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4 ADVISORY COMMITTEE ON NUCLEAR WASTE MEETING

5 (ACNW)

6 125TH MEETING

7 + + + + +

8 WEDNESDAY

9 MARCH 21, 2001

10 + + + + +

11 ROCKVILLE, MARYLAND

12 + + + + +

13 The ACNW Committee met at the
14 Nuclear Regulatory Commission, Two White Flint North,
15 Room T2B3, 11545 Rockville Pike, at 8:32 a.m.,
16 DR. JOHN GARRICK, Chairman, presiding.

17 COMMITTEE MEMBERS:

18 DR. JOHN GARRICK, Chairman

19 MR. MILTON LEVENSON, Member

20 DR. RAYMOND WYMER, Member

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1 ACRS STAFF PRESENT:

2 DR. ANDREW C. CAMPBELL

3 LYNN DEERING

4 SAM DURAISWAMY

5 CAROL HARRIS

6 CAROL HANLON

7 DR. JOHN LARKINS

8 HOWARD LARSON

9 JAMES LYONS

10 RICHARD K. MAJOR

11 AMARJIT SINGH

12 PRESENTERS:

13 PAUL HARRIS

14 ROBERT A. NELSON

15 MIKE RIPLEY

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I-N-D-E-X

1		
2	<u>AGENDA ITEM</u>	<u>PAGE</u>
3	Opening statement	4
4	ACNW Planning and Procedures	16
5	DOE's Status Report on Key Technical Issue . . .	44
6	Resolution	
7	Partial Release of a Reactor Facility or Site	
8	for Unrestricted Use	62
9	License Termination Plan Review and	108
10	Lessons Learned	
11	Adjourn	

12

13

14

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16

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P-R-O-C-E-E-D-I-N-G-S

(8:32 a.m.)

CHAIRMAN GARRICK: Good morning. Our meeting will now come to order. This is the first day of the 125th meeting of the Advisory Committee on Nuclear Waste. My name is John Garrick, Chairman of the ACNW.

Other members of the committee present are Milt Levenson and Ray Wymer. George Hornberger is absent today. During today's meeting, the committee will discuss the following. We will do our usual planning and future items discussion this morning.

We will talk about DOE's status report on technical issue resolution. We will talk about the ACNW 2001 Action Plan, and I will note that that was originally scheduled for Thursday for those of you still have an old agenda; and partial release of a reactor facility or site for unrestricted use.

We will discuss license termination plan review and lessons learned. We will look at the topics for the March -- for tomorrow's meeting with the Commission, the March 22nd meeting with the Commission.

And look at proposed plan ACNW reports on the following topics: entombment, partial release of

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1 a reactor facility or site for unrestricted use;
2 lessons learned; a license termination plan; and high
3 level waste chemistry.

4 I should also announce that there will not
5 be a formal meeting on Friday. It turns out that
6 unavoidably that two committee members have to be
7 absent, leaving us with below the threshold for a
8 quorum.

9 There will be discussions of the -- well,
10 between the committee members and staff, and there
11 will be letter work performed to the extent that it
12 can be under those circumstances.

13 Howard Larson is the designated Federal
14 Official for today's initial session. This meeting is
15 being conducted in accordance with the provisions of
16 the Federal Advisory Committee Act.

17 We have received no comments or requests
18 for time to make oral statements from members of the
19 public regarding today's sessions. And should anyone
20 wish to do so, please contact one of the members of
21 the staff.

22 And if you do, it is requested that the
23 speakers use one of the microphones, identify
24 themselves, and speak clearly.

25 Before proceeding with the first agenda

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1 item, I would like to cover some brief items of
2 current interest. There have been a number of NRC
3 management changes since our last meeting.

4 Mr. William F. Kane has been appointed
5 deputy executive director for reactor programs. Mr.
6 Kane has most recently been the director of the office
7 of nuclear material safety and safeguards, where he
8 also served as director of the spent fuel project
9 office from 1997 to 1999.

10 Mr. Martin Virgilio has been appointed
11 director of NMSS. He current serves as the deputy
12 director of NMSS, the position that he has occupied
13 since December 1998.

14 Margaret Federline will replace Martin
15 Virgilio as deputy director of NMSS, and Ms. Federline
16 is currently deputy director of the office of nuclear
17 regulatory research, a position she has held since
18 July 1998.

19 Before joining research, Ms. Federline was
20 deputy director of the division of waste management,
21 chief of the hydrology and system performance branch,
22 and chief of the performance assessment and hydrology
23 branch in NMSS. So she has a very strong experience
24 base and tradition with NMSS.

25 Mr. Roy P. Zimmerman will replace Ms.

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1 Federline as deputy director of research. Roy
2 Zimmerman is currently the deputy director of the
3 office of nuclear regulatory regulation, a position
4 that he has held since December 1998.

5 So much for the management changes. I
6 would like to also note that former NRC chairman
7 Shirley Jackson has added another distinguished
8 achievement to her record, and was recently elected to
9 the National Academy of Sciences.

10 She was also the first woman to receive
11 the Black Engineer of the Year award, and is also a
12 member of the National Academy of Engineering.

13 NAC Worldwide Consulting reported that
14 U.S. utilities now have 233 spent fuel casts deplored,
15 and plan to load another 107 in 2001. The report
16 estimates that nearly 30 percent of all U.S. spent
17 fuel will be in dry storage by 2010. So, dry storage
18 has become a very important component of the spent
19 nuclear fuel storage issue.

20 The Commission unanimously voted for a
21 formal adjudicatory process for hearing requests for
22 the potential high level waste repository at Yucca
23 Mountain, Nevada.

24 On February 21 of this year the NRC
25 approved the license termination plan for the Trojan

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1 Reactor. Portland General Electric plans to load the
2 spent fuel into storage casts. The plant is being
3 dismantled and decontaminated.

4 Especially for the benefit of the
5 committee and staff as background information, it
6 should be noted that there have been several speeches
7 given by the Commissioners in the past several months
8 on topics of great interest to us, such as the issue
9 of communication, spent fuel, research, and the NRC
10 work force.

11 We should also note that the primary
12 objective of this meeting is to prepare for and
13 participate in a public meeting with the Commission.
14 That will take place tomorrow as previously noted.

15 Otherwise, this meeting is patched up a
16 little bit by unavoidable things that have occurred,
17 including the absence of two members on Friday, and
18 necessitating the cancellation of that as a formal
19 meeting.

20 And we have scheduled today -- we had
21 scheduled two meetings with Commissioners, individual
22 Commissioners, and one of those has been canceled
23 because of illness on the part of the Commissioner,
24 but one of those remains.

25 So there will be some interruptions this

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1 morning, and given that, together with being one short
2 in our committee, we will have to work extra hard to
3 maintain the agenda and the continuity of discussion.

4 So with that, I think we will proceed with
5 our agenda, although where even there we are maybe
6 going to modify it a little bit, because this is the
7 part of the meeting where we really spend a couple of
8 hours trying to figure out how to be most effective
9 for the balance of the meeting.

10 So we talk about future meetings, and
11 issues, and priorities, and those kinds of things that
12 are aimed at making our meeting as effective as it can
13 possibly be.

14 And in that regard, and having some
15 license to deviate a little bit from standard agendas,
16 it might be a good idea to talk a little bit about
17 what the meetings today, or the meeting today ought to
18 emphasize with respect to Commissioner Dicus. So
19 maybe we ought to chat about that just a little. I
20 don't know, Jim, if you want to --

21 DR. LYONS: I guess I could walk you
22 through this with the staff's help. I put together
23 a little bow tie's list of the items for discussion,
24 and really this is more of a laundry list than that
25 you need to cover each one of the topics.

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1 CHAIRMAN GARRICK: It is a great list, and
2 if we go through it, we might be there until
3 tomorrow evening.

4 DR. LYONS: That's right, and so I think
5 we need to kind of pick and choose from here. I think
6 one of the key reasons that we wanted to talk to them
7 was to talk about low level waste issues.

8 Howard put together a list of topics that
9 we might want to talk about, but it seems that maybe
10 we would want to focus on the linear non-threshold
11 issue, and the release of solid materials, and that
12 sort of thing, and to look at that, and maybe on the
13 overlaps with the EPA.

14 But I would note -- and maybe you could
15 ask the Commissioner about this, but I know that
16 Chairman Zerve met with Secretary Wittman of EPA last
17 week, and so maybe we will have some feedback. There
18 was some hope that would bring about a new era of
19 cooperation between the two.

20 CHAIRMAN GARRICK: Has there been any
21 official release from those discussions?

22 DR. LYONS: I haven't seen anything.

23 DR. LARKINS: I haven't seen anything
24 either.

25 DR. LYONS: And you might want to ask what

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1 is going on there. But I think if you look through
2 the list that I handed out to the members, there is
3 several items on low level waste that you might want
4 to talk about, and you might want to pick up on.

5 I think there is always the policy or
6 legislative concern of whether there should be new
7 legislation on the Low Level Waste Policy Act. We
8 were looking at explaining to the Commissioner that we
9 are actually are at this meeting looking at a number
10 of low level waste issues, partial site release and
11 lessons learned from the site termination plan and
12 Part 71.

13 And we are also going to work on the
14 letter for entombment, and maybe find out what the
15 status of Part 63 and the Yucca Mountain review plan
16 are from the Commission's standpoint, and when they
17 think they would be ready to come out.

18 If you want to talk a little bit about our
19 research report. The Commission is having a meeting
20 in May, May 10th, to talk about research. They are
21 bringing in former Commissioner Rogers, who was on a
22 committee that looked at research.

23 Also, representatives from ACRS are going
24 to be there to talk about their research report, which
25 is about an inch-and-a-half thick. We are just about

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1 finished putting that together.

2 And so there are a couple of other items
3 as you look through here, and if we are going to have
4 additional work in the next year or so in the Yucca
5 Mountain area, the Yucca Mountain high level waste
6 repository, to make add an additional member to the
7 committee to deal with health physics.

8 CHAIRMAN GARRICK: Has this subject ever
9 been brought up with the Commission that you are aware
10 of, John?

11 DR. LARKINS: I have had discussions with
12 several Commissioners about it, and depending on what
13 happens next year with the budget, and if it looks
14 like we are actually going to move forward, suggested
15 that -- I mean, right now there is a slight increase
16 in the budget for 2002 for the ACNW.

17 And so if things move forward, I would
18 think that we might want to consider two things. One
19 would be the addition of another member, with
20 expertise in the area of health physics. And maybe
21 going back to or from 8 to 10 meetings.

22 But those would all be contingent upon
23 what happens with -- whether DOE actually moves
24 forward. I think there is as good a chance now as any
25 with all the discussions on the need for a national

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1 energy policy that something should happen.

2 CHAIRMAN GARRICK: Right. Right. Okay.

3 DR. CAMPBELL: Jim, can I add one thing?

4 DR. LYONS: Yes.

5 DR. CAMPBELL: If the focus is low level
6 waste, one of the issues that may come up is greater
7 than Class C waste.

8 CHAIRMAN GARRICK: Yes.

9 DR. CAMPBELL: And it is directed related
10 to Part 61, because the way that Part 61 is worded is
11 that you either have to modify Part 61 to dispose of
12 greater than Class C waste in a near surface
13 environment, which is shallower than about 30 meters
14 as defined in the regulation, or you have to regulate
15 by exception on a case by case basis.

16 So it may come up, particularly with
17 Commissioner Dicus, because of her experience with the
18 low level waste.

19 CHAIRMAN GARRICK: Well, I think that the
20 thing that precipitated the desire to have the meeting
21 in the first place was a feeling of a little bit of
22 guilt on the part of the NRC as to how accountable we
23 were really being with respect to the whole low level
24 waste issue.

25 Because on the one hand, we identify the

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1 decommissioning as a tier one priority, and while we
2 identify low level waste as a second tier priority,
3 and yet if you talk to industry, the number one
4 problem with decommissioning is what to do with the
5 low level waste.

6 So there is a little bit of a disconnect
7 there and that somehow I think we need to make darn
8 sure that we are aware of the implications here, and
9 are doing everything that we can to deal with it,
10 because there are real decisions that have to be made,
11 particularly in the reactor decommissioning arena, of
12 what to do with this massive amount of material.

13 And there doesn't seem to be real answers
14 yet, and so I think that is something that the
15 Commission is very well aware of. But I would like to
16 get some discussion going such that we would have some
17 sort of inspiration if you wish as to what kind of
18 advice to offer, because it just doesn't seem to get
19 dealt with.

20 It is not very gratifying to industry, for
21 example, to be told that you have got the academy
22 doing a study on solid materials, because they know
23 how the academy works, and that their schedules are
24 slow, and that their review process is tedious, and it
25 takes a long time to get a report.

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1 And they would hate to be caught in the
2 position of finally with that report done, and the NRC
3 having some real guidance by then from either its
4 advisory committees and the academy making a decision
5 that would make an already decision that might have
6 been made by industry a very costly one, and perhaps
7 an unnecessary one.

8 So there is a real accountability issue it
9 seems to me on low level waste that I am not sure is
10 being addressed with the level of interest that it
11 needs. So that is one of the reasons.

12 DR. LARKINS: If you will remember the
13 Committee is on the record of suggesting that agency
14 take the lead in developing a national program.

15 CHAIRMAN GARRICK: Right.

16 DR. LARKINS: And some change was
17 necessary, and this has been what, three years ago?

18 CHAIRMAN GARRICK: Right. We were very
19 explicit in making suggestions of what would
20 constitute an adequate lower level waste program, and
21 so we have tried to be responsive to this in the
22 context of low level waste as an item.

23 But also in the context of decommission as
24 a much more general issue. Okay. It looks as though
25 we have some interesting things to talk about, and I

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1 am quite sure that we are not going to get through
2 this entire list.

3 DR. LARKINS: I would suggest that you
4 really focus on the low level waste issue, and some of
5 the things on the lessons learned from site
6 termination, which is related to that.

7 And I think that the entombment and
8 greater than Class C status of where the Commission is
9 going on the Yucca Mountain review plan and Part 63.

10 I think that she might be interested in
11 hearing something about the Committee's views on
12 research, because it is a near term topic that the
13 Commission is going to be taking up, and the ACNW will
14 not be at that meeting on May 10th.

15 So those are four areas that I think that
16 we could possibly consume most of your discussion.

17 CHAIRMAN GARRICK: Okay. I think so, and
18 I guess it is almost time for us to leave for a nine
19 o'clock meeting is it not?

20 DR. LYONS: Yes.

21 CHAIRMAN GARRICK: So, Milt, as a
22 committee of one, can you do the best job that you can
23 of getting through some of these planning items and
24 discussions items?

25 And normally we don't have this part of

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1 the meeting recorded, but, Ray, I am going to ask you
2 to join me to go see Commissioner Dicus. And we well
3 be back in about 35 minutes and continue.

4 MEMBER LEVENSON: Is there any suggestions
5 as what could be done usefully in the absence of a
6 quorum?

7 MR. SINGH: We can follow the items from
8 the 124th meeting if you want.

9 CHAIRMAN GARRICK: Yes. I think the
10 planning activity associated with future meetings, and
11 what have you, you can do with the help of Jim. Jim
12 is going to lead that discussion.

13 DR. LYONS: Right. I was going to lead
14 that discussion anyway. So we will try to work
15 through some of these.

16 CHAIRMAN GARRICK: Right. So we will
17 excuse ourselves.

18 (Brief Pause.)

19 DR. LYONS: Okay. I think let's work
20 through the table of contents under Tab 2, which is
21 where we are. And we will start off with the follow-
22 up items from the 124th ACNW meeting. I will turn
23 this over to Amarjit and let him walk us through that.

24 MR. SINGH: We have three letters, KTI,
25 Staff's, and TPA and the report to the commission.

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1 Then we finalize the ACNW past inspection plan.

2 DR. LYONS: Well, we approved it in
3 principal, but we are going to finalize it today.

4 MEMBER LEVENSON: And that needs voting,
5 too.

6 DR. LYONS: Right. But there is time set
7 aside in the agenda to do that.

8 MR. SINGH: And we also distributed the
9 minutes from the last meeting and the assignments and
10 the commitments, KTI vertical slice, and TSBA is Andy
11 Campbell and John Garrick. CLST is also Andy Campbell
12 and Ray Wymer.

13 DR. LYONS: Saturation zone.

14 MR. SINGH: Saturation zone, George
15 Hornberger and thermal effects with Milt and Richard
16 Major. We also have consulting news to explore, and
17 one of the members has some more names for that.

18 MEMBER LEVENSON: Let me ask a question in
19 that context.

20 MR. SINGH: Yes, sir.

21 MEMBER LEVENSON: I can't think of a
22 specific name, but the CDC in Atlanta has been charged
23 with reconstruction of old heritage sites and so
24 forth, and there is a substantial number of people
25 involved in that program who are getting good

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1 backgrounds in data and information, and maybe that is
2 somewhere to look for someone that might be a
3 consultant since that is such a very active activity.

4 We have a draft report almost finished on
5 the Savannah River site, and we are in the midst of
6 reviewing one right now on the Idaho site, and we
7 might find somebody who could be a consultant.

8 And the National Academy Committee that
9 reviews the CDC is chaired by a guy by the name of
10 Schule Texas, and he might be a contact.

11 DR. LARSON: We have really been most
12 successful in getting consultants when they have been
13 people that the staff or the members know, and they
14 can talk to them and sort of preface them, and tell
15 them that they are going to work for the Federal
16 Government at the going rate.

17 Because if we call up somebody that we
18 don't know and say would you be interested in being a
19 consultant, one of the first things they want to know
20 is how much are we going to get paid, and what are the
21 conflicts of interest.

22 And so they need a prep and pep talk from
23 people such as yourself and other members.

24 MEMBER LEVENSON: One of the things about
25 people already out on the academy committees is that

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1 they are already working for free. I know some fair
2 fraction of these people, and this committee that
3 Schule chairs is 14 people, and 12 of them are medical
4 types, such as biologists, or epidemiologists, and
5 there is one statistician, and then me. I am the
6 reality check. So I know a number of these people.

7 DR. LYONS: As I said, Rod Ewing has
8 declined the invitation to be a consultant, but he
9 said he would continue to serve as an invited expert.
10 And Chris Whipple --

11 DR. CAMPBELL: And Chris Whipple has also
12 declined.

13 DR. LYONS: Oh, he has also declined?

14 DR. CAMPBELL: Yes, for the same reason.

15 MS. HARRIS: Is he going to be an invited
16 expert?

17 DR. CAMPBELL: Probably not.

18 DR. LYONS: Okay. All right. We looked
19 at meeting attendance, and Lynn went to the NWTRB
20 meeting in Amargosa Valley. We sent a consultant to
21 the repository design meeting in Las Vegas in
22 February.

23 We had a high level waste chemistry
24 working meeting here on February 21st and 22nd that
25 Andy ran, and I think that turned out to be

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1 successful.

2 Ray and I attended the Waste Management
3 2001 Symposium in Tucson and I only got to stay for
4 two days and Ray got to stay for all four.

5 Upcoming meetings. There is the
6 International High Level Waste Conference that is
7 coming up in April, or the end of April and the
8 beginning of May.

9 Right now, Milt, you and John are
10 scheduled to go there. Also, I think George
11 Hornberger is scheduled to be a speaker at that.

12 DR. CAMPBELL: Right.

13 MEMBER LEVENSON: I want to raise a
14 question. George is a speaker in the one session, and
15 he can stay and I will bow out. I can continue to
16 plan to go, but I think you can resolve that today or
17 tomorrow. You don't need an extra person there.

18 DR. LYONS: All right. The TSPA and
19 integration technical exchange; we had it down here
20 that it would be in May tentative. Has that been
21 changed?

22 DR. CAMPBELL: No, if you look at your
23 handout, titled DOE Interactions Calendar.

24 DR. LYONS: Agenda Item 2?

25 DR. CAMPBELL: Yes, Agenda Item 2.7.

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1 Right now the May dates may -- well, it looks 14, 15,
2 and 16 are the FEPs meeting, Features, Events, and
3 Processes meeting in Las Vegas.

4 You will notice that it overlays exactly
5 with the ACNW meeting in May. So it is unlikely that
6 we will be able to attend that. The TSPAI meeting is
7 the last week of June, the 25th through the 29th, and
8 it is a five day schedule.

9 DR. LYONS: Okay.

10 DR. CAMPBELL: So those are upcoming
11 meetings. There are some -- in talking to Jim Ferth,
12 there may be some Appendix 7 type of meetings in the
13 interim, between now and June, and I will get further
14 information from GMS as they firm those things up, and
15 the topics and stuff.

16 DR. LYONS: Good.

17 DR. CAMPBELL: But right now it is FEPs in
18 mid-May, and TSPAI at the end of June.

19 DR. LYONS: All right.

20 DR. CAMPBELL: And we don't have a
21 consultant for FEPs.

22 MEMBER LEVENSON: Or TSPA.

23 DR. CAMPBELL: We don't really have a
24 consultant who is a FEPs person.

25 DR. LYONS: Okay. Any other meetings that

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1 are scheduled? I see we have down here a tentative
2 visit to Invirocare? Would somebody -- I am not even
3 sure who is --

4 DR. LYONS: Well, the members had said
5 that they thought that that would be an interesting
6 visit sometime, and I think that's why she put it down
7 here.

8 MEMBER LEVENSON: Sometime when we are in
9 that part of the country.

10 DR. LYONS: So that was just sort of a
11 place holder, and was put down there, I think, to
12 visit that.

13 MS. DEERING: Jim, there was another memo
14 that came out of the staff that went to DOE agreeing
15 on some meetings, and ones that I wanted to note where
16 there is a preclosure safety on July 23rd. It is in
17 another one of these pick handouts.

18 DR. LYONS: Thirteen?

19 MS. DEERING: Yes, 13, and Milt, this may
20 be of interest to you.

21 DR. CAMPBELL: Are those firm dates then?

22 MS. DEERING: I think these are proposed.

23 DR. CAMPBELL: Okay. Because the
24 interactions calendar said that this is the preclosure
25 issues.

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1 MS. DEERING: Well, no, this is just all
2 the meetings that are coming up, and one on July 9th
3 on repository temperature, which is proposed. I don't
4 believe that -- you know, I think it was a follow-up
5 to a conference call that they had, and they are just
6 kind of reaffirming these dates.

7 I don't know if they are engraved in stone
8 yet. They agreed on five technical exchanges in the
9 conference call, and I just wanted to bring them to
10 Milt's attention so that he could consider them,
11 because they are both probably interesting to him.
12 Thanks.

13 DR. LYONS: Okay. Good.

14 DR. CAMPBELL: The only reason I
15 interrupted, Lynn, and I am sorry, is that the
16 Interactions Calendar says preclosure issues, 7/24
17 through 7/26. But it does say TBD and tentative
18 dates.

19 MS. DEERING: I don't know. This memo is
20 March 11 and so it may be out of date.

21 DR. CAMPBELL: Or it may be that they just
22 have not settled on the times yet.

23 DR. LYONS: It is almost two weeks old
24 now. Okay. On to the next page, and we keep moving
25 through these follow-up items.

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1 MEMBER LEVENSON: Excuse me, but it is the
2 week of July 9th, and I am not available that week.

3 MS. DEERING: For the temperature -- okay.

4 DR. LYONS: The next page talks about
5 possible working groups on above and beyond TSPA, and
6 propagation of uncertainty, risks and applicability of
7 the New Mexico environmental evaluation group process
8 for Yucca Mountain, State and local public
9 involvement. Do we have any more information on those?

10 DR. LARSON: Well, no, those were just
11 things that we -- remember we were talking about the
12 action plan and future things, and various committee
13 members pitched in with what they thought might be
14 interesting working group things, but we never picked
15 any dates or topics, or finalized anything, and once
16 again it is more or less a place holder for the
17 committee to decide what they want to do, if anything,
18 on these topics.

19 MEMBER LEVENSON: There is one more
20 possible space holder, because we are sort of waiting
21 for some feedback from the Commissioners, is the area
22 of transportation.

23 DR. LYONS: Right. T here is a possible
24 working group?

25 MEMBER LEVENSON: Right.

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1 DR. CAMPBELL: Realistically, these are -
2 - most of these are different aspects of the same
3 issue, which is really how do you handle uncertainty
4 in the context of doing a total system analysis, and
5 if we want to develop a working group on that area, we
6 are probably going to have to do it after the TSPAI
7 technical exchange.

8 And so we are looking at -- and then it
9 usually takes a number of months to develop the
10 necessary invitations and find out who can attend, and
11 put it all together.

12 So we are looking realistically at the
13 fall and into the next fiscal year before we could
14 have this kind of working group.

15 DR. LYONS: Okay. The rest of that talks
16 about future activities, and really talks about what
17 we are going to do about this meeting. I don't think
18 we need to go through that.

19 What I would like to do then is turn to --
20 and again under Tab 2, to page 5, and look at the
21 reports and letters scheduled for consideration during
22 this meeting.

23 The first letter that we are going to look
24 at is the entombment option for decommissioning
25 nuclear powered reactors. We had discussed this at

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1 the 122nd and the 124th meeting. We have a draft
2 letter to look at. So we will be looking at that
3 later on. The 2001 --

4 MEMBER LEVENSON: We do have the draft?

5 MR. SINGH: Yes, sir, we do.

6 DR. LARSON: Yes, Ray redid it based on
7 the input that you have got in the plan, the draft
8 plan.

9 DR. LYONS: Okay. The 2001 action plan,
10 which discussed -- and which we approved in principle
11 at the last meeting, we are going to finalize that
12 later on today or actually this morning.

13 MR. MAJOR: This morning, yes.

14 DR. LYONS: We are going to work on that
15 and talk about that a little bit more, and talk about
16 our self-assessment. We were talking about a letter
17 on high level waste chemistry.

18 But we are not really ready at this time
19 to go forward with that, and so that will be something
20 that we will deal with in the future. So don't worry
21 about that one.

22 Partial site release of a reactor facility
23 or site for unrestricted use. We are going to be
24 hearing about that at this meeting. The staff is
25 requesting a letter with any of our conclusions and

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1 concerns, even if it is a brief letter.

2 DR. LARSON: Yes, they said even an e-
3 mail, and I talked to them yesterday, and they would
4 like something from the committee of some sort, and
5 they will give you the timing that they have to get to
6 the Commission this afternoon.

7 DR. LYONS: Yes.

8 DR. LARSON: And it is your first real
9 presentation from NRR. So it would be an interesting
10 discussion.

11 DR. LYONS: And then the last letter that
12 we are going to consider -- no, there is two more.
13 License termination plan, review the lessons learned
14 that we got. The committee is going to give a
15 briefing about that at this meeting, and we will have
16 to determine whether or not we need a letter.

17 The staff right now is not requesting one.
18 So we will see if as a result of that that we decide
19 to write a letter. And then the final one is on the
20 proposed revisions to 10 CFR Part 71, the packaging
21 and transportation of radioactive material.

22 Again, we are going to hear about the
23 proposed changes to Part 71, and the staff again is
24 not requesting a letter from us at this time, but if
25 we decide to, we could always write one.

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1 Okay. Let's move on to future activities.
2 Our plate is not that full in the next few months. We
3 are looking at next month's meeting that the NMSS
4 through the EDO has requested to brief us on the
5 status of the sufficiency review, and an update on
6 preclosure approach.

7 But of those are information briefings,
8 and so those ought to be interesting. And on the page
9 following there are some of the things that we were
10 looking at adding, is more discussion on our vertical
11 slice reports by the committee members and the staff.

12 And a response to the Commission briefing
13 that is going to be held tomorrow if we have any, and
14 if there is anything that we need to do there. And
15 then I guess the other thing is to talk about the
16 international high level waste conference in Las
17 Vegas.

18 There was some discussion if there was a
19 number of people going to that whether or not we would
20 want to try and have a meeting there, rather than
21 having a meeting here.

22 DR. LARSON: That was discussed at the
23 last meeting whether the committee wanted to do that,
24 but at that time you didn't have the agenda. But the
25 agenda is now in your notebook, and you can look at

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1 that.

2 And then one of the things that we have
3 asked the staff in the meantime is the presentations
4 that they scheduled for that meeting, and whether they
5 would be able to give those in Las Vegas.

6 Now, there are papers being given by the
7 staff in the center on the same topics, but I have not
8 heard whether it is possible to do that, or whether
9 the members want to do it.

10 But John there wanted that as an option,
11 and several of the other members raised that
12 possibility once they saw the agenda, which is in your
13 book.

14 DR. LYONS: So we can talk about that some
15 more. For June, we don't have any topics right now
16 other than we have to do an election of officers.

17 DR. LARSON: I got two topics this
18 morning, Jim --

19 DR. LYONS: You do? Good.

20 DR. LARSON: -- from the staff at 7:30.
21 One is that Janet Kocher would like to come in and
22 talk to us on public outreach activities, and it is an
23 information briefing.

24 And, of course, this is a topic that the
25 committee has indicated a lot of interest in over the

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1 years. And the second one was a discussion of the
2 integrated issue resolution status report, and that is
3 another information briefing with medium priority.

4 And so they have indicated that they want
5 to come in and talk about those two topics at the June
6 meeting.

7 DR. LYONS: Good, because we are having
8 our coordination meeting next week with EDO, and so we
9 will have -- and I am sure that these two will be
10 picked up there and we will look at some more.

11 DR. LARSON: Yes.

12 DR. LYONS: And then I am looking forward
13 to July, and that we probably need to start making
14 some preparations for our meeting in October in the
15 Las Vegas area, in the vicinity of the Yucca Mountain
16 site.

17 DR. LARSON: It may seem early, but you
18 have no meeting in September. So if you talk about it
19 in July, you can finalize it in August, and then
20 that's it, and then you are there.

21 DR. LYONS: Yes.

22 DR. LARSON: And so that is the only
23 reason I put it on there for July.

24 DR. CAMPBELL: One additional -- I'm
25 sorry, Milt, go ahead.

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1 MEMBER LEVENSON: I was just going to say
2 should this have been an item on the copy for John to
3 bring up with the Commissioners?

4 DR. LYONS: Oh, yes, whether or not they
5 wanted a meeting held out there?

6 MEMBER LEVENSON: Yes.

7 DR. LYONS: That might be -- I am trying
8 to think. I think that is something that he has
9 raised to them, and that they are thinking about.

10 DR. LARSON: Well, you put it in a letter.
11 We got a response back from the EDO who said it was up
12 to the Commission.

13 MEMBER LEVENSON: I know that, and so the
14 preliminary feedback was that it made sense, and that
15 we are thinking about it or forget it.

16 DR. LYONS: Okay.

17 DR. CAMPBELL: I was going to add that
18 there is an additional potential topic. I got a call
19 from Rick Hulse at INEL over the greater than Class C
20 waste issue.

21 DOE, under the Low Level Waste Policy Act,
22 as amended, is responsible for developing a strategy
23 for disposing of greater than Class C waste.

24 They also have a whole bunch of sealed
25 sources that are being returned to them from

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1 commercial entities, and they are trying to develop a
2 plan of what to do with this stuff.

3 They are looking at disposal options in
4 deep bore holes. But any facility that they develop,
5 since these are commercial sources, would require an
6 NRC license.

7 So it would be a DOE facility under an NRC
8 license. So at some point they are going to be
9 wanting to talk to ACNW and give a presentation on the
10 various options that they are considering. So that is
11 a possible topic in the next six months or so.

12 DR. LYONS: Okay. I was going to say I
13 was wondering what the time frame was.

14 MEMBER LEVENSON: Andy, let me ask you a
15 question since that becomes technically complicated or
16 just policy and politics, that it seemed to me that if
17 the Commission is going to go ahead with the can and
18 canister program, and that is a good safe way of
19 getting rid of kernels from bombs, and you have got
20 the facility and the program to just throw these,
21 certainly any of these commercial sources are much
22 less an environmental threat than a couple of pounds
23 of plutonium.

24 You have got a facility and you have got
25 a program, and it seems like a relatively simple way

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1 to handle it rather than starting a whole new major
2 thing.

3 DR. CAMPBELL: Well, they are looking at
4 options right now, and that's --

5 MEMBER LEVENSON: I guess the question
6 really comes back to a philosophical one, and that is
7 while these are licensed sources, and a lot of them
8 are made by the Commission -- radium material come
9 from our energy facilities, et cetera -- can you de-
10 license a source like you can de-license a reactor,
11 which would allow DOE to just use them in one of their
12 existing unlicensed facilities, like the can and
13 canister? That would simplify the hell out of things
14 if it is possible.

15 DR. CAMPBELL: That would be a good
16 question to ask them if they came in. I can't give
17 you an answer on that. He did indicate to me that
18 they see the disposition of the sources as a segaway
19 into the larger issue of the disposition of greater
20 than Class C waste in general, which they are also
21 responsible for, and which also requires an NRC
22 licensed facility.

23 MEMBER LEVENSON: I know that is the
24 approach that they are talking about, but it doesn't
25 seem to make sense to me, because generally the

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1 greater than Class C waste is voluminous, and
2 unconfined, unpackaged, et cetera.

3 There is one sort of risk family, and a
4 sealed source that is small, and sealed, and packaged,
5 and directly handable, and a relatively small volume,
6 as compared to greater than Class C. That really
7 ought to be a basis for trying to at least thing about
8 it differently.

9 DR. CAMPBELL: Apparently they tried to
10 extract useful radioisotopes out of these sealed
11 sources and failed, and ended up with more waste than
12 what they started with.

13 MEMBER LEVENSON: Sure.

14 DR. CAMPBELL: They are not just cesium
15 and strontium. There are neutron sources which have
16 actoncites in them, you know. And there are thousands
17 of them. It is not a small number.

18 MEMBER LEVENSON: They are all small, but
19 greater than the Class C, it is very small.

20 DR. CAMPBELL: Right. What is happening
21 apparently is because they are small, they tend to get
22 left and abandoned. They are finding them in -- you
23 know, they are used in bore hold logging and stuff
24 like that, and they end up getting left and abandoned.

25 So they are trying to gather them all in

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1 at this point, but that's a collection issue rather
2 than a disposal issue.

3 MEMBER LEVENSON: They are still finding
4 radium in the free world from World War II days and in
5 old medical buildings and stuff.

6 DR. CAMPBELL: Well, I can follow up with
7 Rick at some point in time to see when it might fit
8 into your schedule.

9 MEMBER LEVENSON: Well, I was at Hanford
10 a few weeks ago, and I was absolutely appalled to
11 discover that they are thinking-- you know, they have
12 got all of this cesium and strontium sources from when
13 then had a packing program, and they are now building
14 a facility to dispose of the cesium and the strontium
15 that is in the waste tanks.

16 And they are thinking about breaking open
17 all those capsules and redissolving it, and dumping it
18 into the tanks so that it can go through the
19 processing plant so that they can condense it to a
20 finite volume when it is already in a finite volume.
21 So it is not our role to introduce rationality to the
22 world, but we can try, I guess.

23 DR. LYONS: Okay. The next thing on the
24 agenda here is to look at the reconciliation of
25 responses to ACNW reports.

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1 MEMBER LEVENSON: Oh, one other thing.

2 DR. LYONS: Go ahead.

3 MEMBER LEVENSON: The sidebar to the visit
4 to Envirotech in fact is tied to this item at the July
5 meeting, I think, was that if we had a meeting out in
6 Las Vegas and the whole ACNW is out there, would
7 people be interested in a side trip to Envirotech.

8 DR. LYONS: Okay. The next thing on the
9 agenda is reconciliation, and I was wondering -- we
10 were just talking about this, and whether we should
11 wait until there was more members and everybody is
12 here to go through those.

13 So let's table that for now, and then if
14 you go through the rest of the information that is in
15 your notebook, we have the proposed agenda for ACRS
16 and ACNW meetings that we get from the executive
17 director for operations that lists the items that we
18 had provided already.

19 The ACNW stuff actually starts on page 20,
20 the handwritten 20 at the bottom of your page. Again,
21 we are having a meeting with them next week, and we
22 will have an updated list at that time to work with.

23 And we used this to develop our calendars
24 and our schedules for future meetings. And we have
25 picked up on all of these that are in here now.

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1 Then also there is the calendar for the
2 ACNW and ACRS that follows that, and that is just
3 really for your information. And then a list of M&O
4 meetings status, and that is from March 5th, and I
5 guess some of these other documents that we have help
6 update that list.

7 MEMBER LEVENSON: Let me ask you a
8 question about the transportation workshop, and that
9 kind of drifted into being, and with Part 71 coming up
10 as a more substantive part of our agenda along the
11 way, would that have any impact on the value or
12 probability that we should hold a workshop?

13 Originally there wasn't any official thing
14 on our agenda that was justification for the workshop.
15 It was a feeling that some of the committee members
16 that transportation was a drifting item; and now with
17 Part 71, there is a place to anchor.

18 DR. LARSON: And as you know, the Part 71
19 thing is a pretty finite discussion.

20 MEMBER LEVENSON: Oh, yes.

21 DR. LARSON: Dick, there is something that
22 is being drafted to go in the self-assessment and
23 operating plan that mentions transportation.

24 MR. DURAISWAMY: It is already in the
25 action plan.

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1 MR. MAJOR: We did move transportation
2 from a first tier issue last year to a second tier
3 year this year. I think the original topic arose when
4 we were looking at the draft environment impact
5 statement for Yucca Mountain, and that seemed to be
6 something that was of high concern to the public.

7 And we kind of picked up on that following
8 that. My impression right now is that we are taking
9 on a lot of transportation issues, but we are taking
10 them on piece by piece, rather than in one fell swoop.
11 So that seems to be the course that we are taking.

12 DR. LYONS: Okay. And I guess what I was
13 saying is that the rest of this, beyond the calendars
14 and the meeting status -- well, are there any of these
15 meetings that we should highlight? I think we already
16 discussed them.

17 MS. DEERING: Jim, the calendar isn't
18 complete. Are you concerned about that?

19 DR. LYONS: Well, yeah. In what way?

20 MS. DEERING: Well, just a couple of
21 things come to mind. I see right away that there is
22 an NWTRB on April 13th, a panel meeting in D.C. on
23 multiple lines of evidence, which I think is a really
24 important meeting. Somebody needs to go.

25 I know that Milt says he couldn't go, but

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1 I think we should tap the other members and see if
2 they could attend that since that is such a key issue
3 and it concerns -- we have our own opinions on that,
4 John Garrick does.

5 And there is another TRB meeting here in
6 D.C. on May 8th and 9th, which I don't think I see on
7 here.

8 DR. LARSON: We have to tell Sherry. I
9 mean, Sherry only puts in there what we tell her to
10 do, and of course the KTI meetings and the tech
11 exchanges, and other things, are pretty dynamic in
12 their dates.

13 MS. DEERING: And then there is another
14 one in September, the 11th and 12th, and that should
15 be noted on here. I mean, I will give this to Sherry.

16 DR. LYONS: Okay.

17 MS. DEERING: But for planning purposes,
18 some of these are coming up pretty fast.

19 DR. LYONS: Are they on this M&O status,
20 or are these separate?

21 MEMBER LEVENSON: What date is the April
22 meeting?

23 MS. DEERING: The April meeting is on the
24 13th, Milt.

25 DR. LARSON: Friday the 13th?

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1 MS. DEERING: I don't think you can go.
2 I think you already checked.

3 DR. LYONS: Yes, I don't see that on here.
4 The one in April, what was that?

5 MS. DEERING: What was it, the title of
6 it?

7 DR. LYONS: Yes.

8 MS. DEERING: Multiple Lines of Evidence.
9 The board wants to explore further as I understand it
10 what they themselves mean by that when they ask DOE to
11 make sure that they are looking at multiple lines of
12 evidence. And I don't have an agenda for this, but I
13 got this from their website.

14 DR. LYONS: All right. I think that is
15 something that we should start trying to see who we
16 want to send to those. I would like to go to one of
17 these meetings and so on April 13th, if that fits in
18 with anything else in my calendar, I wouldn't mind
19 going to that.

20 MS. DEERING: I highly recommend it.

21 DR. LYONS: Somebody can go with me and
22 explain the process and lead me through it.

23 MS. DEERING: Of course, you know what?
24 Just for your information, that would be a panel
25 meeting, which is different than their full committee

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1 meeting. But I am sure that it would still be
2 extremely well attended. But they just break off a
3 piece of the larger group and explore.

4 DR. LYONS: Right. Okay. Maybe we should
5 raise those meetings up to the others when they come
6 back. And then the other thing we have here is the
7 agenda for the international high level waste
8 management conference, and so you can look at that,
9 Milt.

10 And that gets up through this, and so what
11 I would propose at this point is to take a break until
12 John, John, and Ray come back. So let's take a break
13 until 9:45. I would hope that they would be back by
14 them.

15 (Whereupon, the meeting recessed at 9:31
16 a.m. and was reconvened at 10:21 a.m. in progress.)

17 MEMBER WYMER: All right. The coupling is
18 between the dripping in of the water out of the waste
19 package, which is one process, and radiolysis, which
20 is another. That is an example, Milt.

21 CHAIRMAN GARRICK: Are secondary products
22 an example?

23 MEMBER WYMER: Yes, but that wouldn't be
24 a surprise since everybody has anticipated that, but
25 they have not really anticipated the effect of high

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1 acidity. People have mentioned it, but they haven't
2 really dealt with it. But it was specifically
3 mentioned.

4 CHAIRMAN GARRICK: Well, I am thinking of
5 secondary products in the context of inhibiting
6 corrosion, for example.

7 MEMBER WYMER: No, not really. People
8 haven't, for example, thought about what might happen
9 when the grout around the rock bolts dissolves, and
10 then drips down on the waste package, and then
11 resolidifies into a coating that might then prevent
12 future corrosion and cracks, and something like that.

13 These are plucked out of the air, I want
14 you to know, but they are still the kinds of things
15 that might be surprises. That kind of stuff.

16 CHAIRMAN GARRICK: We can come back to
17 that again when we do our Commission work.

18 MEMBER LEVENSON: In this example, you
19 reduce the mobility of the neptium, right?

20 MEMBER WYMER: Yes.

21 MEMBER LEVENSON: Pleasant surprise.

22 MEMBER WYMER: It is a pleasant surprise.
23 Not all surprises are bad. I think that is your point
24 of several meetings ago, Milt.

25 MEMBER LEVENSON: Yes.

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1 CHAIRMAN GARRICK: Now, there may be some
2 colloid formation surprises that would go in the other
3 direction.

4 MEMBER WYMER: Well, that is another
5 issue, but something about colloids that bother me is
6 that people only seem to be talking about pseudo
7 colloids these days, and they have forgotten about
8 real colloids. They are talking about attachment to
9 silica colloids, and things like that, clays, and I
10 don't hear much discussion anymore for some reason
11 about the fact that the aconites form real true
12 colloids all by themselves without attaching to
13 anything.

14 CHAIRMAN GARRICK: Okay.

15 DR. LYONS: That's all that we have for
16 the reconciliation, and that really wraps up all the
17 planning procedures, and so I am going to turn it back
18 over to you for the next item on the agenda.

19 CHAIRMAN GARRICK: Okay. All right. I
20 guess we are going to receive an update on the current
21 status of KTIs, the KTI resolution. Carol, we know
22 you, but would you for the record introduce yourself.

23 DR. LARSON: You might notice on the
24 agenda, and I think other than Carol, that at the last
25 meeting the members were concerned that they weren't

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1 getting enough time for discussion.

2 So we have indicated on the agenda that
3 the presentation is supposed to be so long, and then
4 the questions are afterwards, and it depends on how
5 you interact with the speakers, so that you get an
6 adequate amount of time to ask questions and
7 interacting in the presentation doesn't take up all
8 the time.

9 MS. HANLON: Good morning. I am Carol
10 Hanlon with the Department of Energy, Yucca Mountain.
11 Up until recently, I have been responsible for the KTI
12 meetings. I have been facilitating those. I have
13 recently transferred back into the site recommendation
14 realm, where I am the product to lead for the site
15 recommendation.

16 But I want to give you an update -- one of
17 the highest levels, a very high level -- of the
18 progress that we have made and basically what has been
19 going on in this key technical issue, key technical
20 exchange, which we feel have been very, very valuable.

21 Basically, we could easily just read along
22 in our handout. There is not a lot of new material
23 here. So, 11 out of approximately 13 technical
24 exchanges are complete, beginning with the total
25 system performance assessment and integration meeting

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1 that we had last year, last June, in San Antonio.

2 And going through the most recent meeting,
3 which was repository design and thermal mechanical
4 effects, in February, the first week in February, in
5 Las Vegas, we mentioned earlier this morning that
6 tentatively we have two more meetings planned.

7 And actually the key technical issue
8 meeting is total system performance integration. As
9 we mentioned earlier, that is at the end of June, and
10 in order to plan for that, and to facilitate that
11 meeting and make it more effective, there will also be
12 a features events and processes meeting held in May.

13 And there is talk of a preclosure issues
14 meeting to be held later, and we are waiting for some
15 planning information on that, and as to exactly how we
16 will focus that. The preclosure issue, of course,
17 does not have a key technical issue associated with
18 that. So it falls into a different category

19 It is rather a different type of situation
20 than with the other key technical issues which do have
21 the issue resolution status report, and how to
22 identify issues and sub-issues, and therefore can be
23 addressed specifically.

24 CHAIRMAN GARRICK: Do you have specific
25 dates yet on the TSPA meeting in June?

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1 MS. HANLON: I think that the date -- when
2 I left the office the date had not been set. I
3 understand that it has tentatively been set or perhaps
4 more firmly than that for June 25th through 29th. Is
5 that correct, Jim?

6 We have several people from the staff who
7 are very familiar with these, and they can correct me
8 whenever I stray. I have put in the package the issue
9 progress sheet, and you can look at it more closely as
10 I think you go through this.

11 Five of its sub-issues are totally closed,
12 and five of the sub-issues are open. There are 27
13 sub-issues that are closed-pending. We have
14 approximately 215 agreements for the nine issues so
15 far.

16 Some of those are multiple. They address
17 more than one item. So we have captured them more
18 than once for completeness, but there are actually not
19 that many unique agreements. And to date we have
20 submitted to the NRC 56 documents which address 45 of
21 these agreements.

22 We have put every effort into very
23 carefully meeting our commitments, our agreement
24 items, to make sure that with the agreement items and
25 the dates that we have committed that we keep those.

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1 We feel that that is very, very important.
2 There are occasions where we have fallen behind a bit,
3 and so I am just going to call these to your
4 attention. One of the ones that I think is almost out
5 is this features events and processes analysis report
6 for the unsaturated zone.

7 Another is the feature event and processes
8 database, which is in DOE's hands. We are reviewing
9 it and we will make final changes and get that to the
10 Nuclear Regulatory Commission staff, I hope, still in
11 March.

12 A couple of others are the summary of in-
13 package chemistry for waste forms, preliminary
14 assessment of radiolysis affects from criticality and
15 in-package chemistry abstractions. So those are
16 forthcoming.

17 MEMBER WYMER: What is radiolysis affects
18 from criticality? Who is going to worry about
19 radiolysis?

20 MS. HANLON: You know, I would have to
21 look into that. Katherine Napp hasn't joined us yet,
22 and she may be here later, and she can say a bit more
23 about that.

24 It is one of the things that came out of
25 the container life and source term agreements, and I

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1 can also look that up, that specific agreement, Dr.
2 Wymer, so that we have a little more information on
3 that.

4 MEMBER WYMER: I would be interested to
5 see what that really means.

6 MS. HANLON: Sometimes we lose a little
7 bit when we summarize. So I am not going to go over
8 the next several slides for you as basically those are
9 just summarizing by the key technical issues, but we
10 will put it up briefly.

11 The number of sub-issues which are closed,
12 and which are closed-pending, and which are still
13 open, and you can see that we are making quite a bit
14 of progress. But to get us back on track, I really
15 won't go over those.

16 The total system performance assessment
17 and integration meeting is in June, and all four of
18 those sub-issues remain open. So they will be
19 addressed at that time, and that is really
20 appropriate, I believe, because it is dependent on
21 information that is going on to date, and also it
22 depends upon future events and processes discussion.

23 I have also put by each key technical
24 issue a status of items the sub-issues which are
25 closed and closed-pending, or in some few cases open,

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1 and again I won't go through those in the interest of
2 time.

3 Since last we spoke, we have had four
4 meetings. We have had the radionuclide and transport
5 meeting, the thermal effects on flow, near-field
6 environment, and the repository design, and thermal
7 mechanical effects.

8 So it may be worthwhile just going through
9 those briefly. With radionuclide and transport, there
10 were four issues. Sub-issue 1 was closed-pending,
11 with five agreements. Sub-issue 2 was closed pending,
12 with 11 agreements; and we have identified the
13 duplicate agreement from radionuclide transport.

14 And Sub-issue 3 is closed-pending, with 10
15 agreements; and Sub-issue 4 is also closed-pending,
16 with 3 agreements.

17 Thermal effects on flow had two sub-
18 issues, and closed-pending for Sub-issue 1, with two
19 agreements; and Sub-issue 2 is closed-pending with 13
20 agreements.

21 Evolution of near-field environment. All
22 five sub-issues are closed, with the associated number
23 of agreements, and we have again listed the
24 duplicates.

25 Repository design and thermal mechanical

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1 effects, and the last meeting which was conducted in
2 February has four sub-issues. Sub-issue 1 and 4 are
3 closed, and Sub-issue 2 and 3 are closed-pending, with
4 the number of agreements; two for Sub-issue 2 and 21
5 for Sub-issue 3. And it specifies quite specifically
6 the types of analysis that we need to do to close
7 that.

8 And so the Department feels that these
9 technical exchanges have been extremely productive
10 and that we have made progress in moving forward. We
11 of course understand that the staff will continue to
12 apply a great deal of scrutiny and evaluate the
13 information that is forthcoming.

14 We appreciate that and that agreements may
15 be revisited. The strong point that we see here is
16 that we have defined information that the staff
17 continues to be interested in, and that they feel is
18 important to see as we move forward.

19 So we continue to work to completely
20 satisfy those agreements. And I would note that there
21 is a peer review that has been started. I think that
22 this is an item of interest to Dr. Wymer and others on
23 the committee on the waste package acronym issue.

24 Dr. Joe Payer (phonetic) has been
25 identified as chairman of that sub-group, and that

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1 other peer review group members will be identified
2 soon, and when we have a schedule and an opening
3 meeting for that, you will be notified of that. We
4 invite you to participate if you would like to.

5 We hope to have the interim report on that
6 before the end of the calendar year. And in terms of
7 being able to close out any of the key technical
8 issues, we are still hopeful that we may be able to
9 make -- I know that both the staff and we have
10 interests in being able to totally close out some of
11 the key technical issues.

12 And we are hopeful that it may be possible
13 to close the key technical issue on igneous activity,
14 and perhaps a structural deformation and seismicity,
15 and we are working through that to see what kind of
16 informational meetings that we need to have to be able
17 to move forward and close those items.

18 One other thing that I have that may be
19 useful to you is that we have developed a matrix that
20 takes the items -- I will make copies of this if it
21 will be useful to you, that takes the agreement items
22 and goes through them by date of the agreement, and
23 then correlates that with a number of the other --
24 excuse me, the specific key technical issues that they
25 address.

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1 I had mentioned earlier that we have a
2 number of issues that address more -- a number of
3 agreement items that address more than one issue, and
4 so we have attempted to make that a little clearer by
5 doing this interim chart, and it goes through month to
6 month, and so that will also allow you to see the
7 scheduled date for things that are out in front.

8 CHAIRMAN GARRICK: I think that would be
9 very helpful.

10 MS. HANLON: So I will make sure that you
11 get copies of this.

12 DR. LYONS: I think we passed out copies
13 of those to you.

14 MS. HANLON: Are there any questions?

15 CHAIRMAN GARRICK: Is this gentleman going
16 to lead the corrosion the same one that was involved
17 in the TSPA peer review?

18 MS. HANLON: Joe Payor. You know, I am
19 not so sure. I think he has been in our program, but
20 I couldn't say that for sure.

21 DR. CAMPBELL: Yes. He was also one of
22 our panelists in the engineer barrier working group in
23 '98. Joe Payor.

24 CHAIRMAN GARRICK: Okay. Joe Payor. Yes.
25 Very good. Any questions?

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1 MEMBER LEVENSON: Carol, at the KTI
2 meeting on repository design, as I wasn't there, but
3 it was reported -- and I will read you the statement.
4 "DOE stated that the project design goal for
5 preclosure emplacement is a wall temperature of 96
6 degrees, below boiling." Is that a decision that has
7 actually been made?

8 MS. HANLON: I think right now currently
9 we are looking at a range of that, and Dr. Hanner may
10 want to add to this, but we are looking for a range
11 between the cooler temperatures and the warmer
12 temperatures.

13 MEMBER LEVENSON: Well, as it relates to
14 KTI, the question is that if you make -- and that is
15 a somewhat significant change. Is it in your plans or
16 programs to go back and review all of the sub-issues,
17 because some of them will probably no longer be
18 relevant, and somebody shouldn't necessarily invest a
19 lot of effort and time generating information to
20 respond.

21 And conversely the whole series of new
22 sub-issues that become important. How does that get
23 handled with major changes?

24 MEMBER WYMER: Actually, I can answer
25 that. At the Waste Management 2001 meeting a couple

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1 of weeks ago, a statement was made that it will not be
2 a complete redo with the low temperature, but it will
3 just be a fix on the high temperature case.
4 They are going to go in and patch and fill.

5 MEMBER LEVENSON: Well, it's not that
6 simple.

7 MS. HANLON: Actually, I would prefer to
8 say that we are looking at whole range of temperatures
9 from the current repository reference design that we
10 are using, and down to a cooler, and the range is in
11 between.

12 So we will be looking at a range, and one
13 of the things that we are doing is sensitivity
14 studies, which will come out later this summer, that
15 address that range.

16 So the information and the documentation
17 that we are putting together will look at that range
18 of temperature. And I think that Mr. Levenson's
19 question was how does that relate to the issues and
20 sub-issues, and the key technical issues that we have
21 looked at.

22 And I know that the staff has been very
23 interested on the range of temperatures that we are
24 looking at, and what that variation will do. We are
25 also interested in that, and basically after we finish

1 these sensitivity studies, what we would propose is a
2 discussion with them to discuss what the range is, and
3 information that we see coming out of that and what
4 effect we have.

5 And I am sure that the NRC staff will be
6 looking very closely and will have questions of their
7 own.

8 CHAIRMAN GARRICK: Carol, when you look at
9 this, and you evaluate it at the sub-issue level, and
10 you put your score card on it of the ones that are
11 closed, and closed-pending, and so forth, one can be
12 encouraged by the progress that has been made.

13 But we also know that these issues are not
14 all equally important. Some of them are at the sub-
15 issue level, and some of them are 10 times, or maybe
16 a hundred times more complex or more difficult than
17 the other.

18 Has anybody thought ahead enough to know
19 what the real binding issues are going to be? You
20 know, you suspect that there is going to be an isotope
21 that we get to what looks like total resolution pretty
22 quickly.

23 But that the last few are really going to
24 determine the amount of resources that will have to be
25 allocated to deal with them, and will probably drive

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1 the schedule.

2 Has anybody thought about it enough to
3 identify what they consider to be the over-arching
4 sub-issues, in terms of getting resolution?

5 MS. HANLON: Well, Dr. Garrick, I think
6 there are a couple of answers to that, and one is that
7 we have tried previously on repository safety strategy
8 to identify those things that we think are most
9 important.

10 And therefore to prioritize our work, and
11 to prioritize our emphasis. Previous to that we had
12 done a similar thing as you recall in the viability
13 assessment, where we had gone over the other principal
14 factors and identified which ones that we felt had
15 the greatest significance, and therefore, needed the
16 same attention.

17 And that has been carried forward into the
18 TSPA that we currently have and will be continued to
19 be reevaluated in the sensitivity assessments ongoing.

20 But I think another thing is the features,
21 events, and processes assessment that we have ongoing,
22 and I believe that is why the staff is placing the
23 amount of emphasis they are on features, events, and
24 processes, so we can go through those, and they can
25 fully understand how we have considered them, and how

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1 we have excluded them, included them, and treated
2 them, including secondary processes, so that they can
3 be sure that we are putting our emphasis where they
4 believe it should be.

5 And following that meeting, it will carry
6 forward into the total system performance integration.
7 So I believe that is how we are trying to identify the
8 most important of these issues.

9 CHAIRMAN GARRICK: For example, one of the
10 sub-issues that the TSPA is going to be the scenarios.
11 Do you envision that the features, events, and
12 processes activity is going to provide the source
13 material necessary to deal with that particular issue?

14 That is, the structuring of the details of
15 the scenarios? That is one of the four sub-issues.

16 MS. HANLON: Well, the FEPs are intended
17 to look at that, as well as the analysis and modeling
18 reports, and the PMRs are intended to set up the
19 scenarios based on the FEPs and how they are derived.

20 CHAIRMAN GARRICK: Yes. I think the more
21 that we could telegraph what we consider to be the
22 most important things that are yet to be resolved, the
23 better we will be in a position to address them, and
24 allocate our own resources.

25 MS. HANLON: I know that has been a

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1 concern of yours previously on many occasions, and it
2 came up earlier this morning, and I made sure I took
3 a note of that.

4 And I will be speaking with Bob Andrews
5 when I go back, and perhaps you would like a
6 presentation later on, perhaps this summer, in which
7 we make that a bit more clearer for you.

8 CHAIRMAN GARRICK: Yes. The Committee is
9 trying to come to grips with this whole issue through
10 a vertical slice process, and you would like to
11 maximize the benefit of what you choose as a vertical
12 slice.

13 And whatever additional insight we can get
14 from the DOE and the NRC staff as to the most
15 important issues might influence what we would focus
16 on in attempting to get a better indication of the
17 readiness if you wish of the NRC to actually process
18 the license application.

19 So we really are looking for what are
20 considered to be the most important issues, and trying
21 not to get lost in the large number of issues that
22 exist, and be more focused on what the TSPA is telling
23 us is really the drivers here.

24 MS. HANLON: Great, and understand that we
25 would be very interested in doing that for you. Up

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1 until June, that time frame is going to be very, very
2 busy with completing these analyses.

3 But in the July-August time frame, if that
4 worked for you, I think we can make speakers
5 available.

6 CHAIRMAN GARRICK: Okay. Thank you.
7 Questions? Milt?

8 MEMBER LEVENSON: No, thanks.

9 CHAIRMAN GARRICK: Staff?

10 DR. LARSON: There is no SRCR anymore,
11 right?

12 MS. HANLON: There is not.

13 DR. LARSON: And so what is taking its
14 place? Wasn't there supposed to be some kind of
15 engineering report out last week?

16 MS. HANLON: It is a science and
17 engineering report, and it is looking as if that will
18 be available at the end of April now, in that time
19 frame.

20 And basically that is what -- it is the
21 requirements out of the Nuclear Waste Policy Act,
22 Section 114, I think it is, Sections A, B, and C, for
23 a waste form, waste package, repository design, site
24 characterization depth and analysis.

25 So that document is coming together, and

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1 we hope that it will be released in the April time
2 frame, and the rest of our schedule is evolving a bit.

3 We hope to have the site recommendations
4 still available this calendar year, but as soon as
5 that schedule becomes more tied down, Howard, I will
6 be happy to brief you on that also.

7 DR. LARSON: Okay. Thank you.

8 CHAIRMAN GARRICK: Any other questions

9 (No audible response.)

10 CHAIRMAN GARRICK: Thank you very much.

11 (Whereupon, meeting recessed at 10:47
12 a.m.)

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A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N

(1:03 p.m.)

MEMBER WYMER: All right. This afternoon, we are going to hear an interesting -- or interesting to me anyway -- report on Partial Site Release. I don't know who is going to start off.

CHAIRMAN GARRICK: Mike Ripley.

MEMBER WYMER: There are a lot of interesting and somewhat difficult issues, and I think we will be interested to hear what you have to say, please.

MR. RIPLEY: Great. I appreciate the opportunity.

CHAIRMAN GARRICK: Ray is going to lead our discussion on this. This happens to be one of his topics. So he will be pushing us all to get involved. So, carry on.

MR. RIPLEY: Good afternoon. My name is Mike Ripley, and this is my colleague, Paul Harris. Both of us came out of the Division of Licensing Projects, and we are both project managers in the decommissioning section.

As many of you may know, that section was essentially dissolved, and some of us stayed behind on projects and others moved over to the rule making

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1 group.

2 I have been on the rule making for partial
3 site release since the middle of last year, and come
4 May, I will be returning back to a project management
5 assignment, and I will be turning over partial site
6 release to Paul.

7 So probably after about the middle of May,
8 Paul Harris will be your prime contact if there is any
9 questions on partial site release. I am going to
10 brief you pretty much on the background, and a lot on
11 the rule itself.

12 And then I will finish up with 2 or 3
13 items that came up during our concurrence reviews that
14 causes to make some non-editorial changes to the rule
15 making, and so that you are aware of those, and bridge
16 the gap if you had an opportunity to look at the
17 package that was distributed a month or so ago.

18 And I think it will also be appropriate if
19 I gave you an indication of what I would like to see
20 come out of this other than just a good transfer of
21 information between you and I.

22 I would like to go away with any comments
23 that you would have on the rule making that would help
24 us maybe clarify things in the rule, or maybe things
25 that we want to carry to the public and what not.

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1 And hopefully I would like to receive
2 back, preferably in writing, some kind of feedback
3 that indicates that the committee doesn't have any
4 objections to us proceeding ahead and publishing this
5 proposed rule for public comment.

6 As I will indicate, our schedule right now
7 has us a commitment to have this to the EDO for his
8 approval prior to giving it to the Commission on the
9 1st, and we still have some significant concurrence
10 reviews to go through between now and then.

11 What I would like to do, and my preference
12 is, is that as I go, if there are any questions that
13 anyone has or any comments, that we could field those
14 as we go in real time rather than waiting until the
15 end, although hopefully we will have some time at the
16 end to wrap things up and talk about anything that you
17 guys want to talk about.

18 I am prepared to talk in so many details
19 in everything that I am going to go through fairly
20 quickly. Again, stop me, but on the other side of the
21 coin, if I get into too much detail, and more than you
22 really want to hear, give me the old across the neck
23 sign and I will move on.

24 So with that, with the next slide. First,
25 as a definition, a partial site release means a

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1 release of a part or a portion of a power reactor site
2 for unrestricted use prior to NRC approval of the
3 license termination plan.

4 The need for the partial site release
5 rule making evolved out of our experience in dealing
6 with the Oyster Creek site in late 1998 and 1999.
7 Basically, in 1998, they submitted a license amendment
8 application to revise their tech specs to delete a
9 requirement in there that restricted them from selling
10 a new part of their exclusion area, and they want to
11 pull it out of their tech specs.

12 They, and many other of the older plants
13 as they transition to the standardized tech specs, are
14 removing such things as that, including site boundary
15 descriptions from their technical specifications, and
16 moving the rules in the FSAR.

17 It was, however, in response to some
18 queries from the State of New Jersey on whether or not
19 as it turned out Oyster Creek's plans to sell off a
20 good portion of their site, some 600 acres.

21 And in our return correspondence to the
22 State of New Jersey, uncovered the fact, if you will,
23 that we really didn't have a process for handling
24 partial site releases for Part 50 licensees.

25 And as a result of that, it wasn't clear

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1 whether or not a licensee would need to come to the
2 NRC for approval of a partial site release; and also
3 as I indicated here, it wasn't clear if the
4 radiological criteria for release of the property fell
5 under the license termination release requirements,
6 which are given in Part 20, Subpart E, which we will
7 talk about.

8 So because of this regulatory gap, it was
9 decided that it would be appropriate to do a generic
10 rule making, and we submitted a rule making plan to
11 the Commission in February of last year, and the
12 Commission approved that rule making plan in their SRM
13 issued in April of last year.

14 The generic schedule that we had, as
15 indicated here, was to issue a proposed rule this year
16 and a final rule next year. As part of the
17 Commission's SRM or staff requirements manual, back to
18 the staff in approving the rule making plan, they
19 directed the staff to issue a generic communication to
20 power reactor licensees indicating to them that a rule
21 making was pending involving a partial site release.

22 And also described in somewhat specific
23 terms what the process that they would use on a case-
24 by-case basis to request and gain our approval for a
25 partial site release.

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1 And that generic communication as I
2 indicated here was issued as an RIS, a regulatory
3 issue summary, in October of last year. Next slide,
4 Paul.

5 Our regulatory approach to partial site
6 release is to narrowly focus the release on, one,
7 unrestricted releases only; and only at power
8 reactors, however, that would be both operating, as
9 well as plants that are in the decommissioning phase.

10 Basically, the rule making adds a new
11 section to 10 CFR 50, which provides the procedural
12 guidance for licensees submitting information
13 sufficient for us to be able to review and then
14 approve a partial site release.

15 The first step in the process that a
16 licensee undergoes would be to perform what is called
17 a historical site assessment. A historical site
18 assessment is a MARSSIM term.

19 It consists of a review of essentially
20 plant records, and it may also consist of personnel
21 interviews, to determine whether or not radioactive
22 material has been deposited anywhere on the area to be
23 released.

24 This historical site assessment has the
25 purpose of classifying the proposed release area in

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1 one of two classifications, again using MARSSIM
2 terminology, as either an impacted area, which means
3 that the area has some potential for residual
4 radioactivity.

5 Or a non-impacted area, which means that
6 there is no reasonable potential for residual
7 radioactivity.

8 In the case of an impacted area, the
9 licensee would be required to perform surveys adequate
10 to demonstrate compliance with the radiological
11 release criteria, which I will talk about in some
12 detail in a minute.

13 On the other hand, if the area can be
14 demonstrated to be non-impacted, then there are no
15 radiological surveys required.

16 CHAIRMAN GARRICK: Now, what is the basis
17 for deciding whether it is impacted or non-impacted?

18 MR. RIPLEY: Not impacted or impacted
19 means whether or not there is a potential for residual
20 radioactivity, and it is based on a records review,
21 and a records search. Sometimes augmented by
22 radiological surveys, but not necessarily.

23 MEMBER WYMER: Which is related to the use
24 for which that part of the site has been put to?

25 MR. RIPLEY: Yes. Yes. The kinds of

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1 things that are looked at are events such as spills
2 that have occurred historically, and whether or not
3 the area was ever used to store contaminated material.

4 And whether it was ever part of the RCA
5 boundary, and whether or not it was in the downstream
6 of an elevated release from the plant stack. Those
7 kinds of things.

8 CHAIRMAN GARRICK: You are probably going
9 to get to this, but does this open the way for a phase
10 decommissioning process?

11 MR. RIPLEY: Well, this is in fact and
12 could be termed a phase decommissioning process in
13 respect of the fact that the essence of it is a
14 partial license termination if you will.

15 I think that phase decommissioning process
16 is a terminology that is used by the material sites,
17 by the material licensees, where in their regulations
18 Part 30, 40, 70, 72, there are provisions for a phased
19 release such as this.

20 This is in so many words a Part 50
21 equivalent of that kind of thing, is the way that I
22 would characterize it.

23 CHAIRMAN GARRICK: Well, it seems to me
24 like a good idea, but what got me to thinking about it
25 is that there aren't many situations quite like Oyster

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1 Creek. They had very special circumstances as to why
2 they wanted to pull that particular part of the site
3 out.

4 MR. RIPLEY: I will give you some examples
5 of --

6 CHAIRMAN GARRICK: So the question is,
7 well, how many cases are there that are going to
8 employ --

9 MR. RIPLEY: Well, I will talk about that.
10 It is an emerging issue, and there are a number of
11 sites who have requested information on the process
12 that they need to go by.

13 Maine Yankee, in January, submitted a
14 license and memory application for the sale of
15 property that they were obligated to sell off as part
16 of an agreement with their DPUC some 200 acres, I
17 believe it is, and that they are going to donate
18 rather than sell to an environmental organization.

19 So we are considering that, and Haddam
20 Neck in Connecticut will be submitting a formal
21 request for partial site release in the next month or
22 two for an area that is currently their parking lot,
23 and essentially in the middle of their site, which
24 they are going to use -- which a developer is going to
25 use to build a gas-fired -- a dual-unit, gas-fired

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1 power plant.

2 And along with, by the way, a liquid
3 natural gas storage facility. So that is coming at us
4 as well. Limmerick has questioned that, and we are
5 going to be meeting with Trojan at the end of the
6 month.

7 They have already submitted their license
8 termination plan and it has been approved by the
9 Commission. However, they are now looking at selling
10 a part of their property as well. I don't know if
11 that answers your question or not.

12 CHAIRMAN GARRICK: Well, yes, but what I
13 was thinking of -- and maybe this is off the track,
14 but it would seem to me to be a good public process to
15 be in a position to say that we have got this site
16 with all this land and we are going to decommission
17 it, but in the meantime we are going to release a lot
18 of the land for unrestricted use.

19 Now, does this specifically allow this to
20 happen, and wouldn't that be a good strategy on the
21 part of applicants or licensees?

22 MR. RIPLEY: I think yes, yes. This is
23 really put in place to provide the mechanisms for
24 those who desire to do that, and obviously there is
25 economic advantages, and there are public confidence

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1 things as well that goes along with that, but I think
2 you are right.

3 CHAIRMAN GARRICK: And most of these
4 sites, you are probably in a position to -- and I
5 don't know what the number is, but it is a large
6 fraction. Maybe 80 percent of the land could come
7 under this immediately.

8 MR. RIPLEY: Yes.

9 CHAIRMAN GARRICK: And that sounds like a
10 very --

11 MR. RIPLEY: Well, what we envisioned, and
12 what we expect to be the case will be those partial
13 site release requests that have to do with parcels out
14 at the edge of their site boundary.

15 Limmerick was talking about that they
16 wanted the local regional sewer district wanted to
17 build a small facility out in an area at the edge of
18 their boundary.

19 CHAIRMAN GARRICK: Yes.

20 MR. RIPLEY: Probably the exception to the
21 rule -- Haddam Neck is probably the exception to the
22 rule, where they are releasing property right in the
23 middle of their existing site.

24 MR. NELSON: I guess -- I'm Paul, and if
25 I could be presumptuous here and assume that what you

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1 are getting at is will this rule circumvent the
2 license termination rule.

3 CHAIRMAN GARRICK: Right.

4 MR. NELSON: And the answer is, no, it
5 won't. This rule is based upon the license
6 termination rule, and when this comes to conclusion,
7 and let's say a licensee opts to release a portion of
8 the site, under this portion of the rule, the license
9 termination rule upon that phase of their
10 decommissioning, will envelope these areas which are
11 released under partial site release.

12 So in the aggregate the site as licensed
13 originally will be looked at for license termination.
14 So the advantage to a licensee would be on a case-by-
15 case basis, where they have a specific need to release
16 a portion of the site for their own use.

17 But that doesn't preclude them from being
18 looked at from the license termination umbrella.

19 MR. RIPLEY: That's exactly right, and
20 that is part of the purpose of making this a formal --
21 well, part of the regulations, is to prevent those
22 licensees who may feel that they can go ahead and do
23 a partial site release without gaining NRC approval
24 under 50-59, for instance.

25 CHAIRMAN GARRICK: I guess the impacted

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1 area issue would address those situations where
2 decontamination activities are on at a reactor, for
3 example, could lead to some contamination of the
4 nearby regions; is that part of the consideration?

5 MR. RIPLEY: Yes. That would also be
6 looked at as well, especially when these
7 decommissioning activities are going on at the site.
8 We will talk a bit more about that in a while.

9 CHAIRMAN GARRICK: All right. Thank you.

10 MR. RIPLEY: The approval process for a
11 partial site release, the mechanism, then depends on
12 this area of classification, impacted versus not
13 impacted, which I will show you right now.

14 Where the area cannot be demonstrated to
15 be non-impacted, which is almost the same thing as
16 saying an area that is classified as impacted, but
17 using the MARSSIM approach and philosophy of you are
18 guilty until proven innocent.

19 So you assume that it is impacted unless
20 you can clearly demonstrate that it is not impacted,
21 and so we are using this kind of wording. Where an
22 area cannot be demonstrated to be non-impacted, the
23 license must submit an application for amendment of
24 his Part 50 license.

25 And that amendment application must

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1 include the methods used and the results from those
2 radiation surveys that he is obligated to perform to
3 demonstrate compliance with the radiological release
4 criteria for unrestricted use.

5 This is the same criteria that is used at
6 license termination and is found in Part 20, Subpart
7 E, which is 25 MILLIREM per year, and as reduced to as
8 low as reasonably achievable or allowed.

9 He also needs to include the results of an
10 evaluation of the impacts to reducing or changing his
11 site boundary.

12 MEMBER WYMER: What kind of impacts are
13 you talking about?

14 MR. RIPLEY: I will be talking about that.
15 I have a slide devoted to that, but basically other
16 kinds of things other than radiological things;
17 impacts on security, and evacuation plans, the other
18 limits and standards associated with public dose
19 limits, et cetera.

20 And because a license amendment is
21 involved, the licensee would be required to also
22 provide a supplement to his environmental report
23 describing any information based on any changes or
24 impacts as a result of the partial site release.

25 In response to a licensee's amendment

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1 application for a partial site release, the NRC will
2 conduct confirmatory parallel sampling of surveys as
3 warranted, and "as warranted" are the words that are
4 used in the rule.

5 We have stated in a number of public
6 meetings that it will be our policy to conduct
7 confirmatory and parallel sampling in conjunction with
8 those that would typically be expected to be done by
9 the States as well.

10 In addition, prior to taking any action on
11 a partial site release, we will complete any Subpart
12 L or informal hearings that may be granted as a result
13 of a partial site release amendment being challenged.

14 And based on a demonstrated compliance
15 with the release criteria the NRC would then be able
16 to approve the amendment application. Next slide.

17 Where the area can be demonstrated by the
18 demonstrated by the licensee to be non-impacted. A
19 license amendment is not required. A written request
20 may be submitted for NRC approval.

21 What I am getting at here is that it
22 allows for those licensees who wish to submit a
23 license amendment application, even for the cases
24 where they are not otherwise required to.

25 And where, for instance, the area is not

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1 impacted. A case in point is Maine Yankee which I
2 mentioned a few minutes ago. Maine Yankee has
3 submitted a license amendment application for approval
4 by the NRC to release a couple of hundred acres of
5 land that is as they claim, and which is under review
6 currently, is not impacted. So that was their choice.

7 And the Commission cannot take a posture
8 of denying such a license amendment application as OGC
9 has told us because we don't do that unless there is
10 a safety reason for denying an amendment application.

11 The application itself needs to include
12 again the results and evaluation of the impacts of a
13 change in the site boundaries before, and includes a
14 description of the facility, and a schedule for the
15 release.

16 And in this case, because there is no
17 amendment involved, they need to include an evaluation
18 that demonstrates that the environmental impacts are
19 bounded by previously submitted environmental impact
20 statements. The next slide.

21 In response to a letter submittal for a
22 partial site release, the NRC will determine whether
23 the licensee's historical site assessment is adequate,
24 and those will be primarily by regional inspections of
25 the report itself, and the supporting data, records,

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1 et cetera.

2 And provide the basis for the NRC agreeing
3 with the conclusions of the historical site
4 assessment. We will again conduct confirmatory
5 surveys, or whatever surveys we deem is warranted.

6 And upon determining that the licensee has
7 met the regulatory requirements, and that there is
8 otherwise no other safety impacts as a result of their
9 planned release will approve that release by
10 letter.

11 For all partial site releases, and here I
12 mean both the case where amendments are required, and
13 an amendment is not required, the licensee would
14 submit the results of their evaluation of the impacts
15 of reducing a site boundary.

16 In most cases this will include some site
17 specific kinds of things, depending upon their
18 circumstances. However, the proposed rule includes
19 five areas of review that are specifically specified
20 or specifically required to be included in an
21 evaluation, and I have listed those as you can see.

22 One, the public dose limits of Part 20,
23 Subpart D, and these are the regulations involved with
24 the dose limits to individual members of the public
25 are not exceeded, and requires an evaluation of the

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1 emergency planning or physical security as I
2 mentioned.

3 And that the regulatory standards involved
4 with gaseous and liquid effluent releases are not
5 adversely impacted, and that their environmental
6 program, ODCM, that may require revision is being
7 addressed.

8 And then finally that the Part 100 siting
9 criteria are still being met. Next slide, please.

10 Our rule making specifies that the license
11 termination plan must consider all site areas
12 controlled during the duration of the Part 50 license
13 in order to demonstrate that the entire area meets the
14 radiological release criteria.

15 In that regard, we are proposing to amend
16 50-82, which is the license termination portion of the
17 regulations, to require that license termination plan
18 to specifically include identification of any parts of
19 the site that have been previously released.

20 As well as including in the documentation
21 that demonstrates compliance with the release criteria
22 for license termination, and consideration of the
23 previously released areas of the site in ensuring that
24 the release limits of 25 MR per year is reduced and
25 met for the whole site.

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1 In addition, at Part 20, Part 20 is being
2 revised to bring into the scope of the criteria by
3 which the NRC could require additional cleanup at a
4 site, partial site releases.

5 This would be the case where new
6 information may come forward following release that
7 indicates that the results of the surveys and
8 assessments that were done were in error and in fact
9 the release criteria is exceeded and also specifies
10 that it would be the case that there would be a
11 significant impact on the health and safety of the
12 public. Next slide.

13 Section 50-75 in 10 CFR already includes
14 a number of specific records that must be maintained
15 by licensees. These are records termed in the
16 regulation as being important to decommissioning.

17 Our proposed rule making would require
18 that some additional record keeping be established and
19 maintained related to property line changes, and
20 changes in site boundary, as well as the records
21 related to the radiological conditions of portions of
22 their site that have been released under the partial
23 site release rule.

24 And it includes as I indicated there
25 records of the site boundary as it was originally

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1 licensed, and in addition any records of acquisition
2 to the original site, including records of the use of
3 any acquisitions outside of the original site boundary
4 for handling license material.

5 And finally records of the disposition or
6 the release of any areas of the site, including the
7 records that support the submittals to the NRC per the
8 requirements of our partial site release rule.

9 The purpose of this record keeping is to
10 ensure that the dose contributions of these partial
11 site released areas can be adequately accounted for at
12 the time of a subsequent partial site release, and at
13 the time of license determination when the balance of
14 the site is released for use.

15 Our proposed rule specifically provides
16 for public involvement in that, and that the NRC will
17 notice the licensee's request letter or licensee
18 amendment application as applicable, and make it
19 available for public comment.

20 We will also hold at least a public
21 meeting, if not more public meetings, in the vicinity
22 of the site prior to taking any action relative to
23 approval of a partial site release request.

24 And that would be the case regardless of
25 whether it was a letter or an amendment, and again

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1 which means regardless of the potential for residual
2 radioactivity.

3 And we have already held several workshops
4 and public meetings where a partial site release was
5 discussed with both members of the public, as well as
6 licensees. Most recently in November of last year at
7 the NEI licensing forum, and a few days later at the
8 NMSS decommissioning workshop.

9 As part of our rule making effort we plan
10 on holding probably two more workshops, one in the
11 west and one in the east, to give an opportunity for
12 public dialogue and comment. We probably plan on
13 doing that in the summer to fall time frame of this
14 year.

15 Finally, a note that 10 CFR, Part 2, would
16 be revised by this rule making to bring into the scope
17 of the informal Subpart L hearing procedures
18 amendments for partial site release that may be
19 successfully challenged and require a hearing.

20 I note here in the bottom bullet that we
21 recognize that the Commission has just recently
22 approved with comment a substantial proposed rule
23 modifying Part 2, which would include expanding the
24 informal hearing procedures to include amendments such
25 as partial site releases.

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1 So if this ruling then becomes final,
2 there would be no need for a partial site release rule
3 making to amend Part 2. So we are telling the
4 Commission that we will continue to monitor the status
5 of that rule making and delete our proposed changes to
6 Part 2 as appropriate. The last slide.

7 As I indicated, our rule making has been
8 in office concurrence since the middle of January, and
9 since that time we have incorporated several
10 significant changes that I would like to discuss
11 briefly with you, which were not, I don't believe,
12 reflected in the package that you were given.

13 These are late breaking changes if you
14 will. One, we have eliminated distinguishability from
15 background as a release criteria. In the initial rule
16 making plan, and in our initially distributed proposed
17 rule package, we offered two cases where a licensee
18 could receive NRC approval for a partial site release
19 by amendment, as opposed to letter approval.

20 The first case is if the area is not
21 impacted, which I have already talked about and
22 remains a criteria. The other is that a letter
23 approval would be permissible if the licensee could
24 for impacted areas that had been remediated to some
25 low level of radioactivity, but still is impacted, if

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1 he could demonstrate that the remaining residual
2 radioactivity is not distinguishable from background.

3 Now, the comments that came to us in
4 regard to that was that we needed to provide a little
5 more detail on the technical basis for that criteria,
6 as well as what the licensing guidance would be -- you
7 know, which new reg he would go to, for instance, to
8 find out how to make that determination that the
9 residual radioactivity was distinguishable from
10 background.

11 In response to some comments and
12 discussions that we held with the Office of Research,
13 their technical people concluded -- and I see Mr.
14 George Powers back there.

15 We also spoke with Dr. Carl Gogalak, who
16 some of you may know is with DOE and whose office is
17 in New York City, and was primarily involved with the
18 statistical analysis involved with releases.

19 And they recommended to us that we not use
20 distinguishability from background as a criteria
21 unless we could also provide an indication of how
22 closely a licensee needed to look at to what degree it
23 was differentially different than from the background
24 radiation.

25 The thrust of that is that it would

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1 require us to specify a number, a quantity, a minimum
2 amount of either -- in terms of concentration or dose
3 by which it did differ from background.

4 And the problem there is, and as would
5 seem obvious I guess to us now at the time now as we
6 speak about it, is that such a minimum number really -
7 - although it has been batted around about a small
8 fraction of the release limit, or one MR per year or
9 something like that, there is not currently endorsed
10 number.

11 And therefore as a result of that, there
12 is no existing technical basis for using that as a
13 criteria and so we deleted it. What this means is
14 that those licenses who would otherwise have been able
15 to gain NRC approval of an impacted, yet remediated
16 area, by letter approval would now -- those folks
17 would require the same process, and would require a
18 license amendment as those who would otherwise would
19 have activity well above background, but less than the
20 release criteria.

21 The other thing we did was in the original
22 rule making plan we had words in there for the
23 amendment case that the licensee needed to submit his
24 plan for demonstrating how he was going to comply with
25 the radiological release criteria.

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1 This kind of wording really comes from the
2 license termination plan, where in fact it is a plan
3 that is submitted to the NRC for approval for license
4 amendment, and in the case of a license termination
5 plan, at least two years prior to their proposed date
6 of license termination.

7 In this case, we are looking for the
8 evidence that demonstrates that they meet the
9 criteria, as opposed to a plan. However, we have
10 added words to the statements of consideration noting
11 to licensees, and in fact they certainly already know
12 this, that it will be to their benefit to review their
13 survey designs and their survey plans with the NRC
14 prior to performing those surveys.

15 Lastly, we will incorporate -- we have not
16 yet received it yet as it is in the concurrence
17 process -- NMSS's review of interactive or so-called
18 synergistic dose effects.

19 Back during the drafting of our original
20 rule making plan, NMSS and others, I believe, raised
21 a concern that there may be what was termed at the
22 time as a synergistic effect between partial site
23 releases or between a partial site release and the
24 balance of the site as it is released at license
25 termination.

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1 Synergism would imply a multiplicity of
2 dose if you will, where you would get more and end up
3 with a higher dose if you will than the sum of the
4 parts.

5 And that would probably violate the laws
6 of physics and that's why synergism is not a good
7 term. So we are not using interactive, I believe, is
8 the operative word.

9 And interactive to the extent that -- and
10 just to give you a rough example, and there are others
11 here in the room that can provide more depth if we
12 need to talk about it.

13 But if I release Parcel A today, and maybe
14 it was a small area, and if you look in the MARSSIM
15 guidance, the survey area that is assumed for the
16 resident former scenario, which is a scenario assumed,
17 is 2,400 square meters.

18 Well, if there is less than that, and he
19 didn't use that whole area, but then Parcel B next
20 year is released, and so now he can now take his 2,400
21 square meters and move it around if you will, his
22 residence, the well that he drinks water from, and now
23 possibly the crops that he would probably be eating,
24 could now extend over what was originally his boundary
25 at the time of the initial part site release.

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1 And the conditions over there may be that
2 there is some radionuclides that didn't exist in
3 Parcel A over in Parcel B, such that now due to his
4 lifestyle scenario that is described in the dose
5 modeling assumptions, would cause him them to receive
6 a higher dose than was assumed at the time of the
7 release of Parcel A.

8 This is a hard one. The thrust of NMSS's
9 work was to respond to specific questions that the
10 Commission raised in their SRM, and they have done
11 that, that related to this dose impact, as well as
12 identifying what the guidance needs to be for the
13 licensees to be able to assess those contributions
14 both from the balance of the site on the partial site
15 release, as well as the dose contributions from the
16 partial site release on subsequent releases or the
17 balance of the site, it would go either way.

18 The primary benefit of this guidance will
19 be to allow licensees when they do partial site
20 release, number one, let's say, to be able to look
21 forward based on this guidance to what the impact
22 could be down the road when they go to release another
23 part of the site or the balance of the site.

24 So they can make intelligent decisions on
25 the degree of remediation that they think they might

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1 want to do if it is an impacted area in both Parcel A,
2 if you will, and the other releases. I hope that you
3 follow that.

4 So this guidance is currently being
5 developed and will be done in the June time frame of
6 this year, and then incorporated into the appropriate
7 guidance document in NMSS, which we think will
8 probably be there in the NMSS standard review plan.

9 And that will ultimately be the case, and
10 what they are planning on doing now is issuing what is
11 called a staff position document that will provide
12 that guidance in the interim before the new reg is
13 finally revised.

14 The Commission, by the way, when they
15 approved our rule making plan, were notified that the
16 expectation was that this guidance would probably be
17 factored into the rule making at the time of the final
18 rule making.

19 So we don't intend to discuss this in any
20 depth in our proposed rule because it is still
21 somewhat preliminary and the guidance has not yet been
22 drafted.

23 However, we will take the attachments that
24 describe the guidance process in general terms, as
25 well as the specific responses, to the Commission's

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1 questions in the proposed rule. Like I said, it is
2 not in there yet.

3 And that is pretty much the significant
4 changes that were made, and I guess that pretty much
5 concludes my prepared slides, and I would be happy to
6 answer any questions.

7 CHAIRMAN GARRICK: Thank you very much.

8 MEMBER WYMER: I have some comments and
9 questions, or observations. You wanted the ACNW to
10 tell you whether or not you had responded adequately
11 and completely to the issues.

12 You have responded, but there are still a
13 number of pending things to be done, like this new Reg
14 70-27 has to be --

15 MR. RIPLEY: Yes, some guidance.

16 MEMBER WYMER: -- added to. But with
17 respect to involving research in this thing with
18 respect to dose measurements, where do you stand on
19 that? What have you done? I know that you have
20 appointed a contact, but that doesn't mean much.

21 MR. RIPLEY: Okay. We have met with
22 research to a large extent to discuss both the rule
23 making in general, and specifically most of our time
24 has been in discussion of this distinguishable
25 background criteria.

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1 And as a result of that, research now
2 concurs with our rule making based on us deleting --
3 and which we have already deleted -- that
4 distinguishability from background as a criteria. So
5 that is a done deal.

6 In addition, let me just point out that
7 the guidance that is needed to address the interactive
8 dose effects is exactly that guidance. In NMSS's
9 response, they have concluded -- and we specifically
10 asked them to conclude -- that in the time that they
11 have spent since October of last year there is no
12 further changes or modifications needed to the rule
13 making or any of the things that are proposed in the
14 proposed rule as it stands today.

15 So further guidance will be provided to
16 licensees on one element of it. However, it does not
17 impact our ability to go on and publish the rule and
18 get in this public comment period.

19 MEMBER WYMER: I have a question that I am
20 just curious about. I think there is something about
21 having to amend the license if the site boundaries are
22 defined by a map, but are there actually sites that
23 have been licensed for reactors where they have not
24 defined the site boundaries?

25 MR. RIPLEY: They have all defined the

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1 site boundaries. In fact, every one has a map, and
2 many times the site description -- its size, and its
3 areas and what not -- were an earlier technical
4 specification, and were included in the tech specs or
5 in the license.

6 MEMBER WYMER: Then why make the
7 distinction then?

8 MR. RIPLEY: Well, we are not really
9 making the distinction. What we are saying is --
10 well, we are not really making any distinctions. I am
11 just pointing out that most sites had moved over to
12 the FSAR.

13 Oyster Creek in 1998 had not done that
14 yet, and we make the distinction in our rule making in
15 the statements of consideration that the licensee
16 needs to be aware of that if he still has a
17 description of his site in the license or in the tech
18 specs, which are a part of the license, and then he
19 would need an amendment in any case, regardless of the
20 radiological conditions.

21 MEMBER WYMER: So some do and some don't
22 have it?

23 MR. RIPLEY: Some do and some don't.
24 Really, it is a transitional thing as the plants have
25 done the work to go ahead and remove some of these

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1 things that makes them transition into the
2 standardized tech specs, which do not include the site
3 descriptions within the tech specs, per se.

4 They belong in the FSAR and that's where they are.

5 MEMBER WYMER: Another question I had is
6 that if you release part of a site to unrestricted
7 use, then that means that somebody can do anything
8 that they want to on that site.

9 And it seems to me that there are some
10 things that they could do which could impact the
11 licensed site. How is that handled?

12 MR. RIPLEY: Well, it depends on what kind
13 of impact we are talking about.

14 MEMBER WYMER: Let's say a really bad
15 impact. Like somebody builds an oil refinery there or
16 something. I am taking something out of the air, but
17 something really bad.

18 MR. RIPLEY: The siting rules in Part 100,
19 as well as -- and which include the requirement for an
20 exclusion area, inside which the licensee is precluded
21 to allow certain things from happening, like building
22 something that would be a hazard to the site.

23 And it could be that depending on how much
24 the site boundary was shrunk as a result of the
25 partial site release, that those kinds of impacts

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1 would need to be released, or need to be judged.

2 But the licensee is obligated to know and
3 document what the proposed use of that property is.

4 MEMBER WYMER: It is unrestricted.

5 MR. RIPLEY: That's right, but he is still
6 required to assess that in determining what the
7 potential impacts are, and taking any actions at the
8 time of the release. Now, you are right. Downstream
9 it is in fact unrestricted.

10 MEMBER WYMER: It is in fact a pretty
11 loopy-goopy thing.

12 MR. RIPLEY: But when you think about it,
13 that is really no different than the existing case of
14 a licensee today. Outside of his light and sight
15 boundary at the edge of his owner controlled area,
16 anything can go on out there. And whatever local
17 regulations or whatever --

18 MEMBER WYMER: Except that now you are
19 closer.

20 MR. RIPLEY: Except that now you are
21 closer, that's right, and because of the fact that you
22 are closer, then it needs to be looked at closer. But
23 you are right.

24 Unrestricted use is unrestricted use, and
25 OGC has already weighed in other than that exclusion

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1 they talked about in the case where exceeding the
2 criteria based on new information, we probably had no
3 jurisdictional authority once the release is done.

4 MEMBER WYMER: Okay.

5 MR. RIPLEY: So it requires having our
6 head together at the time that we approve the release.

7 MEMBER WYMER: And then one final
8 question. It seems the factor having to do with this
9 interaction effect, if you release part of the site to
10 unrestricted use, and it is a long time between that
11 and the time that you actually go to a license
12 termination process, then during that period of time
13 it seems to me that there is a possibility of some
14 radioactivity from the license site to kind of move
15 over there, depending on the length of time and what
16 is involved, and something like that.

17 MR. RIPLEY: To move from the released
18 area to --

19 MEMBER WYMER: No, to move from the still
20 licensed area to the released area, and what are the
21 odds of that happening?

22 MR. RIPLEY: Well, in fact the most
23 credible examples of that would be possibly ground
24 water would shift and change. And I see that Chris
25 McKenney stood up, and he might respond to you on

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1 that.

2 MR. MCKENNEY: I am in charge of the NMSS
3 group to develop the guidance.

4 CHAIRMAN GARRICK: Do you want to give
5 your name?

6 MR. MCKENNEY: My name is Chris McKenney,
7 NMSS, Division of Waste Management. That was
8 specifically an issue, which was that we want to look
9 at both processes that could make the partial site
10 release effect the reactor site as it is operating, or
11 as it is in the decommissioning mode.

12 And which has been discussed previously,
13 and changing the site boundary, and all those issues.
14 Additionally, we wanted to look at processes that
15 could affect a partial site release that could come
16 from the facility, and because it is all their land
17 right now, that does need to be considered.

18 And so those issues would need to be
19 looked into; is there potentials through different
20 pathways, like ground water, or surface water, or
21 other ways, to recontaminate or add contamination to
22 the other land and that isn't there today.

23 MEMBER WYMER: There is always potential,
24 but the question is --

25 MR. HARRIS: Right, using a risk approach,

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1 a credible potential that actually results in actual
2 impact to the decision.

3 MEMBER WYMER: Well, a licensee is
4 actually required to address that issue.

5 MR. HARRIS: Right. They would have to
6 look into it and go into the process. And then in the
7 future this would be the source of possibly a new
8 source of information if the assumptions and
9 everything else turned out to be false.

10 Or depending on how it is, it could just
11 limit the amount and they can decommission the rest of
12 the site. In other words, having the rest of the site
13 decommissioned to 25 MRN, and they may only be able to
14 do it to 10 or 15, because the partial site may have
15 such a dose impact to somebody who lived on both the
16 partial site and the main facility. They would have
17 to take that into consideration.

18 That's why we are requesting a
19 progressive or future look at the site so that people
20 are aware of those sort of issues to weigh out, and
21 that they are aware of those issues, and the licensee
22 can decide what the risk is to them in releasing this
23 property.

24 MEMBER WYMER: That's why the license
25 termination process goes back to the whole site again.

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1 MR. HARRIS: Right.

2 MEMBER WYMER: Okay. Thank you. That's
3 all I have.

4 CHAIRMAN GARRICK: It seems as if this
5 rule is coming about like so many other rules. The
6 problem develops and you need to deal with it, and the
7 existing rules don't work, and so you create another
8 rule that will.

9 Supposing Oyster Creek's request had not
10 come along and that you envisioned that there could be
11 an improvement in the license termination rule, or
12 another rule enhancing the flexibility of what the
13 license can do with respect to the release of a site
14 that is going to be decommissioned. What you have
15 written it any differently?

16 MR. RIPLEY: I would say no. I think that
17 was probably the approach that we took is a proactive
18 approach without regard to what has happened in the
19 past and balancing the various pillars involved and
20 the public confidence, versus the need for effective
21 and efficient regulations.

22 I know that sounds like preaching to the
23 choir, but that is the approach that we would have
24 taken in any case. I think the rule would have come
25 out the same.

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1 CHAIRMAN GARRICK: Is this going to come
2 out as a separate rule?

3 MR. RIPLEY: Yes. There is a new section,
4 50-83, that is being added to 10 CFR 50, which is the
5 procedural portion of it, and provides the process.
6 And then there are amendments to the other sections as
7 I indicated, to 50-75, record keeping, et cetera. So
8 it is not an integrated rule.

9 CHAIRMAN GARRICK: I guess what I am
10 getting at is there -- if we had approached it just
11 from the standpoint of modifying the license
12 termination rule, but to give the licensee a lot of
13 flexibility in releasing the land, if we think of it
14 that way would we do it the say way that we have done
15 it? It is kind of the same question, but from a
16 little different perspective.

17 MR. RIPLEY: Would we approach it from
18 the --

19 CHAIRMAN GARRICK: Yes, I see this a
20 little differently, I guess. I guess I see that there
21 is a real opportunity here for enhancing the way in
22 which sites are decommissioned, and releasing land
23 quickly rather than -- well, sooner rather than later.
24 And yet that is not quite this rule was put into
25 place.

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1 MR. RIPLEY: That's right.

2 CHAIRMAN GARRICK: And so my thought here
3 -- and which is probably not a very good one, is that
4 could we have written this a little differently to
5 provide for much greater flexibility and much quicker
6 release of lands that are tied up in these large
7 sites.

8 Because they are large sites, and had we
9 approached it more globally, more from the standpoint
10 of decommissioning rather than the releasing of land.

11 It is not unlike a strategy that has been
12 suggested many times for some of the nuclear weapons
13 sites, where you take a Hanford that has 460 square
14 miles, and really the problems reside in something
15 that is only about 10 percent of that.

16 So you could release 90 percent of the
17 land in a very quick and short order if you didn't get
18 the whole process completely entangled in a kind of a
19 legal maze that stands in the way of doing it.

20 And I was just struck by the idea that
21 maybe now that we are going to have partial release
22 there are some things that could be done with this
23 rule that would give it a lot more flexibility,
24 improve the public participation and image, and
25 acceptance, and at the same time probably save a lot

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1 of money. And I was just very curious as to how
2 visionary you were when you did this.

3 MR. RIPLEY: Well, I don't think we were
4 visionary to the extent that you are talking about.
5 I don't believe it was viewed, or at least I don't see
6 it in thinking about it -- and this is the first time
7 that I have thought about it as you have brought it
8 up, that really there is enhancing the decommissioning
9 process by purposely going in and providing the
10 mechanism for a partial site release.

11 I think to the contrary that it is really
12 providing something to the benefit of licensees who
13 would like to do that for their benefit. That is a
14 large site, and maybe there are some reasons to say
15 that from an overall global decommissioning process
16 standpoint that it may be better off to reduce the
17 size of the site.

18 But I don't see that myself, and so maybe
19 to answer your question that the answer is no. I
20 don't think we would have headed off in that
21 direction.

22 Really, it is reduced down to providing a
23 process to licensees, and to prevent them from
24 circumventing the license termination rule, a stop gap
25 because of this gap in the regulations that I talked

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1 about.

2 That is really the thrust and purpose of
3 the rule making and therefore would be the way that we
4 would go if we didn't otherwise see a benefit in any
5 case to partial site release, which I am not sure is
6 there from our standpoint.

7 CHAIRMAN GARRICK: Okay. Milt.

8 MEMBER LEVENSON: I have a one question.
9 It seems to me that there is a somewhat difference v
10 between partial site release of a piece of property
11 out there at the end of the site somewhere, and your
12 comment that one of them is internal to the site.

13 That the unrestricted release internal to
14 a site, I must admit that we worry about the things
15 that we know less about. I would be very nervous
16 about putting an LNG tank in the middle of my reactor
17 site if it were my reactor. How are things like that
18 controlled?

19 MR. RIPLEY: Well, let me recharacterize
20 my statement that Haddam Neck was planning on this
21 release in the middle of their site, and it is a
22 parking lot area that is currently in the middle of
23 their owner controlled area currently.

24 Their release is going to -- well, it is
25 to the northwest of their reactor building and fuel

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1 facility, et cetera.

2 MR. HARRIS: Northwest.

3 MR. RIPLEY: Northwest. It is everything
4 that side of it, and so they will own that parking
5 lot, and then they will have to grant back to
6 Connecticut Yankee access to the road, because the
7 road that now is coming in is now that parking lot to
8 the site area is the site access road.

9 So when the release is finished, it will
10 no longer be in the middle of their site. So I
11 mischaracterized what is now currently in the middle
12 of their site.

13 Now, as far as this liquid natural gas
14 storage facility, that is the subject of a very huge
15 hazards analysis that is ongoing right now that will
16 come for our approval because it is an unreviewed
17 safety question and is another amendment process all
18 of its own, and the impact on the existing facility.

19 It is some several hundred yards from
20 their fuel storage building, and they envision this
21 humongous concrete structure around it and what not,
22 which is part of their safety hazards analysis.

23 MEMBER LEVENSON: But you said they
24 envisioned bringing it to you as an unresolved safety
25 issue, but if the land is not under your jurisdiction

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1 because it is completely released, what forces people
2 in the future to bring things to do, to the NRC?

3 MR. RIPLEY: On the --

4 MEMBER LEVENSON: Well, suppose at the
5 moment they just said that we don't want this piece of
6 land, and we don't need it. We want to see it and we
7 want to get rid of it. And then two years later
8 somebody decides to put an LNG tank there.

9 What mechanism or regulation, or how do we
10 assure that such safety issues get reviewed?

11 MR. HARRIS: Well, it really comes down to
12 -- this is no different than a decommissioned power
13 reactor and sort of test reactor out there, where the
14 environmental exterior of the licensed facility
15 changes.

16 The licensee still has the safety analysis
17 report that needs to be maintained and updated, and
18 that in Chapters 1 and 2 of that FSAR describes the
19 environment off-site of the site, and the licensee is
20 required and it is their responsibility to keep that
21 updated.

22 Any change to the final safety analysis
23 report requires a 50-59 review, and that requires a
24 hazards analysis, and if they determine that there is
25 a safety question there, they are required to come to

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1 the NRC.

2 The LNG scenario is pretty well known
3 within the industry and within the staff, and that is
4 clearly --

5 MEMBER LEVENSON: Yes, but what I am
6 following through on is that that is correct, and the
7 utility owns the reactor, and brings you the issue,
8 and you come to the conclusion that it is an
9 unresolved safety issue, but you don't have
10 jurisdiction over that land anymore if it is
11 unresolved.

12 How do you prevent somebody from doing
13 that? Do you force the utility to shut down its
14 reactor for an unresolved safety issue off-site?
15 Jurisdictionally, this is very --

16 MR. RIPLEY: Well, I guess as Paul said,
17 this is the same case of property outside the owner
18 controlled area that someone would choose to do
19 something on, and whatever existing requirements that
20 they would have to meet, in terms of their being
21 adjacent to a licensed facility, I don't know for sure
22 exactly what it is. But those controls exist, but I
23 can't describe them to you.

24 MEMBER LEVENSON: But presumably in the
25 past those areas were big, and the probability that

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1 something off-site could impact the reactor was quite
2 different than when you use the terminology that this
3 is on a piece of land that originally was in the
4 middle of the site. That is the thing which I wonder
5 about.

6 MR. RIPLEY: And it is a good question,
7 and it again speaks of this unrestricted use.

8 MR. BECKNER: Mike, can I address that
9 quickly?

10 MR. RIPLEY: Sure.

11 MR. BECKNER: My name is Bill Beckner, and
12 there is an answer to your question, but we just don't
13 know it right now. Off-site hazards do change with
14 time, whether you have made the site small or not, and
15 there is some provision for looking at that.

16 And I was talking to my colleagues at the
17 table, and we are not sure what they are, and we will
18 get back to you with what that answer is, and what the
19 controlling provisions are to periodically look at
20 off-site hazards.

21 MEMBER LEVENSON: Well, it seems to me
22 that it isn't so important that you get back to us as
23 it is that the new rule extends whatever that is in
24 the past to this new land.

25 MR. BECKNER: It is a valid concern.

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1 Thank you.

2 MEMBER WYMER: John, you had a question?

3 CHAIRMAN GARRICK: I just wanted to ask
4 one final question. How do you -- in this era of when
5 the NRC is trying to adopt a risk-informed
6 performance-based way of looking at issues, and making
7 decisions, how do you risk informed decisions on
8 partial site release?

9 MR. RIPLEY: A good question. I don't
10 have a ready answer for you. I can't really address
11 that. I am not sure how you would accomplish that.

12 There is an in-process review of
13 decommissioning related rules and bringing them into
14 an integrated rule making process that would address
15 risk informing those regulations. However, partial
16 site release was not part of the scope of that effort
17 either. So probably nothing is envisioned now and I
18 am not sure how you would accomplish it.

19 CHAIRMAN GARRICK: Okay.

20 MEMBER WYMER: And in final conclusion,
21 let me say that we do note your request that we
22 respond in some way so that we don't hit you with
23 something after you have already put the rule in
24 place.

25 MR. HARRIS: Just to answer that one,

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1 understand that the intent here is to brief the
2 committee. There is by no means a closed door here.
3 We expect to continue dialogue, especially during the
4 public comment period after the proposed rule comes
5 out and something getting published.

6 CHAIRMAN GARRICK: Right.

7 MR. RIPLEY: We would expect to be
8 briefing this committee at that time.

9 MEMBER WYMER: Okay. Thank you very much.

10 CHAIRMAN GARRICK: Yes, thank you. Okay.
11 License termination plan and review and lessons
12 learned.

13 (Brief Pause.)

14 MR. NELSON: Good afternoon. My name is
15 Bob Nelson, and I am Chief of the Facilities
16 Decommissioning Section in the Decommissioning Branch,
17 Division of Waste Management.

18 And I am here today to discuss the topic
19 of lessons learned in the license termination plan
20 review process. I am also going to sneak in a little
21 status report on where we stand on the license
22 termination plans and give you some background
23 information on that.

24 And then discuss in some detail some
25 lessons that we have learned during this process, and

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1 improvements that we plan as a result of those
2 lessons.

3 I am going to start with the Trojan plant.
4 I am not going to read through all these dates, but
5 the Trojan plant was the first license termination
6 plan that we initiated a review on.

7 In fact, it was the first plan submitted
8 under the license termination rule. It was the first
9 plant to submit a MARSSIM type final survey plan. So
10 it represented a lot of firsts for us.

11 We completed the review of that license
12 termination plan, and the plan was approved by license
13 amendment last month.

14 And for Maine Yankee, we have completed
15 our initial review, and you will note here that I have
16 identified a two-phase review process, and that's
17 because of the involvement of a contractor supporting
18 a technical staff under a different time frame than --
19 the contractor's portion was under a different time
20 frame than ours, the portion that we were reviewing
21 in-house.

22 And so we decided to break the review into
23 two parts rather than hold up the whole review until
24 the contractor could finish. So we finished Phase One
25 in October, and Phase Two in January.

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1 But I should note that the licensee has
2 indicated that they will submit a revised license
3 termination plan, and currently that their date is
4 April 15th of this year.

5 At which time we will have to look at that
6 revised plan and make an assessment about what
7 additional reviews are required. And just for
8 scheduling purposes, we have made some assumptions,
9 and based on what we believe will be changed, we
10 believe we can complete the review by January of 2002.

11 But we will need to reassess that date
12 after we have received the revised license termination
13 plan.

14 Connecticut Yankee. Again, we have
15 conducted a two-phased review of that licensed
16 termination plan, and we just recently completed the
17 second phase.

18 We will be meeting with the licensee
19 shortly to discuss our comments on that, our specific
20 comments on phase two. We have already made on phase
21 one.

22 Responses to both sets of questions are
23 pending, and we hope to be able to complete the review
24 in September of this year.

25 MEMBER LEVENSON: Is there any reason why

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1 Connecticut Yankee takes 6 or 7 months less than Maine
2 Yankee?

3 MR. NELSON: The substantive difference
4 between the two is that we are going to get a new LTP
5 for Maine Yankee in April, and that compounds -- and
6 to what degree we have to go back and reexamine
7 things, we don't know.

8 MEMBER LEVENSON: Is that because the
9 original one was not as complete?

10 MR. NELSON: No, the original plan
11 included a concept called rubblization, and also there
12 original plan addressed compliance with NRC's dose
13 standards in the license termination rule.

14 They have made a commitment to the State
15 to comply with more restrictive standards that the
16 State has established by legislation, and to eliminate
17 basically the rubblization concept.

18 So there are some substantive changes, but
19 exactly how those will be reflected in the plan we
20 don't know. But that is the driver on the schedule
21 right now.

22 MR. NELSON: The Saxton plant. We again
23 completed the two-phase review. Unfortunately in this
24 case, substantive additional characterization is
25 needed at the site, and because of weather conditions

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1 at the site and other factors, they have informed us
2 that they won't be able to complete that
3 characterization and provide that data to us until
4 late in December of this year.

5 Therefore, we have moved out our schedule
6 for completion until April of 2002. Any questions on
7 the review status before I go on to lessons learned?

8 CHAIRMAN GARRICK: Did all of these go
9 through pretty much very similar steps?

10 MR. NELSON: Yes, they did. We did an
11 acceptance review in all cases, and we did or had a
12 public meeting at the licensee's or near licensee's
13 facilities within a few months after the receipt of
14 the LTP.

15 Then with the exception of Trojan, we have
16 imitated this two-phase review process. Trojan was
17 different. We didn't do that because we didn't have
18 a contractor involved. Trojan was a little simpler.

19 The Trojan plant decided to use the
20 generic screening criteria rather than develop site
21 specific. So we had no dose modeling needs for this
22 site.

23 And the Trojan also had a previously
24 developed EA for a decommissioning plan that they had
25 submitted earlier. So we had a simpler analytical

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1 task, and some of the work had already been done to
2 support the amendment review.

3 So it was a different approach that was
4 taken for Trojan, but the other three have been
5 essentially the same.

6 MEMBER WYMER: Do you have a sense of how
7 many more are in the pipeline?

8 MR. NELSON: Not many. Fermi One may
9 submit a license termination plan in the next couple
10 of years. I believe that they decided to go into
11 active decommissioning, we believe.

12 Big Rock Point, they had said that they
13 want to have their license terminated by -- I believe
14 it is July of 2005, which would mean that they would
15 have to submit a decommissioning plan no later than
16 July of 2003 to meet the two year requirement. Those
17 are the only two that I can speak to.

18 MEMBER WYMER: So you don't anticipate a
19 staffing problem, or any big problems?

20 MR. NELSON: No, for planning purposes,
21 for our budget planning purposes, we are assuming
22 essentially one LTP per year, and I don't see anything
23 more than that.

24 I certainly don't see the four LTPs at one
25 time that we have experienced within the last year to

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1 year-and-a-half.

2 MEMBER WYMER: You don't have a sense of
3 how many are coming along each year at the end of
4 their 40 years?

5 MR. NELSON: No.

6 MEMBER WYMER: But you could get that if
7 you wanted it? I know that a lot of them are getting
8 renewed, but some of them won't. So just by going
9 back to when they were licensed, you could sort of
10 calculate how many could come.

11 MR. NELSON: Could, but many of them may
12 stay in safe store for years. So it is difficult to
13 make that estimate.

14 MEMBER WYMER: Okay. I was just curious.

15 DR. LARSON: Other than Maine Yankee, are
16 they all going with the 25 MREM and don't worry about
17 ground water?

18 MR. NELSON: Yes.

19 CHAIRMAN GARRICK: It appears that plant
20 type and size is not as much a factor as site problems
21 and communication issues, and what have you. Is that
22 a fair assessment?

23 MR. NELSON: I think that is a fair
24 assessment. You will see that as we go through the
25 lessons learned.

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1 CHAIRMAN GARRICK: Because this is a very
2 small plant?

3 MR. NELSON: A very small plant, but
4 historically it has been around for along time, and
5 the unique feature of this site is that there was a
6 coal-fired plan right next door.

7 And the Saxton plant used that steam
8 turbine as basically its energy sync, and that plant
9 was cleaned up or was removed many years ago.
10 Fortunately, the footprint is contaminated, and which
11 they just discovered.

12 And they also have other hazardous wastes
13 buried in the footprint, which complicates the
14 characterization process.

15 CHAIRMAN GARRICK: An interesting question
16 is can you take these lessons learned and feed them
17 into the existing plants who may have similar
18 situations? When you said a coal plant next store, I
19 immediately thought of Beaver Valley.

20 It is not quite as close as this, but they
21 do have right next door a very large coal plant. Are
22 these lessons learned valuable to other installations
23 such as Beaver Valley, and the way that they conduct
24 their maintenance?

25 MR. NELSON: Well, I can't speak

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1 specifically to any plant, but I will say that, yes,
2 I think they are a valuable lessons learned, and that
3 will get to the implementation of -- which is the last
4 slide in my presentation. So if you hold on that, I
5 will come to it, I promise you.

6 CHAIRMAN GARRICK: Good.

7 MR. NELSON: Okay. If there are no other
8 questions on plant status, then I will transition into
9 lessons learned. First of all, and maybe most
10 importantly, is that early and frequent consultations
11 between NRC staff and licensee are needed and
12 encourage during the planning and scoping phase of not
13 only LTPs, but decommissioning plans.

14 And I will now speak to both because
15 really these lessons learned apply to both
16 decommissioning plans and license termination plans.
17 In this context, we encourage an early meeting between
18 NRC and the licensee to discuss the planning and
19 content of the LTP or DP.

20 We believe that these discussions should
21 address such things as past and current licensed
22 operations, types and quantities of radioactive
23 materials used or stored; activities that may have an
24 impact on decommissioning operations, decommissioning
25 goals, such as restricted versus unrestricted license

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1 termination.

2 Basis for the cleanup criteria, and
3 development of specific cleanup goals, and whether the
4 licensee plans to use default cleanup values or site
5 specific cleanup values, and any potential impact on
6 the environment that may result as a result of the
7 cleanup.

8 To support these meetings, we developed
9 Appendix A to new reg 1727, which is the NMSS
10 decommissioning standard review plan. It is developed
11 in the form of a checklist. During the meeting, we
12 would with the licensee go through this checklist and
13 address site specific requirements that ought to be
14 included in the decommissioning plan or LTP, and make
15 a record of that checklist for future reference.

16 That and product, and then as a marked up
17 checklist, which defines the technical elements and
18 regulatory requirements that should be covered in the
19 upcoming submittal.

20 We hope that this process provides a
21 better understanding of the type of information that
22 we feel we need to be included in either document, and
23 familiarize the licensee with the process that the
24 staff will use to evaluate their submittal.

25 This approach is anticipated to minimize

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1 the need for request for additional information, and
2 reduce the number and iterations of submittals, and
3 expedite the staff technical review.

4 In fact, we have implemented this process
5 with several upcoming decommissioning plans with three
6 different licensees. And in each case the licensee
7 has told us after the meeting how useful they found
8 it, and we had the same reaction to that process.

9 Fortunately, we did not have this process
10 in place prior to or at the time that we started
11 receiving the license termination plans. The second
12 lesson that I have enumerated here is that operational
13 environmental monitoring of ground water is unlikely
14 to be adequate for site characterization to support
15 dose assessments.

16 Environmental monitoring is normally
17 conducted at the fence line or even off-site,
18 particularly in the ground water area, and this does
19 not provide the information needed to support a dose
20 assessment.

21 For example, monitoring off-site doesn't
22 tell us what the ground water -- whether there is any
23 ground water contamination on-site.

24 In fact, the use of the screening criteria
25 for soils, one of the fundamental assumptions, is that

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1 there is no current ground water contamination unless
2 you have data on site ground water contamination, and
3 you don't know whether you can use the default soil
4 values or not.

5 Also, on-site wells normally provide
6 information regarding the hydrogeologic parameters of
7 the site, which would be needed for dose assessment,
8 and knowing the types of soils, and rock, and the
9 depth of those, and the depth of the ground water, and
10 soil types.

11 And some of the information that you would
12 gather during the installation of a well that would be
13 needed to support a site specific dose assessment.

14 The design of the final survey must
15 involve the application of appropriate data quality
16 objectives. In this context the licensee needs to
17 identify all appropriate data quality objectives, and
18 planning and designing the final status survey plan.

19 I summarize this bullet by saying you need
20 to know where you are going before you plan how to get
21 there. And the DKO process provides the structure to
22 do just that.

23 The process identifying the DKOs ensures
24 that the survey plan requirements, and survey results,
25 and survey evaluation are of sufficient quality,

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1 quantity, and robustness to support the decision on
2 whether the cleanup criteria have been met using this
3 required statistical test.

4 Major elements of the process include,
5 first, a clear statement of the problem; the
6 identification of all related decision statements and
7 alternative actions, including selection of the most
8 appropriate scenario to be analyzed.

9 The identification of the information
10 needed to support this decision making process; the
11 definition of the site physical, temporal, and
12 spacial boundaries for all environmental medias and
13 structures, including reference areas that would be
14 covered by the decision process in any subsequent dose
15 modeling.

16 The development of the appropriate
17 decision rules and identification of the cleanup
18 criteria; specifying types of the limits for the type
19 one and two decision areas in support of the no
20 hypothesis, and impacts on sample size.

21 And finally the optimization step, looking
22 at the process of collecting data and updating the
23 survey design to meet those DQOs.

24 We have observed that licensees have
25 difficulty in scoping out the DQOs, and have not taken

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1 full advantage of the DQO process, especially the
2 final step, the optimization step.

3 Experience has shown that the process is
4 often rigidly structured rather than relying on too
5 much characterization data, and not being readily open
6 to the possibility of incorporating new information as
7 it becomes available.

8 CHAIRMAN GARRICK: Don't most of the sites
9 have ground water monitoring programs of some sort
10 going because they are looking for Tritium and other -
11 -

12 MR. NELSON: Some do, but not necessarily
13 in all the right places that you need to support a
14 dose model. This is the problem that we experienced
15 at Trojan.

16 The Trojan plant decided to use the
17 default screening criteria, but didn't have data to
18 show that they didn't have ground water contamination
19 on-site.

20 So as a condition of approval of the
21 license termination plan, we included a requirement in
22 that approval for them to collect that data, and if
23 necessary, come back and revise the cleanup criteria
24 if they found any ground water contamination on site.

25 MEMBER LEVENSON: If the site had a coal

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1 plant on it, how would you differentiate whether the
2 contamination in the ground was what legally came from
3 the coal plant that is not radioactive?

4 MR. NELSON: That's true, but the
5 contaminants that they are finding at Saxton are
6 clearly Cesium 137, strontium.

7 MEMBER LEVENSON: They are not finding
8 uranium?

9 MR. NELSON: No, that is not the problem
10 at all. It is clearly contaminants resulting from the
11 operation of the nuclear power plant.

12 In-process inspections are more efficient
13 than a one-time after the fact confirmation surveys.
14 As a result of the final survey problems experienced
15 at the Sherm nuclear plant, an in-process final survey
16 approach was developed at the Fort St. Vrain plant.

17 At the Sherm Plant, the confirmatory
18 survey was conducted after the licensee had completed
19 most of the final survey and many of the staff
20 involved in that survey were no longer available to
21 address questions and issues that were identified by
22 the staff during the confirmatory survey.

23 Simply put, we were too late. The in-
24 process approach we are now implementing at all of our
25 sites has allowed the NRC and the licensee to make

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1 side by side measurements, compare instrument
2 readings, and sensitivities, and address survey issues
3 early in the process, rather than at the end of the
4 process.

5 The in-process approach would result in a
6 significant cost savings and would show a more
7 accurate survey, and help the licensee in maintaining
8 their release schedule.

9 Following on the first point about having
10 the conversations early, a continuous dialogue is
11 needed throughout the process so that the licensee can
12 take advantage of the inherent flexibility in MARSSIM,
13 the multi-agency site survey investigation manual.

14 In reviewing LTPs and DPs, we have
15 observed that licensees are often boxing their
16 approaches into rigid formats and structures, thereby
17 locking out any operational flexibility that may be
18 available.

19 Frequently we find that the derivation of
20 the derived concentration guidelines, or DCGLs, are
21 not fully justified, and they should include all
22 assumptions and justifications for the parameters
23 used.

24 For example, area factors. Area factors
25 are needed in the final survey status to determine

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1 such things as required scan, minimum detectable
2 concentration, and a developed, elevated measurement
3 limits or values, which we call DCGL/EMC, or elevated
4 measurement comparisons.

5 These are needed to identify small areas
6 that may require further investigation, and frequently
7 these area factors are not provided for residual
8 activity on building surfaces.

9 Volumetric contamination is another
10 problem area, because volumetric contamination does
11 occur, and often does occur within building
12 structures, some licensees have assumed that it is
13 appropriate to use the DCGLs that have been developed
14 for building surface contamination for these areas
15 without additional justification on the
16 appropriateness of that use.

17 We advise licensees to develop specific
18 DCGLs for volumetric contamination, which would
19 consider the potential routes of exposure to residual
20 activity in the material if the structure is
21 eventually torn down, for example.

22 As an alternative , licensees can
23 demonstrate that these cleanup values developed for
24 surface contamination will bound the possible effects
25 from exposure from other configurations in the

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1 building structure.

2 A third area under this bullet is modeling
3 results. Licensees frequently use RESRAD or D&D to
4 generate the DCGL values and to perform dose
5 assessments, and these often do not include printouts
6 from the codes as part of their submission.

7 This information is typically omitted
8 simply because of its size. It can be voluminous.
9 However, without this information, it is difficult for
10 us to undertake confirmatory analyses, or to complete
11 our review of the licensee's analysis.

12 We suggest that the licensees provide
13 output results from their analyses that they used to
14 develop the DCGLs, and if the output values do not
15 provide an echo of the input values, then we would
16 also ask that that also be included in the submission.

17 Licensees often use a combination of
18 default and site related parameters in their analyses
19 to develop the cleanup criteria. In many cases,
20 little or no justification is provided for the reason
21 for using the site specific parameter values, or the
22 defaults.

23 This can lead to enormous uncertainties in
24 assessing the appropriateness of the cleanup values or
25 the calculated dose to demonstrate compliance with the

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1 dose standard.

2 We categorize the parameters in the models
3 in one of three ways; the behavioral, metabolic, and
4 physical parameters. Licensees may use the default
5 values for the behavioral and metabolic parameters as
6 long as these values are consistent with the generic
7 information, or generic definition of the average
8 member of the critical group, and the screening
9 scenarios that are used.

10 Site specific physical parameters should
11 be used and justified, and we found this not to be the
12 case.

13 A clear relationship is needed between the
14 planned decommissioning activities and the estimated
15 cost. In order for us to make a finding that
16 sufficient funding is available to complete
17 decommissioning, the updated cost estimate and the
18 remaining site dismantling activities, and the
19 remediation plan must be consistent.

20 The updated cost estimate should be based
21 on the remaining activities, and the plans on how
22 these actions will be completed, and this has not
23 always been the case.

24 It has not always been a direct or easily
25 detectable tie between the elements and the cost

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1 estimate, and what the licensee says they are going to
2 do in the other sections of the LTP; almost as if two
3 entirely separate entities developed the sections
4 without discussing those.

5 The next point goes to the matter of
6 characterization. Experience has shown that old
7 records and results of operational surveys, and post-
8 shutdown scoping surveys, have been submitted as
9 substitutes for characterization surveys.

10 While these records are important and
11 should be looked at, they are not a substitute for
12 characterization. We certainly do encourage licensees
13 to review old records and to conduct personal
14 interviews of both current and past employees, and key
15 contractors.

16 However, there is still a need to present
17 this information in its proper context, and to qualify
18 its usefulness in how it might be supplemented.

19 When digging a little further into the
20 characterization issue when we see that the
21 characterization information is lacking, we found that
22 the characterization data in often cases does exist,
23 but it just simply has not been submitted to us for a
24 review.

25 CHAIRMAN GARRICK: Bob, how are you --

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1 what action if any are you taking to overcome some of
2 these deficiencies?

3 MR. NELSON: Well, in this specific case,
4 where we note just a serious deficiency in
5 characterization information, we have had knowledge
6 and had every reason to believe that the information
7 was available, but it just wasn't submitted. So we go
8 looking.

9 We ask, and we go back to the files, and
10 find it, or go to the site and say we have it. It is
11 right here. So we look at it, and so it is going back
12 and asking questions, and pulling the threads that
13 lead us to the data.

14 Clearly it is better if that information
15 is presented as a package, rather than us having to go
16 back and ask the questions to find it.

17 CHAIRMAN GARRICK: I guess what I am
18 getting at is there any requirements that should be
19 changed, or modified, or added in the operating
20 license to minimize some of these difficulties?

21 MR. NELSON: I don't see it as any
22 requirement. New requirements would have to be
23 replaced on the operating license to collect more
24 data. It is a matter of packaging that data and
25 providing it to us.

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1 Now, there have been cases -- and I
2 mentioned Saxton earlier, where there was
3 contamination found after the license termination plan
4 had been submitted, and that really goes back to my
5 point about relying exclusively on old records to
6 determine that an area is unimpacted.

7 For areas close into the site, you
8 probably need to take some confirmatory samples to
9 determine that what you have deduced from the record
10 review is in fact the case. They did that, but they
11 did it after the fact.

12 MEMBER WYMER: So you get this information
13 out to the potential people putting in an LTP at these
14 public meetings that you have, like the Waste
15 Management 2001 meeting that you presented them at and
16 that sort of thing? Is that how you get it out to
17 them?

18 MR. NELSON: Well, this particular
19 presentation has been given several times, and it
20 wasn't done at Waste Management 101. I am going to
21 get to who we plan to implement these lessons learned
22 at the last phase of this discussion.

23 But right now we have been doing it
24 through presentations such as this, and of course
25 direct discussions with the licensee during the LTP

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1 review.

2 But hopefully as a part of this process
3 and in implementing the steps that we are going to
4 take, we can prevent these types of things in the
5 future.

6 In the area of environmental reviews the
7 licensee needs to address both non-radiological as
8 well as radiological. While most licensees normally
9 provide sufficient information for the staff to assess
10 radiological impacts in the human environment, most
11 licensees fail to provide information related to
12 current site-specific, non-radiological impacts.

13 Such areas could, but don't necessarily
14 include, land use, future land use, transportation
15 impacts, ecological, hazardous wastes, public and
16 occupational health, water quality, air quality,
17 historic and cultural resources, noise,
18 socioeconomics.

19 Again, these might -- all of these may not
20 apply to every site, but normally some of them do, and
21 they are not addressed, or haven't always been
22 addressed.

23 Well, I promised you the improvements that
24 we plan to implement as a result of this, and this
25 goes back to my very first bullet. We are, and

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1 scheduling, and having these pre-submittal
2 consultations and we are finding them very useful.

3 The checklists that are developed are --
4 and I don't know if you are familiar with Appendix A,
5 but it gets pretty specific, and basically we go down
6 and just put a check mark by every item that should be
7 in the LTP, and we discuss that, those items.

8 And if there is more information that we
9 need to annotate, then we annotate the checklist with
10 notes about what else needs to be provided. We found
11 that very useful, and I think if we would have done
12 that in the cases of the LTPs, a lot of the problems
13 that we have seen would have gone away.

14 On our side, we need to develop project
15 plans and schedules early in the process and
16 communicate those with the licensees so that they know
17 exactly when we are going to be doing things, and what
18 they can expect to see, and when they can expect to
19 see it, and what we expect to see as far as response
20 times.

21 This will allow us to schedule meetings up
22 front or ahead of time, rather than ad hoc, and to go
23 through the process in a more orderly fashion.
24 We also believe a more expansive review is needed at
25 the time of the acceptance review.

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1 Our current practice on acceptance review
2 is that acceptance review is defined to be basically
3 an administrative review, and by guidance it is
4 designed to be conducted by an administrative staff,
5 a licensing assistant, for example.

6 And the acceptance review is basically
7 just a look at the outline and a quick read of the
8 document to see if the licensee has addressed all of
9 the necessary topics.

10 In practice, our project managers do those
11 acceptance reviews, but the project managers aren't
12 versed in all the necessary technical areas that are
13 needed to conduct the ultimate review.

14 We believe that if we expand the technical
15 review to bring in the full project team, and look at
16 targeted areas of the submittal, we can identify
17 significant deficiencies and turn the document back,
18 rather than initiate a full or very intensive
19 technical review and wind up with literally hundreds
20 of requests for additional information.

21 In other words, enforce the quality on the
22 front end rather than bringing the quality in
23 piecemeal during the process.

24 The other improvement that we plan is a
25 generic communication, which will basically put in

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1 words what I have discussed with you today. An
2 information notice that would identify these lessons
3 learned, and discuss in more detail what we have seen
4 and how we think that they can be corrected in future
5 submittals.

6 We are currently working on that generic
7 communication and hope to have that published in April
8 of this year. That concludes my comments and I am
9 open for any questions that you may have.

10 CHAIRMAN GARRICK: What has been the
11 biggest surprises in this process that you didn't
12 really expect to be the way they are, if any?

13 MR. NELSON: Well, I would say one
14 surprise was the reliance on environmental monitoring
15 to provide ground water characterization. That took us
16 by surprise.

17 Internally, we weren't real familiar with
18 the REM process, the radiological environmental
19 monitoring program at reactor sites. And we weren't
20 aware that that might be relied upon as
21 characterization for ground water.

22 I think generally the problems were with
23 just characterization in general was surprising. That
24 characterization information was provided in a very
25 summary nature or not at all, or not referred to.

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1 That was a surprise.

2 CHAIRMAN GARRICK: And I would guess that
3 part of that is brought about by the fact that the
4 mentality of reactor safety has always been accidents,
5 and the pathway of greatest concern in that regard has
6 always been air.

7 And next maybe surface liquids and so on,
8 and that it has taken a little while to develop a real
9 environmental perspective as far as site contamination
10 is concerned. But I would think that that would be
11 changing now.

12 MR. NELSON: I think those are the two big
13 surprise areas. I think we anticipated that
14 implementing the MARSSIM process would be challenging
15 at the outset.

16 Both the industry and the agency was
17 embarking on a new guidance that we had really not
18 implemented anywhere before. So I think the growing
19 pains with that were anticipated, although I don't
20 know that we specifically had or knew where those
21 growing pains would be.

22 I think we knew that they would be there,
23 and so I don't think that was a surprise. But it has
24 been a learning -- implementing MARSSIM has been a
25 learning process I think for everyone.

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1 CHAIRMAN GARRICK: With this being a bit
2 of a surprise, then the thing that we were talking
3 about earlier, about a partial site release, makes it
4 all the more important to be very focused on things
5 like ground water pathways and what is happening in
6 the subsurface.

7 MR. NELSON: You are absolutely right, and
8 I think we had enough experience with these concerns
9 to do it right at Oyster Creek. We did a very
10 concentrated effort at Oyster Creek, and I think it
11 was well done.

12 But we at that time had been involved
13 already in some of these issues and we knew what to
14 look for and where the problems might be.

15 MEMBER WYMER: How significant an economic
16 impact was it for these utilities to go back in now
17 and drill these wells and get this information? Is
18 that a big deal?

19 MR. NELSON: I can't give you an exact
20 cost estimate. I think there may be 3 or 4 wells that
21 Trojan has to drill. I am not sure of the exact
22 number. It might be up to five.

23 MEMBER WYMER: Not a whole lot?

24 MR. NELSON: Not a whole lot. There are
25 certain specific areas that we wanted them to look at

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1 because of the specific hydrogeologic structure of the
2 site. They are basically upon a rock platform, but
3 there is on both sides -- well, there is Columbia
4 River on one side, and then there is an old stream bed
5 on the other.

6 So it is conceivable that spills could
7 have traversed down or even through the bedrock into
8 the underlying aqua fern, and we are just looking for
9 some confirmatory measurements to say that that did
10 not happen.

11 MEMBER WYMER: The reason that I ask is
12 because I know that is a big cost deal out at Hanford,
13 and I was just wondering what the relative size was.

14 MEMBER LEVENSON: There is a big
15 difference in the -- well, in Idaho, the USGS put some
16 30 or 40 wells in in 1949 all over the whole site, and
17 have been monitoring it continuously. So it varies
18 tremendously.

19 CHAIRMAN GARRICK: That's because they
20 have a big river running under the site.

21 MEMBER LEVENSON: But they didn't do
22 anything like that at Hanford.

23 CHAIRMAN GARRICK: Right. Right.

24 MEMBER WYMER: Milt.

25 MEMBER LEVENSON: I had one other

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1 question. The Saxton removal which left the footprint
2 was a long time ago.

3 MR. NELSON: A long, long time ago, yes,
4 sir.

5 MEMBER LEVENSON: Do you think that they
6 really missed the contamination back then, or is this
7 a case of much more sensitive instrumentation today
8 that detected what was probably missed then?

9 MR. NELSON: I honestly don't know.

10 MEMBER LEVENSON: Is it quite low level?

11 MR. NELSON: We don't know exactly yet.
12 I mean, they have not done enough characterization to
13 know how extensive it is, or what exactly they are
14 going to have to do.

15 MEMBER LEVENSON: Well, sensitivity of
16 instrumentation has changed enough so that if you go
17 back to things done 40 or 50 years ago, they --

18 MR. NELSON: Yes, sir, but I don't
19 actually know whether it is that. The ground water
20 there is very high, and so it may just be a transport
21 issue. I don't know.

22 There is another portion of the plant that
23 also needs to be characterized, and it is a discharge
24 tunnel, where the effluent is discharged to the river.
25 It is a rather long tunnel, and actually traverses the

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1 switch yard, the active switch yard at the site.

2 And they haven't fully characterized that
3 tunnel or what may be underneath the piping that
4 compromises the tunnel. It is a difficult area to get
5 into. And that is another area where they owe us some
6 information.

7 MEMBER WYMER: We got into a little
8 discussion this morning about decommissioning and
9 license termination for sites, and what was brought up
10 and practically everything that we have heard from the
11 staff is related to reactor decommissioning.

12 I wonder what is the status of
13 decommissioning other kinds of NRC licensed sites that
14 may have significant amounts of radioactive materials
15 on them, like fuel fabrication plants? Does it say
16 anything about that, or is that --

17 MR. NELSON: Well, I can give you another
18 hour long briefing on that.

19 MEMBER WYMER: Give us the 5 minute
20 version.

21 MR. NELSON: Well, a lot of the lessons
22 learned that I summarized here would apply to
23 materials facilities as well I would expect as they go
24 into or they submit decommissioning plans under the
25 license termination rule.

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1 We have no decommissioning plans for
2 material or fuel cycle facilities. Well, I will
3 correct that. We do.

4 CHAIRMAN GARRICK: Isn't Sequoia Fuels in
5 this stage?

6 MR. NELSON: Yes, it is, but it is a
7 little different, in that their plan was submitted
8 before MARSSIM, and so it is a unique character. I
9 would say that we have reviewed one plan, and it is
10 actually a partial cleanup at NFS Irwin, which was
11 developed basically under the license termination rule
12 concept in MARSSIM.

13 But most of our experience with applying
14 the LTR and the supporting guidance has been in
15 reactors. But we are expecting more Dps in the
16 future. Several in the next couple of years, and
17 which would be LTR compliant.

18 So we are hoping that these lessons learned will
19 positively impact those submittals. But the overall
20 process is not dissimilar. I mean, we are conducting
21 the same types of reviews or would conduct the same
22 types of reviews on those sites as well.

23 MEMBER WYMER: Many of the same type of
24 considerations apply.

25 MR. NELSON: Basically the same

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1 considerations apply, yes. And the up-front
2 consultation with the materials facilities I think is
3 even more important, because most of those, with the
4 exception of fuel cycle, but at the other STNP sites
5 are basically in a possession only status.

6 They don't have an in-place significant
7 RAD health and safety program. They probably only
8 have environmental monitoring data, and until they
9 start characterizing, they would not have installed
10 wells.

11 So there are some substantive difference
12 in the types of organizations and the problems that we
13 might anticipate from those different organizations,
14 just simply because of the type of business that they
15 are in.

16 So I think that it is even more important
17 with the materials facilities that we have these up
18 front discussions and work with them, and have the
19 prelicensing consultations to make sure that we get
20 the right plan in the door when it is submitted.

21 MEMBER WYMER: Anybody else? Staff?

22 DR. LARSON: You have the agreement of
23 States involved in some of the other facilities;
24 whereas in reactors you don't, and you haven't seen
25 any problems with their involvement?

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1 MR. NELSON: Well, I wouldn't say the
2 States aren't involved in reactor facilities. They
3 clearly are. The State of Maine is very active at
4 Maine Yankee.

5 The State of Connecticut is very active at
6 Haddam Neck. The State of Oregon was very much
7 involved with the review of the LTP for Trojan. So I
8 would say the States are involved very much so at the
9 reactor sites.

10 DR. LARSON: But a Part 50 license is an
11 NRC license.

12 MR. NELSON: Absolutely.

13 MEMBER WYMER: Well, if there are no more
14 questions, we thank you very much.

15 MR. NELSON: Thank you very much.

16 CHAIRMAN GARRICK: Is it worth asking Bob
17 the question of what does he want from us?

18 MR. NELSON: I meant to say that at first.

19 CHAIRMAN GARRICK: Well, maybe you did.

20 MR. NELSON: No, I omitted that and I
21 should have addressed it. This was principally an
22 information briefing. We are not looking for any
23 specific feedback. If you have any recommendations,
24 clearly we would welcome them. But we are not asking
25 for a critique or any specific memo back from the

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1 committee at this time.

2 MEMBER WYMER: Good.

3 MEMBER LEVENSON: Let me ask a curiosity
4 question, because you say you have to look at the
5 environmental issues other than the radiation from the
6 source.

7 MR. NELSON: Yes.

8 MEMBER LEVENSON: Back to this situation
9 where there is a joint site that has a coal plant.
10 What would be your response if there were significant
11 amounts of either uranium or mercury in the ground
12 water, both of which are fairly likely from coal
13 plants?

14 MR. NELSON: I don't know.

15 MEMBER LEVENSON: Would you have to do
16 something about that, or do you just ignore that?

17 MR. NELSON: Well, I don't know that we
18 would ignore it. We have to look at cumulative
19 impacts.

20 So if there is an existing impact on the
21 site resulting from something that is not on site,
22 then we would have to address that the combined
23 impact, the environmental impact in our assessment of
24 our licensing actions. So it very well could impact
25 or very well could be an impact from an off-site

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1 source.

2 CHAIRMAN GARRICK: Just a final comment.
3 We mentioned earlier the Sequoia facility and that it
4 came in early and maybe was started under a different
5 set of rules. But that one has always intrigued me,
6 and we have heard very little about it.

7 It intrigues me because of the diversity
8 of the facility. It has a front end solvent
9 extraction process, and it has oxidation reduction
10 activity. It has high temperature components,
11 autoclaves, and it has very interesting material
12 handling problems. It has storage all over the place.

13 One of these days it might be interesting
14 for this committee to get a real -- from the
15 standpoint of experience, to get a real briefing on
16 what is going on there in the context of license
17 termination activities. Is that a reasonable thing to
18 put on some future agenda?

19 MR. NELSON: Certainly. We have just had
20 in-house a staff presentation on that site, and we
21 briefed one of the Commissioner several weeks ago on
22 Sequoia Fields. So we would welcome the opportunity
23 to do that.

24 CHAIRMAN GARRICK: I think the committee
25 would be very interested in it, because it is real

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1 problems. It is real issues, and the plant has been
2 through some very stormy times in its history.

3 MR. NELSON: It is a timely topic.

4 CHAIRMAN GARRICK: Yes, and I was thinking
5 about it as you were giving us your lessons learned.
6 So we may want to take advantage of that and maybe
7 piggy-back on the presentation to the Commission or
8 something.

9 MR. NELSON: We would be glad to do that.

10 MEMBER WYMER: Thanks again.

11 MR. NELSON: Thank you.

12 CHAIRMAN GARRICK: We are going to take a
13 15 minute break.

14 (Whereupon, the meeting was recessed at
15 2:58 p.m.)

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This is to certify that the attached proceedings
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Nuclear Waste 125th Meeting
Docket Number: (Not Applicable)
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U.S. Department of Energy
Office of Civilian Radioactive Waste Management

Key Technical Issues — Status Overview

Presented to:
Advisory Committee on Nuclear Waste

Presented by:
Carol Hanlon
Yucca Mountain Site Characterization Office
U.S. Department of Energy

March 21, 2001

**YUCCA
MOUNTAIN
PROJECT**

NRC/DOE Technical Exchanges on Key Technical Issues

- **11 out of 13 Technical Exchanges are complete**
 - **Total System Performance Assessment and Integration (6/6 - 7/00, San Antonio, TX) - complete**
 - **Unsaturated Zone Flow Under Isothermal Conditions (8/16 - 17/00, Berkeley, CA) - complete**
 - **Igneous Activity (8/30 - 31/00, Las Vegas, NV) - complete**
 - **Container Life and Source Term (9/12 - 13/00, Las Vegas, NV) - complete**
 - **Structural Deformation and Seismicity (10/11 - 13/00, Las Vegas, NV) - complete**
 - **Criticality (10/23 - 24/00, Las Vegas, NV) - complete**
 - **Saturated Zone Flow (10/31/00, 11/1 - 2/00, Albuquerque, NM) - complete**

NRC/DOE Technical Exchanges on Key Technical Issues

(Continued)

- **Radionuclide Transport (12/5 - 7/00, Berkeley, CA) - complete**
- **Thermal Effects on Flow (1/8 - 9/01, Pleasanton, CA) - complete**
- **Evaluations of the Near-Field Environment (1/9 - 11/01, Pleasanton, CA) - complete**
- **Repository Design and Thermal-Mechanical Effects (2/6 - 8/01, Las Vegas, NV) - complete**
- **Total System Performance Assessment and Integration - tentatively scheduled for June, Las Vegas, NV**
- **Preclosure Issues - to be determined**

Key Technical Issue Progress

- **5 subissues closed**
- **5 subissues open**
 - **4 open: Future technical exchange on Total System Performance Assessment and Integration**
 - **1 open: Igneous Activity subissue 2 consequences**
- **27 subissues closed-pending**
- **215 agreements for 9 key technical issues**
 - **Some duplication in agreements**
 - ♦ **Several agreements support multiple key technical issues**
 - ♦ **Several agreements will be addressed through revision to a common document**
- **56 documents transmitted to the NRC, addressing 45 agreements**

Key Technical Issue Progress

(Continued)

- **Five documents addressing multiple agreements are behind schedule**
 - **Unsaturated zone features, events, and processes analysis model report**
 - ◆ **Supports Radionuclide Transport, Evolution of the Near-Field Environment, and Thermal Effects on Flow agreements**
 - ◆ **Anticipate March submittal to the NRC**
 - **Features, events, and processes database**
 - ◆ **Supports Unsaturated Zone, Container Life and Source Term, Radionuclide Transport, Evolution of the Near-Field Environment, and Thermal Effects on Flow agreements**
 - ◆ **Anticipate March submittal to the NRC**

Key Technical Issue Progress

(Continued)

- **Summary of in-package chemistry for waste forms**
 - ♦ **Supports Container Life and Source Term and Evolution of the Near-Field Environment agreements**
 - ♦ **Anticipate March submittal to the NRC**
- **Preliminary assessment of radiolysis effects from criticality**
 - ♦ **Supports Container Life and Source Term agreements**
 - ♦ **Completion date to be determined**
- **In-package chemistry abstraction**
 - ♦ **Supports Evolution of the Near-Field Environment agreements**
 - ♦ **Anticipate March submittal to the NRC**

Key Technical Issue Status from Technical Exchanges

Key Technical Issue	Number of Subissues	Subissues Closed	Subissues Closed-pending	Subissues Open
Unsaturated and Saturated Flow	6	2	4	0
Igneous Activity	2	0	1	1
Container Life and Source Term	6	0	6	0
Structural Deformation and Seismicity	4	1	3	0

Key Technical Issue Status from Technical Exchanges

(Continued)

Key Technical Issue	Number of Subissues	Subissues Closed	Subissues Closed-pending	Subissues Open
Radionuclide Transport	4	0	4	0
Thermal Effects on Flow	2	0	2	0
Evolution of the Near-Field Environment	5	0	5	0
Repository Design and Thermal-Mechanical Effects	4	2	2	0

Key Technical Issue Status Future Technical Exchanges

- **Total System Performance Assessment and Integration (June 2001)**
 - 4 subissues - open
- **Preclosure Issues (to be determined)**
 - 0 subissues

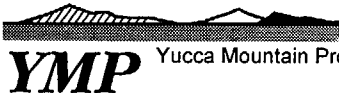
Status By Individual Key Technical Issue

- **Unsaturated and Saturated Flow***
 - **Six Subissues -**
 - ♦ **Subissue 1 - closed**
 - ♦ **Subissue 2 - closed**
 - ♦ **Subissue 3 - closed-pending - 4 NRC/DOE agreements**
 - ♦ **Subissue 4 - closed-pending - 5 NRC/DOE agreements**
 - ♦ **Subissue 5 - closed-pending - 14 NRC/DOE agreements**
 - ♦ **Subissue 6 - closed-pending - 4 NRC/DOE agreements**

***Note:**

Unsaturated Zone Flow Under Isothermal Conditions technical exchange held 8/16-17/00 addressed subissues 3, 4, and 6

Saturated Zone Flow technical exchange held 10/31/00, 11/1-2/00 addressed subissues 3, 5, and 6



Status By Individual Key Technical Issue

(Continued)

- **Igneous Activity***
 - **Two Subissues -**
 - ♦ **Subissue 1 - closed-pending - 2 NRC/DOE agreements**
 - ♦ **Subissue 2 - open - 10 NRC/DOE agreements**

***Note:**

Igneous Activity technical exchange held 8/30 - 31/00

Status By Individual Key Technical Issue

(Continued)

- **Container Life and Source Term***

- **Six Subissues**

- ♦ **Subissue 1 - closed-pending - 17 NRC/DOE agreements**
 - ♦ **Subissue 2 - closed-pending - 9 NRC/DOE agreements**
 - ♦ **Subissue 3 - closed-pending - 10 NRC/DOE agreements**
 - ♦ **Subissue 4 - closed-pending - 11 NRC/DOE agreements**
 - » **Duplicate agreement items from Container Life and Source Term subissue 3**
 - ♦ **Subissue 5 - closed-pending - 7 NRC/DOE agreements**
 - ♦ **Subissue 6 - closed-pending - 4 NRC/DOE agreements**

***Note:**

Container Life and Source Term technical exchange held 9/12 - 13/00
Criticality technical exchange 10/23 - 24/00 addressed subissue 5

Status By Individual Key Technical Issue

(Continued)

- **Structural Deformation and Seismicity***
 - **Four Subissues -**
 - ◆ **Subissue 1 - closed-pending - 2 NRC/DOE agreements**
 - ◆ **Subissue 2 - closed-pending - 4 NRC/DOE agreements**
 - ◆ **Subissue 3 - closed-pending - 4 NRC/DOE agreements**
 - ◆ **Subissue 4 - closed**

***Note:**

Structural Deformation and Seismicity technical exchange held 10/11 - 13/00

Status By Individual Key Technical Issue

(Continued)

- **Radionuclide Transport***
 - **Four Subissues**
 - ◆ **Subissue 1 - closed-pending - 5 NRC/DOE agreements**
 - ◆ **Subissue 2 - closed-pending - 11 NRC/DOE agreements**
 - » **Duplicate agreement item from Radionuclide Transport subissue 1 and Unsaturated and Saturated-Flow Under Isothermal Conditions subissue 5**
 - ◆ **Subissue 3 - closed-pending - 10 NRC/DOE agreements**
 - » **Duplicate agreement item from Structural Deformation and Seismicity subissue 3**
 - ◆ **Subissue 4 - closed-pending - 3 NRC/DOE agreements**
 - » **Duplicate agreement items from Container Life and Source Term subissue 5 and Evolution of the Near-Field Environment subissue 5**

***Note:**

Radionuclide Transport technical exchange held 12/5 - 7/00 addressed subissues 1-3

Criticality technical exchange held 10/23 - 24/00 addressed subissue 4

Status By Individual Key Technical Issue

(Continued)

- **Thermal Effect of Flow***
 - **Two Subissues**
 - ◆ **Subissue 1 - closed-pending - 2 NRC/DOE agreements**
 - ◆ **Subissue 2 - closed-pending - 13 NRC/DOE agreements**

***Note:**

Thermal Effects on Flow technical exchange held 1/8 - 9/01

Status By Individual Key Technical Issue

(Continued)

- **Evolution of the Near-Field Environment***
 - **Five Subissues**
 - ◆ **Subissue 1 - closed-pending - 7 NRC/DOE agreements**
 - ◆ **Subissue 2 - closed-pending - 18 NRC/DOE agreements**
 - ◆ **Subissue 3 - closed-pending - 5 NRC/DOE agreements**
 - ◆ **Subissue 4 - closed-pending - 8 NRC/DOE agreements**
 - ◆ **Subissue 5 - closed-pending - 3 NRC/DOE agreements**
 - » **Duplicate agreement items from Container Life and Source Term subissue 5 and Radionuclide Transport subissue 4**

***Note:**

Evaluation of the Near-Field Environment held 1/9 - 11/01

Criticality technical exchange held 10/23 - 24/00 addressed subissue 5

Status By Individual Key Technical Issue

(Continued)

- **Repository Design and Thermal-Mechanical Effects***
 - **Four Subissues**
 - ◆ **Subissue 1 - closed**
 - ◆ **Subissue 2 - closed-pending - 2 NRC/DOE agreements**
 - ◆ **Subissue 3 - closed-pending - 21 NRC/DOE agreements**
 - ◆ **Subissue 4 - closed**

***Note:**

Repository Design and Thermal Mechanical Effects technical exchange held 2/6 - 8/01

Summary - Key Technical Issue Technical Exchanges

- **Technical Exchanges have been productive**
- **Work to address agreements reflects progress**
- **DOE and NRC need to maintain continuous dialogue**
 - **Status on progress**
 - **Revisiting agreements that may be overcome by program changes**
 - **Feedback on work completed to satisfy agreements**



United States
Nuclear Regulatory Commission

PARTIAL SITE RELEASE

March 21, 2001

Contacts:

Mike Ripley, NRR
wmr@nrc.gov
301-415-1112

Paul Harris, NRR
pwh1@nrc.gov
301-415-1169

BACKGROUND

Partial site release: Release of part of a power reactor site for unrestricted use prior to approval of the License Termination Plan (LTP)

Regulatory gap discovered during Oyster Creek technical specification amendment review:

- Partial site release not provided for in regulations.
- Radiological release criteria of 10 CFR 20, Subpart E, not clearly applicable if not terminating license.

Emerging issue - current need for a partial site release process.

Rulemaking Plan approved April 2000.

- Publish proposed rule in 2001; final rule in 2002.
- Generic communication (RIS 2000-19) issued October 2000.

REGULATORY APPROACH

Rulemaking narrowly focused on unrestricted releases at power reactor sites - operating or in decommissioning.

Adds new section 10 CFR 50.83 defining partial site release process.

Licensee first performs a Historical Site Assessment and classifies the release area in accordance with MARSSIM guidance:

- Impacted Area- some potential for residual radioactivity.
 - Licensee performs radiation surveys adequate to demonstrate compliance with radiological release criteria.
- Non-Impacted Area - no reasonable potential for residual radioactivity.
 - No radiation surveys required.

Partial site release approval process depends on area classification.

SUBMITTALS FOR IMPACTED AREAS

Where the area cannot be demonstrated to be non-impacted, the licensee must submit an application for amendment of its license.

The license amendment application must include:

- The methods used and results of the radiation surveys required to demonstrate compliance with the radiological criteria for unrestricted use specified in 10 CFR Part 20, Subpart E (25 mrem/yr and ALARA).
- The results of an evaluation of the impacts of changing the site boundary.
- A supplement to the environmental report describing any new information or significant environmental changes.

SUBMITTALS FOR IMPACTED AREAS (cont'd)

In response to the licensee's amendment application, the NRC will:

- Conduct confirmatory radiation surveys as warranted.
- Complete Subpart L hearings prior to approving the release if a license amendment involving a partial site release is challenged.
- Approve the amendment application based on demonstrated compliance with the radiological criteria for unrestricted use specified in Part 20, Subpart E.

SUBMITTALS FOR NON-IMPACTED AREAS

Where the area can be demonstrated to be non-impacted, a license amendment is not required.

A written request may be submitted for NRC approval. The submittal will include:

- The results of an evaluation of the impacts of changing the site boundary.
- A description of the part of the facility or site to be released.
- The schedule for release of the property.
- Reasons for concluding that the environmental impacts are bounded by previously issued environmental impact statements.

SUBMITTALS FOR NON-IMPACTED AREAS (cont'd)

In response to the licensee's letter submittal, the NRC will:

- Determine whether the licensee's Historical Site Assessment is adequate.
- Conduct confirmatory radiation surveys as warranted.
- Upon determining that the licensee's submittal is adequate, and that there is no adverse impact on plant safety, approve the release by letter.

FOR ALL SUBMITTALS

For all partial site release submittals, licensees would submit the results of their evaluation to ensure that:

- The public dose limits of Part 20, Subpart D, are not exceeded.
- There is no reduction in the effectiveness of emergency planning or physical security.
- Effluent releases remain within regulatory standards.
- The environmental monitoring program and offsite dose calculation manual are revised to account for the any changes.
- The siting criteria of 10 CFR Part 100 continue to be met.

LICENSE TERMINATION

The License Termination Plan (LTP) must consider all site areas controlled during the duration of the license in demonstrating that the entire area meets the radiological release criteria.

10 CFR 50.82 would be revised to require the LTP to include:

- Identification of any parts of the site that have been released.
- Documentation that the final radiation survey demonstrating compliance with Part 20, Subpart E, includes parts of the site released for use before approval of the LTP.

10 CFR Part 20 would be revised to include partial site releases within the scope of the criteria by which the NRC may require additional cleanup on receiving new information following the release.

RECORDKEEPING

10 CFR 50.75 would be revised to require licensees to establish and maintain records of property line changes and the radiological conditions of partial site releases including:

- Records of the site boundary as originally licensed.
- Records of any acquisition or use of property outside the originally licensed site boundary for the purpose of receiving, possessing, or using licensed materials.
- Records of the disposition of released property including records associated with submittals to the NRC made in accordance with the Partial Site Release Rule.

Recordkeeping ensures that the dose contribution from residual radioactivity associated with these releases can be accounted for at the time of any subsequent partial releases and at the time of license termination.

PUBLIC PARTICIPATION

Proposed rule provides for public involvement:

- NRC will notice receipt of the release request letter or license amendment application and make it available for public comment.
- Public meeting to be held in vicinity of site prior to NRC action regardless of potential for residual radioactivity.

Additional stakeholder meetings to be held during rulemaking.

10 CFR Part 2 would be revised to provide informal hearing opportunities where license amendments involving partial site releases are challenged.

- Commission recently approved with comment a proposed rule which would eliminate need for this amendment to Part 2.

SIGNIFICANT CHANGES

Significant changes to the proposed rule package since initial concurrence review distribution:

- Eliminated distinguishability from background as a release criteria.
- Clarified that licensees are to submit radiation survey methods and results used to demonstrate compliance with the radiological release criteria, rather than merely their plan for demonstrating compliance.
- Incorporate results of NMSS report on interactive dose effects.



LICENSE TERMINATION PLAN - LESSONS LEARNED

Advisory Committee on Nuclear Waste

Robert A. Nelson, Chief
Facilities Decommissioning Section
March 21, 2001

OVERVIEW

- License Termination Plan (LTP) review status
- LTP lessons learned
- Improvements

LTP REVIEW STATUS

TROJAN

- Received: August 1999
- Accept Review: September 1999
- Public Meeting: December 1999
- RAI: March 2000
- RAI Response: May 2000
- Approved: February 2001

LTP REVIEW STATUS

MAINE YANKEE

- Received: January 2000
- Accept Review: March 2000
- Public Meeting: May 2000
- RAI Phase 1: October 2000
- RAI Phase 2: January 2001
- RAI Response: Revised LTP in April 2001
- Sched Comp Date: Pending review of revised LTP - January 2002

LTP REVIEW STATUS

CONNECTICUT YANKEE

- Received: July 2000
- Accept Review: August 2000
- Public Meeting: October 2000
- RAI Phase 1: February 2001
- RAI Phase 2: March 2001
- RAI Responses: Pending
- Sched Comp Date: September 2001

LTP REVIEW STATUS

SAXTON

- Received: February 2000
- Accept Review: March 2000
- Public Meeting: May 2000
- RAI Phase 1: August 2000
- RAI Phase 2: November 2000
- RAI Responses: Partial - Will not be completed until December 2001
- Sched Comp Date: April 2002

LTP LESSONS LEARNED

- Early and frequent consultations are needed
- Operational environmental monitoring of groundwater may be inadequate for site characterization
- Design of the final survey must involve the application of appropriate data quality objectives

LTP LESSONS LEARNED

- In-process inspections are more efficient than a one-time confirmatory survey
- Continuous dialog is needed to take advantage of the inherent flexibility in MARSSIM
- Derivation of cleanup levels should include the assumptions & justification for parameters used

LTP LESSONS LEARNED

- A clear relationship is needed between the planned decommissioning activities and the associated cost estimate
- Old records are often inadequate or inaccurate
- Environmental impact reviews need to address non-radiological impacts

IMPROVEMENTS

- Early & frequent consultations with the licensee will be scheduled
- Project plans & schedules will be developed early in the process and communicated with the licensee
- A more expansive review is needed for the acceptance review
- Generic communication to be issued discussing lessons learned