issues.

9 COMMISSIONER DICUS: Let me ask you a question
10 about that.

11 On the onsite disposal option, you mentioned, I
12 think you mentioned earlier some people are for it, some
13 people are against it from the public's perspective, but is
14 there a trend, do you get a feel that it's generally going
15 to be acceptable to the public or --

16 MR. WEBER: Well, since we have our EIS out for
17 public comment now, I would be a little reluctant bit to
18 forecast how it's going to come out.

19 COMMISSIONER DICUS: But you have had the public
20 meeting for example.

21 MR. WEBER: We heard comments both for and
22 against.

23 COMMISSIONER DICUS: How about -- then let me go
24 on to another question real quick.

25 The coordination with the compacts that these

1 sites are in, I assume that's occurring. I assume they are
2 participating in the comments.

3 Again, I guess that is an ongoing issue?

4 MR. WEBER: Yes, it is an ongoing issue. So far I
5 am not aware that we have received comments from the
6 compacts. We do coordinate with them but I think to a large
7 measure in most cases the facilities that are under
8 development were not contemplated to take these kinds of
9 wastes.

10 COMMISSIONER DICUS: That's right.

11 MR. WEBER: So we often get the impression, it may
12 be my informal understanding that they are just as happy if
13 we can find a way to take care of this waste and not have it
14 go to their disposal facilities.

15 For example, in some of the states the design
16 capacity is less than the amount of these sites, and those
17 facilities are intended to operate for 20 years or so.

18 CHAIRMAN JACKSON: Mr. Taylor, you had a comment?

19 MR. TAYLOR: No, I was agreeing. A lot of waste
20 here.

21 COMMISSIONER DICUS: Have we terminated a site
22 using onsite disposal yet?

23 MR. WEBER: Yes. We found it acceptable to leave
24 onsite disposals behind at other sites.

25 We have approved a decommissioning plan for the

1 Chemetron Harvard Avenue site. We have approved a
2 decommissioning plan for the BP Chemicals site. Both of
3 them are in Ohio. We have not terminated their licenses
4 because they are in the process of performing the
5 decommissioning but there have been sites where we have
6 terminated the licenses with onsite disposals.

7 In other cases we have terminated the license way
8 in the past and now we have gone back to revisit it and
9 decided it's okay to leave that contamination behind.

10 If I could have the next slide.

11 [Slide.]

12 MR. WEBER: In addressing the question that the
13 Chairman put to us at the beginning about institutional
14 controls, Staff is pursuing this common issue on
15 institutional controls. We are doing it both generically as
16 well as on a site specific basis.

17 There are several different types of controls that
18 may be effective at these sites.

19 One of them may be Government custody.

20 There may also be the other mechanisms that were
21 identified as part of the proposed rule on the
22 decommissioning criteria. For example, I believe as part of
23 the rulemaking package we specifically laid out different
24 alternative mechanisms that might be effective.

25 Again, you would have to tailor those controls for

1 the amount of contamination and the risk that is posed by
2 that material.

3 For some very limited risk situations it might be
4 prudent to use some sort of zoning restriction or commitment
5 from the licensee if the licensee is going to be in place
6 for some time.

7 In other cases where you have extensive
8 contamination you have concerns about the long-term
9 durability of the responsible party, Government custody
10 might be the preferred way to go. Sites such as these we
11 have already seen are going to be decommissioned. Some may
12 be decommissioned with land use restrictions and so some
13 sort of long-term care may be needed to ensure protection of
14 the public.

15 To date, the states that we have interacted with
16 have not expressed a desire to take over long-term
17 responsibility for these sites. That doesn't mean that they
18 have ruled it out, but they have been encouraging us to find
19 other remedies.

20 One of the remedies that we have been pursuing is
21 under the Nuclear Waste Policy Act of 1982 we believe that
22 authority already exists for the Department of Energy to
23 take site where low level waste has been disposed of
24 provided that NRC makes certain findings including that our
25 requirements are satisfied, that the transfer of the site to

1 the federal government would be at no cost to the federal
2 government, and finally a determination that would have to
3 be made is that federal ownership is in fact necessary and
4 desirable to ensure long-term protection of the public.

5 CHAIRMAN JACKSON: This no cost to the federal
6 government provision, is that no cost for the transfer of
7 the custody or through the life of the custody?

8 MR. WEBER: I think we viewed it more as through
9 the life of the custody, that we shouldn't be transferring a
10 burden to the federal government.

11 If we anticipate that periodic maintenance would
12 be needed or monitoring, that ought to be built into the
13 transfer, so that perhaps --

14 CHAIRMAN JACKSON: Okay, so some fund or some
15 financial provisions.

16 MR. WEBER: Yes.

17 CHAIRMAN JACKSON: Because I was going to say you
18 can't guarantee no costs going forward, right?

19 MR. WEBER: Right.

20 MR. PAPERIELLO: I believe we do something like
21 that when we transfer mill tailing sites.

22 COMMISSIONER DICUS: Yes, we do.

23 MR. PAPERIELLO: Because there is a fund put aside
24 for it.

25 MR. WEBER: And we did that for the transfer of

1 the AMAX site under Section 151(c) of the Nuclear Waste
2 Policy Act, but you have hit on a concern that DOE has
3 expressed to us, and that is this question of, well, at
4 whose expense would the long-term maintenance and control
5 be?

6 We are discussing this with DOE. Their principal
7 concerns in addition to the financial risk include technical
8 adequacy.

9 They would like to be participating with us as we
10 go forward, so there are no surprises when we knock on their
11 door and say here's the site, please take it.

12 There are regulatory uncertainties.

13 For example, we may find that remediation in the
14 decommissioning has been performed in an acceptable manner
15 and we are willing to terminate the license. DOE is
16 concerned about the long-term risk that at some point in the
17 future a state or some other regulatory entity would come
18 knocking on their door saying, oh, by the way, you now have
19 this contamination -- we expect you to do something other
20 than what NRC originally found acceptable.

21 We are working with them to try to get a common
22 grasp of these issues and identify feasible means to control
23 or contain those issues.

24 The fourth --

25 CHAIRMAN JACKSON: Do you contemplate perhaps

1 working out some kind of MOU with DOE to, you know, work out
2 a consistent methodology for approaching these issues?

3 MS. FEDERLINE: Yes.

4 MR. WEBER: Yes. In fact, when we met with them
5 this past summer, that was one of the proposals that we
6 made, that we would work on some sort of agreement or MOU or
7 something that would lay out up front what the common
8 expectations are, what the roles and responsibilities are
9 and we believe that would also go a long way in terms of
10 laying out some ready-made solution for this limited number
11 of sites that may be out there that would require some sort
12 of government custody.

13 We plan to continue progress, on Slide 30, with
14 the development of the site-specific EISs and through this
15 developmental process, evaluate the feasibility of the
16 generic environmental impact statements. As I mentioned
17 before, we wanted to get several of these under our belt
18 before we decided was it feasible. Our technical people and
19 the regulators will be involved in scoping out what are the
20 pros and cons. We will be working with the general
21 counsel's office in assessing the legal viability of this
22 approach.

23 But, as we stated in SECY 95-209, we believe that
24 there may be some long-term payback here in terms of
25 improved efficiency as well as some improved predictability

1 if we could address this through a generic process. And, as
2 I do believe Margaret previously pointed out, we may also
3 then use the generic EIS as a basis for going back and
4 making regulatory changes to codify that right into our base
5 requirements.

6 We will encourage and continue to encourage timely
7 decommissioning under the existing criteria. The timeliness
8 rule is a big driver in that area because it does apply to
9 these sites. As you saw on the chart that we showed
10 earlier, we are making progress. We are slightly ahead of
11 where we expected to be at this time and, certainly by next
12 May, which that chart is intended to cover, we hope to have
13 met all of our goals if not exceeded them.

14 We will follow the SDMP action plan, as the
15 Commission previously directed, to implement the program.
16 We are also working -- we haven't talked about it in this
17 briefing but, of course, we are working closely with our
18 Office of Research, General Counsel's Office and the other
19 program offices on the radiological criteria rulemaking. We
20 believe that is still desirable because it would enhance the
21 efficiency, consistency and predictability of the program
22 giving licensees a defined end point for their
23 decommissioning programs.

24 And then, as I mentioned, we are in the process of
25 discussing with DOE on this long-term agreement or mechanism

1 to provide for government custody of sites should we find
2 that to be necessary to provide protection.

3 Thank you.

4 CHAIRMAN JACKSON: Thank you.

5 Thank you, Mr. Taylor.

6 Commissioner Dicus, Commissioner McGaffigan,
7 Commissioner Rogers?

8 COMMISSIONER DICUS: One more quick question.

9 CHAIRMAN JACKSON: Go ahead.

10 COMMISSIONER DICUS: One final question.

11 The statistical methods that have been use or that
12 we are using to provide a confidence that the site has been
13 accurately and adequately cleaned up, has had some soundness
14 problems and I understand we are working on that. Do we
15 have confidence that we have got it where we need it to be?

16 MS. FEDERLINE: We are working with three other
17 federal agencies to develop the multiagency site
18 investigation manual which would provide consistent guidance
19 across the federal government for decommissioning activities
20 for termination surveys specifically.

21 MR. WEBER: We are confident that 5849 provides
22 us, NUREG CR-5849 provides us with an adequate technical
23 basis. The problem is that there are some criterion there
24 that licensees find problematic and when we have evaluated,
25 there really are better ways to go and that is why we have

1 been developing this MARSSIM manual that Margaret referred
2 to.

3 COMMISSIONER DICUS: Thank you.

4 COMMISSIONER ROGERS: Just on that, how is that
5 going? The SECY said it should be completed in late 1996.
6 Do you still expect that?

7 MR. WEBER: It is either late this year or early
8 next year.

9 We did recently this summer complete an internal
10 review of the document and the committee, the interagency
11 committee, is looking at the comments and trying to resolve
12 them and to prepare the document in a form that is suitable
13 for release.

14 COMMISSIONER ROGERS: I know last year, I think,
15 when you reported to us in SECY 95-209 and you described the
16 virtues of that, it looked like it could be extremely
17 useful. Do you still feel that it has that great promise?

18 MS. FEDERLINE: Yes. We think it will provide the
19 technical basis. We think that there will probably be the
20 need for an overlay document to provide some simplified
21 discussion but we think that it will provide the overall
22 technical basis that will allow us to move forward.

23 CHAIRMAN JACKSON: Commissioner McGaffigan? No?

24 Before I close, since we do have the project
25 managers here, again, these are kind of major headache kinds

1 of sites, is there anything that we have missed or any
2 particularly thorny issues from your perspectives that we
3 need to keep in the back of our minds that we haven't
4 already heard about?

5 No? Well, thank you.

6 The Commission would like to thank the staff for a
7 very informative briefing on the SDMP program. In the
8 paper, you described a number of successes over the past
9 year, including the moving of sites off the SDMP, as we have
10 discussed, approving decommissioning plans, issuing
11 inspection guidance and implementing the streamlined
12 decommissioning approval approach that is described -- that
13 was described to the Commission last year. And, in fact, I
14 would like to compliment you on your diligent efforts
15 because these do represent improvement since the last time
16 we were briefed.

17 But, as you pointed out a number of issues
18 involving policy decisions do remain. As you just said,
19 DOE's role in long-term institutional controls is unresolved
20 but, in some sense, it seems few alternatives exist if DOE
21 does not take custody. And some sites remain on the SDMP
22 which are many years away from even starting decommissioning
23 and a number of them, as you pointed out, have inadequate
24 decommissioning funding. So there is obviously room for
25 progress in these areas.

1 The Commission will be considering these issues
2 and the policy issues as they are brought forth but the
3 overall direction of NRC's materials decommissioning program
4 under the strategic assessment and rebaselining. Again,
5 this is for public consumption, the Commission looks forward
6 to stakeholder input in the weeks ahead before we track down
7 to our ultimate decisionmaking.

8 So, unless my fellow commissioners have anything
9 to add, we stand adjourned. Thank you.

10 [Whereupon, at 3:38 p.m., the briefing was
11 concluded.]

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CERTIFICATE

This is to certify that the attached description of a meeting of the U.S. Nuclear Regulatory Commission entitled:

TITLE OF MEETING: BRIEFING ON SITE DECOMMISSIONING
MANAGEMENT PLAN (SDMP) - PUBLIC
MEETING

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Monday, October 7, 1996

was held as herein appears, is a true and accurate record of the meeting, and that this is the original transcript thereof taken stenographically by me, thereafter reduced to typewriting by me or under the direction of the court reporting company

Transcriber: Christopher Cutchall

Reporter: Mark Mahoney



SITE DECOMMISSIONING MANAGEMENT PLAN

**Division of Waste Management
October 7, 1996**

OVERVIEW

- **Background**
- **Previous briefing**
- **Current Issues**
- **Example Cases**
- **Forward View**

BACKGROUND ON THE SITE DECOMMISSIONING MANAGEMENT PLAN (SDMP)

- **Initiated in response to Commission and Congressional Reviews**
- **SDMP includes**
 - **Program Management Plan**
 - **Contaminated Sites**
 - **Policy Issue Resolution**
- **Updated in SECY 96-207**

SDMP ORIGIN

- 1989 Congressional review - House**
- 1990 SDMP Establishment**
- 1992 SDMP Action Plan**
- 1992 Congressional Review - House and Senate**
- 1994 General Accounting Office Review**

STAFF RESPONSE TO PREVIOUS COMMISSION DIRECTION

**In response to the last Commission briefing
(May 19, 1995), staff:**

- **Evaluated continuity of project management**
- **Evaluated business process reengineering**
- **Consulted with ACNW and regulated community**
- **Implemented program improvements described
in SECY 95-209**

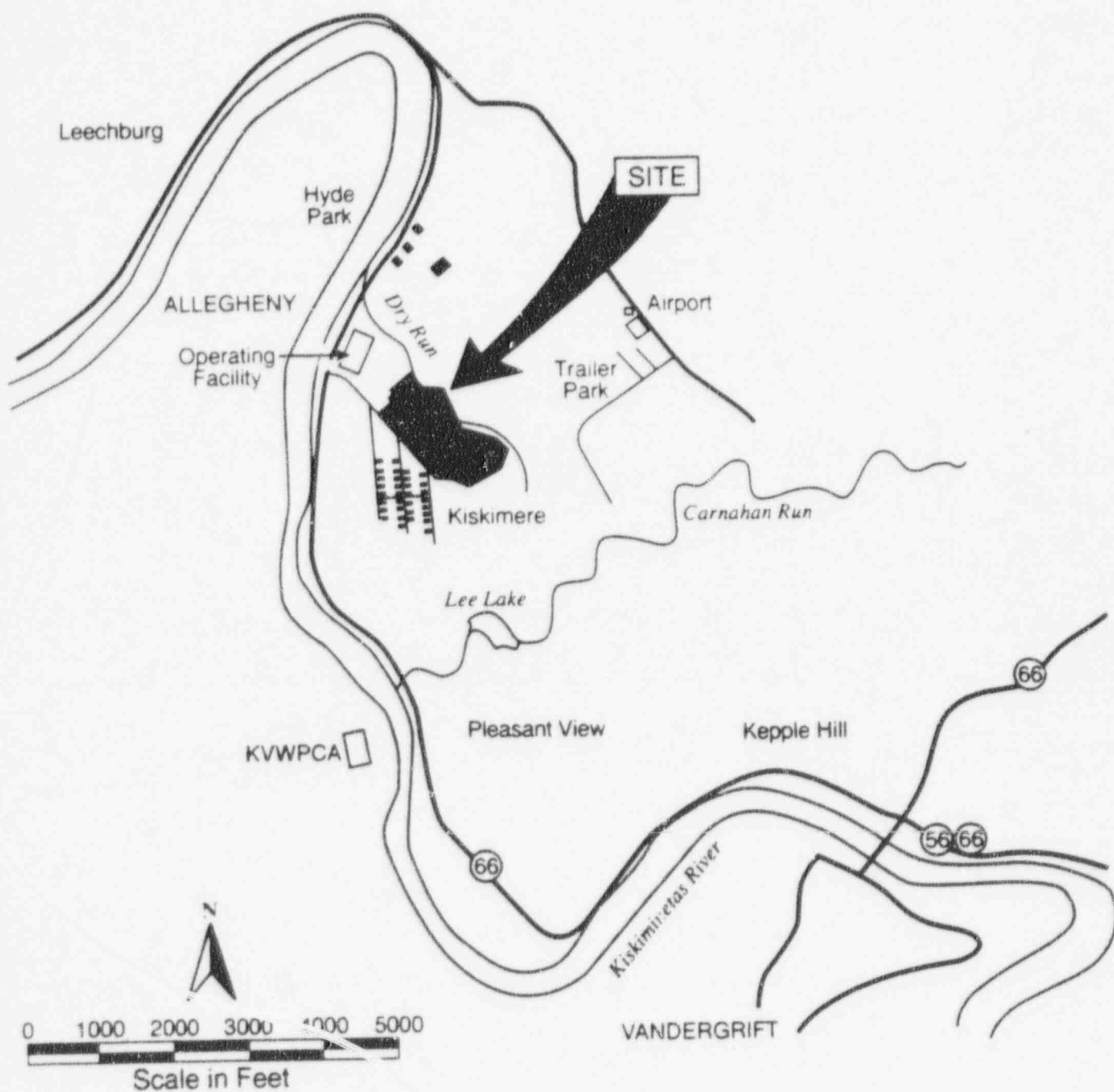
CURRENT ISSUES

- **SDMP sites warrant special NRC oversight**
 - **Technical Issues**
 - **Regulatory Issues**
 - **Policy Issues**
- **Environmental Impact Statements (EIS) underway illustrate these issues**
 - **Parks Township Shallow Land Disposal Area**
 - **Technical Issues**
 - **Sequoyah Fuels Corp - Regulatory Issues**
 - **Shieldalloy Metallurgical Corp - Policy Issues**
- **Institutional controls**

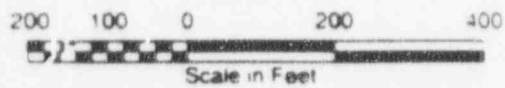
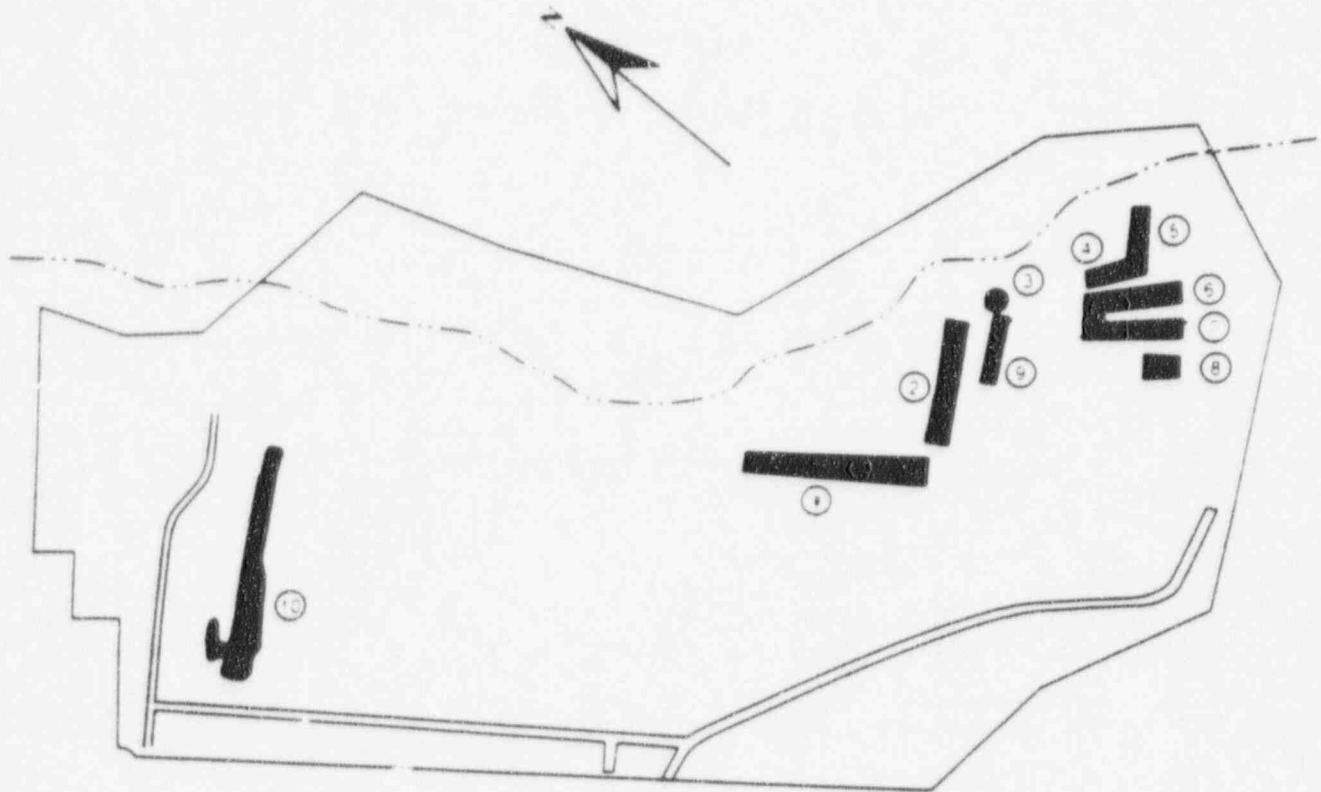
PARKS TOWNSHIP SLDA GENERAL SITE INFORMATION

- **Located in Parks Township, Pennsylvania, about 33 miles east-northeast of Pittsburgh.**
- **Approximately 114-acres with 10 waste trenches covering 1.2 acres.**
- **Contains an old 20.304 burial which is situated close to residential areas, above shallow ground water, and above a deep mine.**

Babcock & Wilcox Shallow Land Disposal Area Site Location Map



Babcock & Wilcox Shallow Land Disposal Area - Site Layout



Legend

- == Road and Street
- Project Boundary
- Trench

PARKS TOWNSHIP SLDA CONTAMINATION

- **Uranium (HEU, LEU, natural), thorium, PCBs, and volatile organics**
- **Approximately 660,000 ft³ of contaminated waste and soils in trenches**
- **Approximately 6 curies of total uranium in trenches**
- **No offsite contamination although there has been limited migration of radiological and chemical constituents**

PARKS TOWNSHIP SLDA PROPOSED DECOMMISSIONING

- **Stabilize material in trenches**
- **Place cover over trenches and surround area with engineered ground-water barriers**
- **Institute land-use restrictions and long-term institutional control**

PARKS TOWNSHIP SLDA KEY TECHNICAL ISSUES

- **Potential reconcentration of uranium into critical mass**
- **Source term characterization**
- **Ground-water protection**

PARKS TOWNSHIP SLDA SCHEDULE OF ACTIVITIES

- **Publish DEIS - March 1997**
- **Hold public comment meeting - May 1997**
- **Publish FEIS - February 1998**

SEQUOYAH FUELS CORPORATION

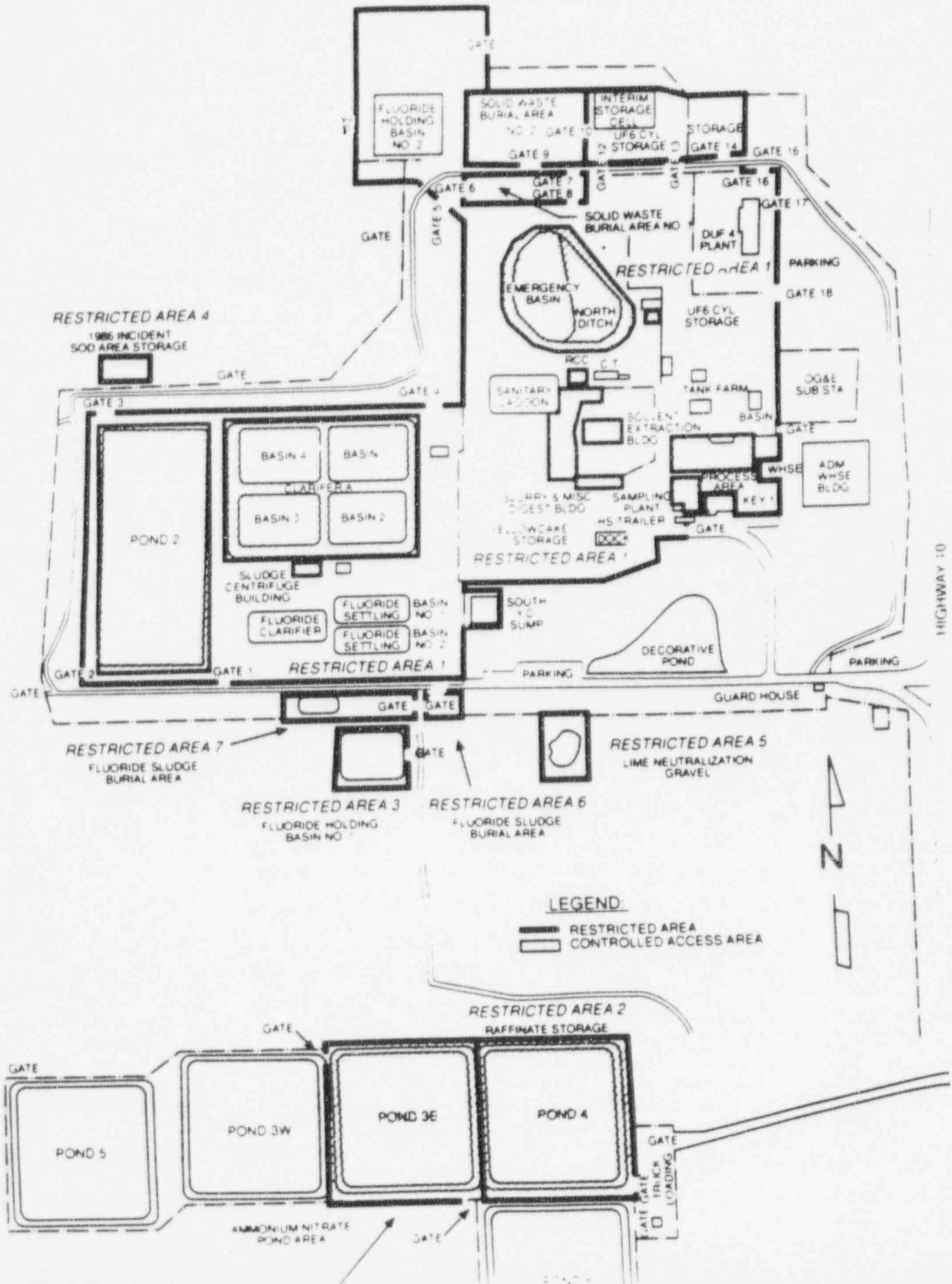
GENERAL SITE INFORMATION

- **85 acre “industrial area” on 600 acre site**
- **Located 75 miles southeast of Tulsa, OK; 40 miles west of Ft. Smith, AK; 2.5 miles south of Gore, OK.**
- **Processed uranium concentrate**
- **Licensee is unable to provide conventional financial assurance; projected decommissioning costs exceed licensee’s present net worth**
- **Licensee required to remediate site under EPA hazardous waste order**

SEQUOYAH FUELS CORPORATION CONTAMINATION

- **Estimated 7+ million ft³ of equipment, buildings, and soil (including §20.304 disposals) contaminated with natural uranium**
- **Approximately 9 million gallons of raffinate sludge from solvent extraction process with uranium, radium, and chemicals**
- **Significant uranium ground-water contamination**
- **Extensive ground-water plumes of nitrate with some arsenic**

Sequoyah Fuels Corporation



SEQUOYAH FUELS CORPORATION PROPOSED DECOMMISSIONING

- **On-site disposal cell**
- **Develop industrial park (EPA “brown field”)**
- **Institute land-use restrictions and long-term institutional control**

SEQUOYAH FUELS CORPORATION

KEY REGULATORY ISSUES

- **Financial weakness of licensee**
- **Interim measures**
- **Coordination with EPA schedule**
- **Institutional controls**

SEQUOYAH FUELS CORPORATION

SCHEDULE OF ACTIVITIES

- **Commence EIS analyses - August 1996**
- **Corrective Measures Study due to EPA 4 mos.
after Remedial Facility Investigation accepted -
~ first quarter 1997**
- **Draft EIS - Fall 1997**

SHIELDALLOY METALLURGICAL CORP.

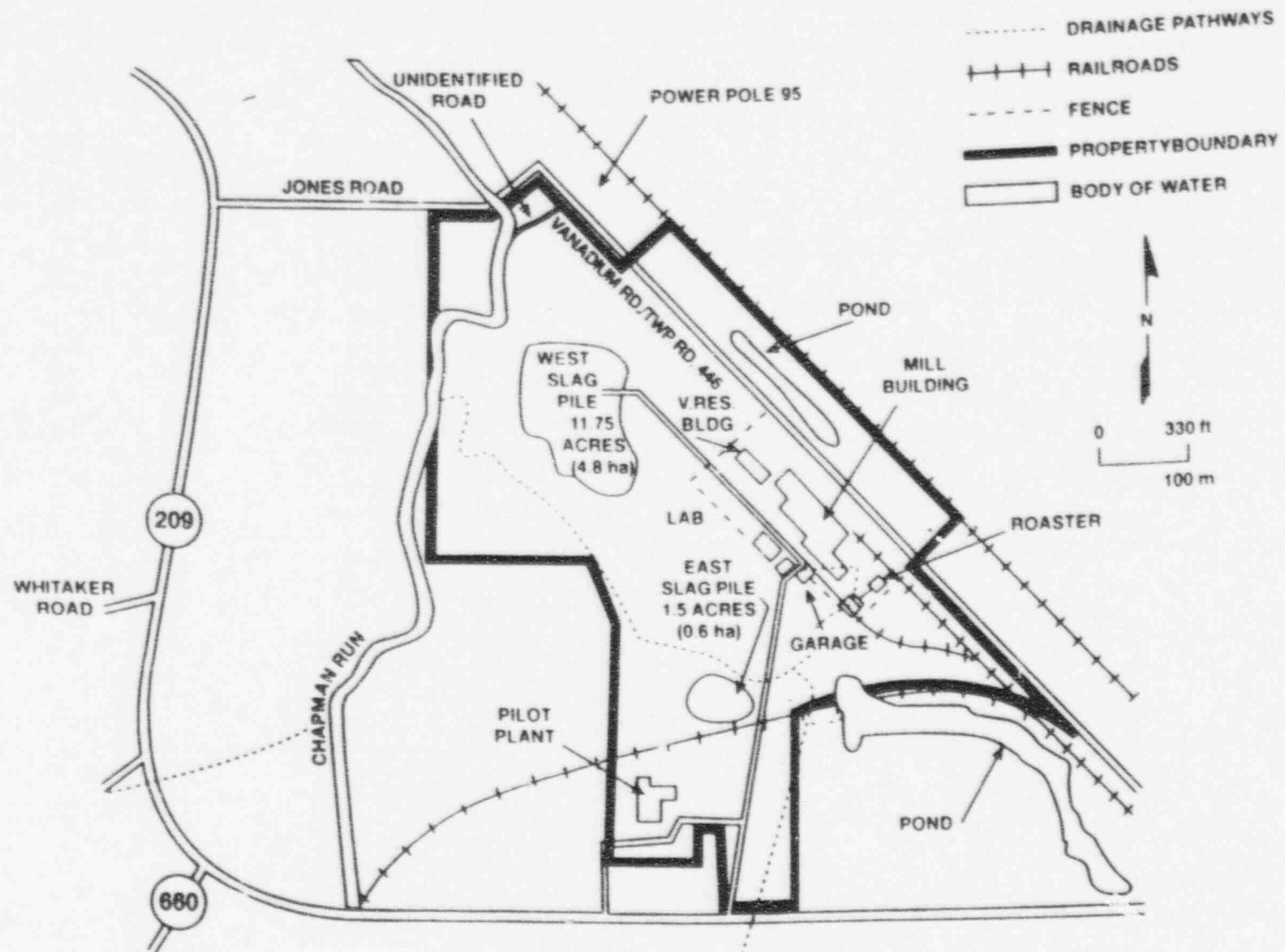
GENERAL SITE INFORMATION

- **130 acre site**
- **Located 70 miles east of Columbus, Ohio, 1 mile south of Cambridge, Ohio**
- **Metal alloy and chemical production facility, in operation since early 1950's**
- **Licensee is currently in Chapter 11 Bankruptcy; resolution of decommissioning issues is pivotal to successful reorganization**

SHIELDALLOY METALLURGICAL CORP. CONTAMINATION

- **7 million ft³ of contaminated slag and sediment stockpiled in two piles onsite**
- **Elevated concentrations of U-238 and Th-232, and daughters; anomalous concentrations of Th-230, Pa-231, and Ac-227**
- **Slag and sediment also contaminated with metals**

Shieldalloy Metallurgical Corporation Facility, Cambridge, Ohio



SHIELDALLOY METALLURGICAL CORP. PROPOSED DECOMMISSIONING

- **Leave contaminated material onsite**
- **Place a cap over the two piles**
- **Institute land-use restrictions and long-term institutional controls**

SHIELDALLOY METALLURGICAL CORP.

RESULTS FROM PRELIMINARY ANALYSES

Alternative	Maximum dose to on-site resident (mrem/yr)				Maximum dose to off-site resident (mrem/yr)	Estimated costs (Million \$)
	Scenario A	Scenario B	Scenario C	Improved cover		
No Action	247	982	1684	--	6	0.3-0.6
Stabilization in place	8	451	464	30	6	2.3-6.2
Disposal off-site	0.02	0.4	0.4	--	--	102-112

*Scenario C

Scenario A On-site worker

Scenario B On-site resident that works off site

Scenario C On-site residential farmer

SHIELDALLOY METALLURGICAL CORP.

KEY POLICY ISSUES

- **Doses to the public are expected to be below 10 mrem/year with effective institutional controls**
- **Without institutional controls, doses are expected to be below 100 mrem/year with the placement of an effective cover over both piles (assumes minimal intrusion due to nature of the slag)**
- **Calculated doses are believed to be conservative because leaching rate probably overestimates actual releases**

SHIELDALLOY METALLURGICAL CORP. SCHEDULE OF ACTIVITIES

- **Publish DEIS - July 1996 (Complete)**
- **Public meeting - September 1996 (Complete)**
- **Publish FEIS - August 1997**

SUMMARY

- **Some issues are unique to each site**
- **Common issues include:**
 - **Exposure scenario**
 - **Durability of institutional controls**
 - **Government custody**
 - **Cost effectiveness of remedies**
- **Significant public and Congressional interest**

LONG-TERM INSTITUTIONAL CONTROLS

- **Sites such as these, decommissioned under restricted release, will require long-term care**
- **States to date have expressed no interest in taking custody of these sites**
- **Under the Nuclear Waste Policy Act of 1982, DOE has the authority to assume title and custody if certain conditions are met:**
 - **Decommissioning is complete**
 - **No cost to Federal Government**
 - **Federal ownership is necessary or desirable to protect public health and safety**

LONG-TERM INSTITUTIONAL CONTROLS

- **Discussions on-going with DOE**
- **DOE's principal concerns:**
 - **Financial Risk - Form/amount of financial assurance, unforeseen costs, and future liabilities**
 - **Technical Adequacy - Adequacy of decommissioning activities**
 - **Regulatory Uncertainty - Application of CERCLA and/or State regulations after site is transferred**

FORWARD VIEW

- **Continue progress through site-specific EISs**
- **Evaluate feasibility of Generic EIS for onsite disposal of uranium and thorium wastes**
- **Encourage timely decommissioning using existing criteria**
- **Complete rulemaking on radiological criteria for license termination to improve efficiency, consistency, and predictability**
- **Pursue transfer of sites requiring long-term institutional controls to DOE**