

# Official Transcript of Proceedings

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146th Meeting

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON NUCLEAR WASTE

146TH MEETING

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THURSDAY

OCTOBER 23, 2003

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ROCKVILLE, MARYLAND

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The Committee was called to order at 8:30 a.m., at the Nuclear Regulatory Commission, Two White Flint North, Room T-2B3, 11545 Rockville Pike, Dr. B. John Garrick, Chairman, presiding.

COMMITTEE MEMBERS PRESENT:

- DR. B. JOHN GARRICK, ACNW Chairman
- DR. MICHAEL T. RYAN ACNW Vice Chairman
- DR. GEORGE M. HORNBERGER ACNW Member
- DR. RUTH F. WEINER ACNW Member

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1 ACNW STAFF PRESENT:

2 JOHN T. LARKINS Executive Director, ACNW

3 SHER BAHADUR Associate Director, ACNW

4 NEIL M. COLEMAN, ACNW

5 HOWARD J. LARSON Special Assistant, ACNW

6 Designated Federal Official

7 MICHAEL LEE ACNW

8 RICHARD K. MAJOR ACNW

9

10 ALSO PRESENT:

11 KRISTINA BANOVA NRC/NMSS

12 R.M. BERNERO SELF

13 TAMARA BLOOM NMSS/DWM

14 CLAUDIA CRAIG NMSS/DWM

15 DAVID ESH NMSS/DWM

16 JOHN GREEVES DIRECTOR, DWN

17 CAROL HANLON DOE

18 NORMAN HENDERSON Bechtel, SAIC Co.

19 TIM KOBERTZ NMSS/DWN

20 LAWRENCE KOKAJKO NMSS/DWN

21 TIM MCCARTIN NMSS/DWN

22 ROD MCCULLEN NEI

23 JEFF MEREDITH Exchange Monitor

24 STEVE PETREAULT Las Vegas Journal

25 BILL REAMER DWM, Deputy Director

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1 ALSO PRESENT: (CONT.)

2 BILL REDMEN NMSS/DWN

3 JIM SHAFFINE MTS

4 SUZANNE STRYZLINSKI Las Vegas, Nevada

5 E.V. TIESENHAUSEN CCCP

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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 come to order. This is the third day of the 146th meeting of the Advisory Committee on Nuclear Waste. My name is John Garrick, Chairman of the ACNW.

The other members of the Committee present are Mike Ryan, Vice Chairman; George Hornberger, and Ruth Weiner. Today the Committee will receive its semi-annual update on waste management topics from John Greeves, Director, Division of Waste Management.

We are going to meet at 10 o'clock with the NRC Commissioners in the Commissioner's Conference Room, One White Flint North. Periodically the Committee conducts this type of public briefing, and we are following the Commission meeting going to discuss possible committee reports.

Howard Larson is the Designated Federal Official for today's initial session, and the meeting is being conducted in accordance with the provisions of the Federal Advisory Committee Act. The Committee has received no written comments or requests for time to make oral statements from members of the public regarding today's sessions, and should anyone wish to address the committee, please make your wishes known

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1 to one of the Committee staff.

2 And it is requested that the speakers use  
3 the microphone, identify themselves, and speak clearly  
4 and loudly. Okay. John, we are glad to see you, and  
5 we are looking forward to our quarterly update.

6 MR. GREEVES: It's good to be here, and  
7 how is this mike doing? I can't get but so close to  
8 it. Can you hear me okay? All right. Good morning.  
9 I am John Greeves, Director of the Division of Waste  
10 Management here at the Nuclear Regulatory Commission.

11 And on my left is Bill Reamer, and Bill is  
12 going to chime in on a couple of the topics, and let  
13 me just say that I enjoy coming to these meetings. It  
14 gives me a chance to let you know what is on my mind,  
15 and it is a good portion of your workload, and so I  
16 find these sessions useful.

17 It gives me a little chance to get some  
18 feedback directly from you, and so let's keep it up.  
19 First, I would like to welcome Dr. Minor to the  
20 meeting. It has been a while since we crossed paths  
21 years ago, and so it is a pleasure to start working  
22 with you again.

23 And I have the distinct pleasure of -- I  
24 would like to read an acknowledgement of Milt  
25 Levenson's term with the ACNW with your permission.

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1 We enjoyed our time with Milt, and we have in fact the  
2 letter from Martin Virgilio, who signed the letter,  
3 and I would like to read that right into the record.  
4 It is pretty short.

5 So with that, "Dear Mr. Levenson, on  
6 behalf of the Office of Nuclear Material Safety and  
7 Safeguards, I convey our sincere appreciation for your  
8 service on the Advisory Committee on Nuclear Waste.  
9 We greatly benefitted from the breath and depth of  
10 your more than 55 years of experience in virtually  
11 every aspect of the U.S. Nuclear program."

12 "Your candor and expertise reflected your  
13 views on our program over the last 3 years, and have  
14 made profound and lasting impacts on our work. You  
15 helped our staff clarify its understanding of the  
16 Yucca Mountain, Nevada, repository system by your  
17 illuminating questions and your focus on realism."

18 "Your work on the committee covered  
19 diverse topics, such as transportation of spent fuel,  
20 and decommissioning of the West Valley facility. We  
21 are grateful for your service to the U.S. Nuclear  
22 Regulatory Commission, and to the staff for your  
23 advice that you provided."

24 "It has been a privilege for my staff and  
25 me to work with you. We wish you well in continuing

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1 your contributions to public health and safety.  
2 Sincerely, Martin Virgillo, Director, Office of  
3 Nuclear Material Safety and Safeguards."

4 So we wish that Milt was here to receive  
5 this, and we will find another way to get it to him,  
6 but again we really appreciate his service, and it has  
7 been a pleasure, and he will be missed.

8 CHAIRMAN GARRICK: Thank you.

9 MR. GREEVES: Okay. Sort of again  
10 acknowledging, Dr. Garrett, we would like to thank you  
11 for your participation at the ICEM Conference at the  
12 UK.

13 I was in fact in Vienna at the time that  
14 you gave your talk there at the briefing, and people  
15 coming over there were acknowledging how well you did  
16 in that, and it was much appreciated that you gave  
17 that opening talk, and it was quite appreciated in the  
18 International community.

19 So I thought you would appreciate a little  
20 bit of feedback and maybe we can do a little sidebar  
21 discussion about it. So, again, the international  
22 community thanks you for coming over and delivering  
23 that opening speech.

24 CHAIRMAN GARRICK: My wife enjoyed the  
25 ride on the Eye in London.

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1 MR. GREEVES: It was open that day. I  
2 know that sometimes they have trouble with the  
3 transportation systems. Turning again to the  
4 international front, I feel a responsibility to keep  
5 you and others informed on what is going on that the  
6 staff participated in.

7 And a significant event is about to take  
8 place, and I have reported on this in the past. This  
9 is the Joint Convention on Spent Fuel and Radioactive  
10 Waste Management, and there are 32 contracting parties  
11 that have joined this particular treaty, including the  
12 United States.

13 There was a meeting of coordinators in  
14 September to organize the process and I participated  
15 in that process, and the first review meeting of this  
16 joint convention will be held November 3rd through the  
17 14th. So it is right on top of us, and as you can  
18 imagine, we have been preparing for that.

19 And in fact Margaret Federline will do the  
20 briefing of the U.S. report with the help of the  
21 Department of Energy, EPA, and the NRC staff, and the  
22 delegation will include Patty Dubar from the  
23 Department of Energy as the head of the delegation;  
24 and Janet Gorn from the Department of State, and Mary  
25 Clark from EPA.

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1           So we have a healthy contingent going over  
2 to represent the United States at this important  
3 meeting. So I just wanted to keep you up to date on  
4 that, and I would in fact come back and give you a  
5 little bit of a summary of how it went from my  
6 perspective in another opportunity like this.

7           One thing that I did want to mention is  
8 that as I come to these meetings, I try and keep you  
9 informed of any changes in the office with NMSS,  
10 because you interact with virtually all of these  
11 people.

12           And Eric Leeds, who was the Deputy in Fuel  
13 Cycle Safety and Safeguards has moved on to the Deputy  
14 Director of Division of Licensing and Project  
15 Management in NRR. A good change for Eric, and a good  
16 opportunity for him to get some additional experience.

17           And Joe Holanich is coming back to NMSS.  
18 He was at ANSER, and I think that almost everybody at  
19 the table knows Joe, and he is in Fuel Cycle. He will  
20 be the deputy reporting to Bob Pierson.

21           Other changes. Lawrence Kokajko, who has  
22 been down here to brief you, Lawrence was in fact  
23 acting in the Environment Performance Assessments  
24 Branch. He was selected for that position, and so he  
25 is the branch chief in that position. Congratulations

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1 to Lawrence.

2 And also Scott Moore, one of our SES  
3 candidate program people like Lawrence, was selected  
4 for The Rulemaking and Guidance Branch in IMNS,  
5 Charlie Miller's branch. So I am sorry to see Scott  
6 leave the decommissioning world, but he is promoted  
7 over in Rulemaking and Guidance, and I believe the  
8 Committee will be seeing him in that capacity.

9 In addition, Gary Janazko, who I believe  
10 has come down and briefed you on occasion, is now the  
11 branch chief of the Fuel Cycle and Facility Branch.  
12 So I don't have a clean copy of this, but I will get  
13 this to you so that you can keep track of where these  
14 important players have moved in the process.

15 I went a little quick on the Joint  
16 Convention. Are there any questions on that?

17 CHAIRMAN GARRICK: Any questions?

18 MR. GREEVES: If any of you have a  
19 question, don't hesitate to give me a call. And at  
20 this point, I want to turn to West Valley. It is a  
21 topic that the Committee has been briefed on over the  
22 years, and the staff put together a policy paper, and  
23 the committee put together a letter to the Commission,  
24 and I think if you study that process -- and you have  
25 -- you will see that the letter that you wrote had

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1 some impact.

2 You commented that some innovative  
3 techniques may need to be considered here, and I am  
4 pleased to report that it has progressed. It sort of  
5 has taken a long time for this thing to get moving,  
6 and it has been going on for a number of years as many  
7 of us know.

8 But in the middle of September, we had  
9 what we call our regulators meeting, where we get  
10 together with the other regulators who participate in  
11 this process, and we talk to the Department of Energy  
12 and NYSERDA.

13 And in that meeting the Department and  
14 NYSERDA were able to come forward and provide their  
15 preferred path forward. It isn't exactly the same  
16 path forward, but I think this is a milestone, where  
17 they have actually crystallized where they think they  
18 want to go with this project.

19 And in fact, on Tuesday night I understand  
20 that there was a public meeting with the Citizens Task  
21 Force up in New York, and my staff was part of this by  
22 video conferencing.

23 And both the Department and NYSERDA rolled  
24 out what their path forward is, and these -- and  
25 basically the preferred alternative, these are the

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1 issues that are going to have to be addressed in the  
2 EIS document. This is the document that the path  
3 forward, the one that we need to make progress on, and  
4 that frankly had not moved.

5 So I think that this is kind of the  
6 trigger that will allow that process to move forward.  
7 The NRC is a cooperating agency, and in accordance  
8 with the responsibilities under the West Valley  
9 Demonstration Act.

10 So we will cooperate in the development of  
11 that EIS, and I think it will be quite important to  
12 see how that plays out and addresses these preferred  
13 alternatives.

14 There is late this month a meeting that  
15 DOE is sponsoring for the cooperating agencies to go  
16 over the EIS schedule, and to start into the  
17 development of this important EIS.

18 Anybody who has looked at this knows that  
19 there have been issues and the issues mainly revolve  
20 around stewardship, and another issue is about the  
21 payment of disposal fees.

22 And in this set of meetings recently the  
23 Department identified its preferred alternative, which  
24 is partial release -- and many of you I think have  
25 been to this site, and pretty much cleaned most of the

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1 site up, but have restricted release on what we call  
2 the North Plateau.

3 And the difference is that NYSERDA would  
4 prefer to have free release or unrestricted release of  
5 the North Plateau. So this has sort of sharpened up  
6 the issues, and I think that was necessary to allow  
7 this process to move forward.

8 So again we will be participating in the  
9 Environmental Impact Statement, and obviously that  
10 will generate comments. We have the Commission policy  
11 statement to work from, and I think that this is  
12 something that the committee ought to watch over the  
13 next months, and even years.

14 Unfortunately, these things will take  
15 years to settle out, and you might even consider  
16 having the Department come in and brief you on what  
17 their path forward is. So I wanted to give you a  
18 little bit of an update on that. It is an important  
19 national issue, and I think I will stop there and open  
20 it for questions on that.

21 CHAIRMAN GARRICK: There is no variation  
22 on the goal of unrestricted release, or no  
23 alternatives?

24 MR. GREEVES: It is -- I would invite you  
25 to have us come back and give you a better briefing.

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1 Yes, there obviously -- yes, you do an EIS and you  
2 have to look at alternatives. A key though is to cite  
3 a preferred alternative.

4 In my view a stumbling block has been --  
5 there has been anxiety about identifying the preferred  
6 alternative, but you really have to state what is the  
7 preferred alternative of the entity taking the action  
8 in this case.

9 And that helps you understand what the  
10 other alternatives are, and what the context of those  
11 are, and it allows the public and the stakeholders to  
12 ask the hard questions.

13 And at this point in time, it really was  
14 not crisped up, and I think they both, being DOE and  
15 NYSERDA, have done us a service in terms of defining  
16 where they would like to go with this process.

17 I think there is a number of things that  
18 they agree on. For example, the State disposal area,  
19 I don't think there is any question that needs long  
20 term institutional control and would stay where it is.

21 But it would probably take a more complete  
22 briefing than you can do in this kind of an  
23 environment, and frankly I think this is an area that  
24 the Commission would appreciate you having an eye on,  
25 and we can talk more off-line about possible outcomes.

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1           But to this point the Department, I think,  
2           has identified a clear path forward, and you have had  
3           both the Department and NYSERDA I believe down here  
4           briefing you in the past. Well, I think we have  
5           crossed another threshold here, and it is going to  
6           heat up as far as I am concerned.

7           In fact, I am going to have to look at two  
8           different preferred alternatives, and it is the  
9           equivalent of two different decommissioning plans; one  
10          with restricted release and one without.

11          And even without restricted release, this  
12          is a quite complex site, and so it will be on my  
13          agenda as I come back, and I think we can talk about  
14          something more formal than that.

15          CHAIRMAN GARRICK: Okay. Any questions?  
16          Okay. Go ahead.

17          MR. GREEVES: The decommissioning program,  
18          we come and brief you from time to time about pieces  
19          of this, and a number of things have happened over the  
20          last year, one of which you are familiar with. This  
21          is the license -- we call it the license termination  
22          rule analysis.

23          We were able to come down and brief you  
24          about that. We put together an extensive report to  
25          the Commission, and we in fact briefed you in May, I

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1 believe, of this year on that.

2 And it addressed a number of the things  
3 that after about 5 or 6 years of experience with the  
4 license termination rule, what were the issues that  
5 were causing the staff some problems, and where were  
6 the interpretations, and where were the policy issues,  
7 and we wrapped those up in a paper for the Commission,  
8 and submitted them to the Commission.

9 And we have not received the staff  
10 requirements memorandum on it yet, but there are like  
11 7 or 8 items in there, including restricted release,  
12 and additional recommendations on financial assurance,  
13 that made some recommendations, and we look forward to  
14 the Commission's staff requirements memorandum on  
15 that.

16 It has not come out yet, but possibly when  
17 it does, we could talk to your staff about the  
18 possibility of updating you on that particular  
19 process. Right now I think we need to wait until we  
20 get that feedback from the Commission.

21 But we are quite pleased with it. It has  
22 been quite of a best seller with the industry. A lot  
23 of people are looking at it. The other topic that we  
24 put together annually, and I think you know this, but  
25 we put together a decommissioning program report for

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1 the Commission.

2 It actually started in '89, and then in the  
3 '90s, and in that time frame under what we call the  
4 site decommissioning management program. We didn't  
5 have the clean up rule in that time frame. It took us  
6 another 4 or 5 years to get one in place.

7 And it has evolved from what we used to  
8 call the SDMP Report, Site Decommissioning Management  
9 Program Report, to an annual update, a comprehensive  
10 update of the decommissioning program.

11 So we submitted that recently and the  
12 staff briefed the Commission on October 7th. It was  
13 again a good briefing, and it is kind of the tool that  
14 is shaping the decommissioning program. It is really  
15 soup to nuts.

16 It is all of the uranium and thorium  
17 sites. It includes the mill tailing (phonetic) sites,  
18 and it includes the reactor decommissioning sites. It  
19 talks about the issues that the staff is facing. So  
20 it is an annual report, and the Commission I think  
21 enjoys getting it.

22 I think that they would like to maybe do  
23 it a little bit differently in the future, in terms of  
24 how we put it together, and use it as kind of a ready  
25 reference document.

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1           So I feel confident that many of the  
2 members of the committee are familiar with it, and I  
3 know that your staff is, and again this is another  
4 area where it helps us communicate, and it gives the  
5 Commission a chance to give us some feedback. So  
6 again we have not gotten feedback officially on this  
7 one either.

8           But I would look forward to the response  
9 to the Commission, and annually we put together this  
10 report. Maybe it is something that we need to talk  
11 about in terms of keeping you informed of these  
12 processes, and if there is something in there that you  
13 are particularly interested in, we could come back and  
14 brief you on it. The last item doesn't give as much  
15 --

16           MR. REAMER: John, before you leave that  
17 one, I think that is something that the ACNW would be  
18 particularly interested in hearing about. You know,  
19 you used to give briefings on the SDMP program, and  
20 where we were, and this solves the whole thing quite  
21 nicely.

22           I think it would be worthwhile to plan on  
23 it, and maybe after you get a response back from the  
24 Commission.

25           MR. GREEVES: Yes, and it is -- well, just

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1 a little side note. The site decommissioning  
2 management program, nobody internationally understands  
3 if I talk to them about the SDMP. So it is sort of a  
4 legacy of what we used to call this.

5 Once the license termination rule came  
6 out, it defined in my view what complex sites are.  
7 Complex sites are sites that you need a  
8 decommissioning plan for, whether it be a reactor, or  
9 a material site.

10 So we are trying to get away from the SDMP  
11 terminology and move towards something that is more  
12 rule based and performance based, and we have evolved  
13 through that, and I think we are just about there.

14 So we can talk on how we might work with  
15 the committee and the staff in the future to help this  
16 tool work for both of us. On the decommissioning  
17 program area, the last one was an internal report,  
18 with an evaluation of our own program.

19 The Government Responsibility Act calls  
20 for agencies to take a look at themselves, and we did  
21 that. We were supposed to look at and conduct a  
22 report, and do an evaluation of your program, and so  
23 we did that recently, and we looked at the  
24 effectiveness of the decommissioning program.

25 We also have some individual improvement

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1 programs that we have looked at over the past, and how  
2 effective were those. And we made some  
3 recommendations for future improvements, and the  
4 office was quite pleased with this. If your staff  
5 doesn't have it, it is quite recent.

6 DR. LARKINS: Yes, this is for utility and  
7 quality.

8 MR. GREEVES: Yes, it is.

9 DR. LARKINS: And this is another area  
10 which I think the committee should hear about and be  
11 interested in finding out about.

12 MR. GREEVES: Okay. Well, one, we will  
13 make it available to you. It is an internal report,  
14 and two, depending on the interest, we can come back  
15 and give you a little briefing on how we conducted  
16 that. That is kind of it for the  
17 moment in decommissioning. So if there are questions  
18 on any of those topics or follow-up, I would be happy  
19 to address them. Being none, we can come back to it  
20 if there is time.

21 Okay. At this point, I would like to turn  
22 the mike over to Bill Reamer to address a couple of  
23 the high-level waste issues. Bill.

24 MR. REAMER: Thank you, John. I am Bill  
25 Reamer, and I am the Deputy Director of the Waste

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1 Management Division, in the Office Of Nuclear Material  
2 Safety and Safeguards.

3 I have got three high level waste topics  
4 that I will just give a brief overview of their  
5 status, because I know that there are topics that the  
6 committee is interested in.

7 The first is risk-insights baseline  
8 report, which we briefed the committee in maybe June  
9 or late spring, or early summer, on the summary report  
10 that we provided to the commission and to the  
11 committee as well.

12 I think in that context that we provided  
13 a path forward, which included preparing a more  
14 extensive report, and issuing it and hopefully  
15 completing it hopefully in October, and issuing it in  
16 that time frame.

17 We are not going to meet that schedule,  
18 and where we are right now is that we are fairly far  
19 along in completing our draft of the more  
20 comprehensive report.

21 Remember that what we are trying to do  
22 here is not only assure full coordination between the  
23 disciplines in the performance assessment people  
24 within the staff of the summary report that we issued  
25 in the May and June time frame, and briefed you on,

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1 but primarily was the effort of the performance  
2 assessment staff.

3 But we want to ensure full coordination  
4 within the disciplines as well. We are trying to  
5 improve the quantitative basis for the insight report  
6 that we gave you, and more explicit identification of  
7 uncertainties.

8 And to be specific about what additional  
9 analyses that we plan in the way of path forward, and  
10 improve the discussion of the capability of barriers,  
11 and how we take that into account.

12 I think we will be able to brief the  
13 committee in the early part of next year on where we  
14 are in the more comprehensive report, and my hope is  
15 that we will have a draft of our report available, and  
16 it will be a pre-decisional document, and I know that  
17 presents problems for the committee.

18 But we will work with the staff to deal  
19 with those problems as much as we can. And I think  
20 that rather than speculate on a date that we will  
21 issue a public document, I would rather defer that to  
22 our briefing in January if we could, or when it is  
23 scheduled early in the year, and we will give the  
24 committee an explicit time schedule at that point on  
25 when we will be ready to go public.

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1           So that is where we are on the risk  
2 insights baseline report. Now, what is important  
3 about the staff activities in this area is not only  
4 that we are directing our energies and activities  
5 toward the risk significance and prioritizing the  
6 system in those terms, but also how we are going to  
7 use the information.

8           Recently we got the first installment from  
9 the Department of Energy of their response to the 293  
10 agreements, where they actually grouped their  
11 responses, and where they try to provide a technical  
12 basis document that deals with an integrated topic.

13           And then as appendices to that address  
14 each of the agreements or group of agreements that is  
15 pertinent to that particular aspect or process of the  
16 system.

17           I don't have any preliminary observations  
18 to give you on our response to that first DOE  
19 deliverable. What we are reviewing right now are  
20 technical bases documents on biosphere transport,  
21 saturated zone flow in transport, and that is a second  
22 one. And the third one is colloids.

23           We are focused right now on assuring a  
24 review process that integrates the risk insights, and  
25 that is the front end. You know, our attitude towards

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1 reviewing a document can surely be of course  
2 comprehensive and thorough, but we want our review,  
3 our more detailed review, to delve into those aspects  
4 of the DOE input, the DOE technical basis document.

5 CHAIRMAN GARRICK: And what was the other  
6 one? One was flow in transport?

7 MR. REAMER: The biosphere transport, and  
8 saturated zone flow, and transport in colloids.

9 MR. GREEVES: These are technical basis  
10 documents that DOE produced and gave to us.

11 MR. REAMER: Right. So we are working  
12 right now not only on the review, but the review  
13 process as well, and I think that is something that we  
14 do want to present to the committee at the appropriate  
15 time, and how we are conducting this review, because  
16 it is clearly a dry run for later reviews, and the  
17 extent or the way in which the staff effectively uses  
18 risk insights in focusing its review on what matters  
19 for safety.

20 So that is a very brief overview on where  
21 we are on the response to the 293 agreements and this  
22 ranking of those agreements. I would just make one  
23 point. The first deliverable from DOE did not because  
24 of timing really interface effectively with the  
25 document that we issued in May and June in our risk

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1 insights.

2           Timing wise, it was just not -- my sense  
3 is that DOE was not in a position given their schedule  
4 and what they committed to us, to backfit our insights  
5 into theirs.

6           So we have asked that in the future, to  
7 the extent that we can, to the extent that DOE can,  
8 that it give consideration and attention to the  
9 conclusions of the staff, the preliminary conclusions  
10 that the staff has reached with respect to risk.

11           DR. LARKINS: Bill, let me ask just a  
12 clarifying question. These technical basis documents  
13 will satisfy a number of the agreements, or  
14 potentially close out --

15           MR. REAMER: Yes. For example, the  
16 biosphere transport agreement addressed the biosphere  
17 transport technical basis document, and addressed  
18 seven of the agreements.

19           The saturated zone flow and transport  
20 technical basis document addressed 24 agreements; and  
21 the colloids addressed 10 agreements just as an  
22 example.

23           DR. LARKINS: Okay. So if you find them  
24 satisfactory then, then I guess the numbers of things  
25 that we may be talking about later today will change

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1       drastically?

2                   MR. REAMER:  Yes.  The goal here is to  
3       have DOE address all of the 293 agreements, and to  
4       address them in a way that assures that the staff has  
5       the information that they need in order to conduct the  
6       review.

7                   That would be the outcome of this review  
8       if the response to the technical basis document and  
9       the supporting appendices are sufficient in the  
10      staff's review.

11                  DR. LARKINS:  No, I understand that.  But  
12      just as a matter of status, it looks like a number of  
13      things are starting to come in now that you need to  
14      wade through in order to see whether they satisfy what  
15      was asked for.

16                  MR. REAMER:  Yes.  The last item is INS  
17      activity.  I have a technical exchange this summer on  
18      probability.  and DOE presented a plan, a path forward,  
19      to address the staff's questions and its agreements in  
20      the area of probability.

21                  The plan at a high level was in the  
22      staff's view responsive.  The plan included new  
23      aeromatic survey data.  the drilling of selected  
24      anomalies, and age dating samples, and reconvening the  
25      elicitation handle that DOE held some time ago.

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1           That plan hasn't formally been submitted  
2           to us. We expect that it will be submitted in the  
3           near future, and hopefully later this month. The plan  
4           includes information being delivered after the license  
5           application, and so the staff will have to consider  
6           how the plan is responsive to the staff's need to have  
7           sufficient information to begin the review in this  
8           area.

9           On consequence, we already have one  
10          technical basis document from DOE dealing with or in  
11          the biosphere area. We expect that additional  
12          documents, technical basis documents, will be  
13          forthcoming on magna interactions.

14          Our understanding of DOE's schedule is  
15          that those should be expected by the end of this  
16          month. Once we have those documents in-hand, I think  
17          we will be in a position to know the appropriate date  
18          to schedule a technical exchange with DOE on  
19          consequence.

20          I don't want to prejudge when that will  
21          be, and we really need to have the DOE documents first  
22          in order to make that decision. And then just to  
23          scope the schedule out to the end, and a final  
24          technical basis document is due in May of 2004 on  
25          redistribution.

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1           And that would cover the water front, as  
2 well as the October deliverables in the concept area.  
3 Two items that I had mentioned that we are doing at a  
4 staff level at the center, efforts continue,  
5 investigative efforts continue on the modeling of  
6 consequence and ash redistribution.

7           And in addition with the center, the staff  
8 is looking at the TPA code in the INS area from the  
9 standpoint of (inaudible) realism in the code, and we  
10 hope that these activities will be completed early in  
11 the spring of next year.

12           So that is an update on three topics. I  
13 know that the committee is interested in the high  
14 level, and if there are other high level topics,  
15 please feel free to raise them.

16           CHAIRMAN GARRICK:     Do you have any  
17 comments? Go ahead, Ruth.

18           DR. WEINER:     Could you just elucidate a  
19 little bit what the delay is in the risk insights  
20 report? You said that it is behind schedule. Is  
21 there some reason or is it just generally taking  
22 longer than you expected?

23           MR. REAMER:     I think it is a little of  
24 both, but Tim, do you feel -- Tim McCartin of the  
25 staff, who is kind of leading our effort here, maybe

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1 he can give a little more information on that.

2 MR. MCCARTIN: Yeah, I think that is  
3 pretty accurate. It is a little of both. Adding to  
4 the quantitative basis and the discussions throughout  
5 both the NRC here and at the center, a lot of good  
6 ideas have come up and just writing them down.

7 And as the person who committed to the  
8 October date, I probably was a little more optimistic  
9 than I should have been. I have been accused of that  
10 before, but we are pretty far along.

11 There has been a lot of good discussion  
12 and as I said, we think we will have a draft done by  
13 the end of this month, and further work through in  
14 November.

15 MR. REAMER: And I think what we want to  
16 do is to assure effective interface with the  
17 committee, and I really think that the briefing early  
18 next year, or the presentation early next year in  
19 getting you -- and assuming that it is acceptable to  
20 the committee, the predecisional draft, so that you  
21 can get a sense of where the staff is going, and to  
22 help inform you with respect to that, will help us  
23 keep momentum here.

24 This is a very important topic, and we  
25 don't want to lose momentum, and we don't want a delay

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1 to impact us.

2 CHAIRMAN GARRICK: Okay.

3 MR. GREEVES: All right.

4 CHAIRMAN GARRICK: Go ahead.

5 MR. GREEVES: Shall I move on? The sort  
6 of last item on my list is low level waste. Although  
7 this space is a small program, it has big impacts  
8 nationally, and the committee has been following it  
9 for a long time.

10 And just sort of an update, and some of  
11 you are probably aware of this, but at the September  
12 low level waste forum meeting, the State of South  
13 Carolina announced that they have a very small amount  
14 of uncommitted space remaining at Barnwell for out of  
15 region generators through 2008 when they shut down the  
16 out of region.

17 So the music is sort of stopping, and the  
18 question is does everybody have a chair, and so the  
19 Barnwell facility set out this schedule for wrapping  
20 down what they would take, and when they would stop  
21 taking waste.

22 And again the amount of space that  
23 remains, based on projections, is not big enough based  
24 on the projections of what the out-of-state compact  
25 licensees have looked for in the past.

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1           So they have been very successful in  
2 assigning out of region generators for long term  
3 commitments. I was not at the meeting, but I  
4 understand that there may be some wriggle room in the  
5 process.

6           For example, within the region, if the  
7 utilities, for example, decide to store the waste for  
8 a while longer, that might allow some more room within  
9 the time between now and 2008.

10           But this whole issue of disposal capacity  
11 is starting to come home and roost, and it is a topic  
12 that the NRC, the committee, needs to have an eye on  
13 and an understanding of.

14           And so I just wanted to make sure that you  
15 were aware of that. I will just keep moving unless  
16 you have a question on that. But separately the  
17 National Academy is doing a study on low activity  
18 waste. Dr. Ryan is quite familiar with this.

19           He is the vice chair and the chair is  
20 David Leroy, and they just put out an interim report,  
21 and I hope the committee -- it is available, and if  
22 you don't have copies of it, we can provide them. I  
23 am sure that Dr. Ryan can provide them also.

24           It is a two-phased study. The first  
25 report summarizes the sources, the forms quantities,

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1 hazards of low activity waste, and it also summarizes  
2 the current policies and practices in this country, in  
3 terms of handling low level radioactive waste.

4 The second phase will provide an  
5 assessment of technical and policy options, and  
6 possibly ways of improving low activity waste  
7 disposal, and management, and regulation.

8 And when you look at the report, you will  
9 see that they made four findings, the first of which  
10 is that the current statutes and regulations provide  
11 adequate protection. I think that was something that  
12 we were all looking for, and obviously we have  
13 concluded that it provides adequate protection.

14 But the finding goes on and identifies  
15 that it may be less workable in the future. It refers  
16 to it as a patchwork approach, which when you look at  
17 the overlap of the legislation that we have, that is  
18 a word that does come to mind.

19 The second finding is that it is a complex  
20 system, and that a more consistent and simpler  
21 performance based, risk informed approach is  
22 desirable.

23 The third finding is that some categories  
24 have not received consistent regulatory oversight, and  
25 it calls out norm and t-norm, uranium thorium and

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1 things like that as an example.

2 And then the fifth one is that current  
3 regulations are not based on a systematic  
4 consideration of risk. We did get a little bit of a  
5 briefing on this, and the committee has funding to  
6 start the second report, but not enough to finish it.

7 So I think that they are going to be  
8 looking around for some more funding as part of this  
9 process, and Dr. Ryan probably knows more about that  
10 than I do.

11 But it is a topic that we should follow,  
12 and at some point in time it would probably be good to  
13 have the committee, and I don't know how Dr. Ryan does  
14 that, but it comes in and briefs the group. Have they  
15 been in here and briefed on this topic in the past?

16 Well, it is one that we are certainly  
17 following. We provided funding for this, the  
18 Department of Energy did, and I think the Southern  
19 States Energy Board did.

20 They also have received funding from the  
21 French Government, and the Japanese Government. There  
22 is a lot of interest in this topic. I took a trip to  
23 France and looked at the Louvre facility, and some of  
24 the others which are world-class facilities.

25 The French have a facility there that

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1 looks like the designs that we came up with back in  
2 the '80s and that we never really built. And life is  
3 a bit simpler in France, where it is pretty much  
4 government-owned and operated.

5 So in any event that is my understanding  
6 of the status, and Dr. Ryan can --

7 DR. RYAN: It is all set, John.

8 MR. REAMER: Well, we will follow it, and  
9 we appreciate your work, and we will look to further  
10 discussions on this. So I just wanted to let the  
11 committee know that.

12 CHAIRMAN GARRICK: John, where is the  
13 energy coming from to deal with this question of low  
14 level waste disposal capacity, and what is the NRC's  
15 role? It sounds like a very looming serious problem,  
16 and it is very fuzzy to me as to what we are doing  
17 about it.

18 MR. GREEVES: It is kind of a three-  
19 dimensional chess game is what it is. My view is that  
20 the NRC responsibility is public health and safety.  
21 And we have a set of regulations to regulate the  
22 commercial sector, and the committee concludes current  
23 statutes and regulations provide adequate protections.

24 So our Part 61 disposal regulations are  
25 requirements of how you store waste, and how you

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1 package it, et cetera, all seems to be working as long  
2 as there is a through put system, being disposal  
3 capacity.

4 If you look around the world the countries  
5 that are having trouble are the ones that don't have  
6 disposal capacity; Canada, Germany, Italy. They don't  
7 have any disposal capacity. They store.

8 Well, again, the NRC's responsibility is  
9 safety, and my view is that we have demonstrated  
10 internationally that we know how to dispose of waste,  
11 and in this country we currently have disposal  
12 capacity.

13 So I think we would look to the results of  
14 this report on any improvements of that process. But  
15 the actual issue of disposal capacity resides in the  
16 various pieces of legislation.

17 The politics within States in compacts.  
18 I mean, if you look at what is going on with the  
19 reactor at San Onofre, you know, why does this thing  
20 have to move from the West Coast to the East Coast,  
21 which by the way is not all that easy either.

22 So, you asked the question about the  
23 looming issue. Two or three times a year, I go to  
24 these low level waste meetings, and I went last year,  
25 and everybody looked around the room and said there is

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1 no disposal capacity issue. That was a year ago.

2 Now, I just reported to you in one  
3 quadrant, being Barnwell, things are tightening up.  
4 It doesn't surprise me, but then you have to evaluate  
5 what is going on in Texas.

6 Texas put through legislation and of  
7 course we have seen this before. The skeptics out  
8 there say, well, we have seen a lot of these go  
9 forward before. But in any event, Texas just put in  
10 legislation for two facilities, one a commercial, and  
11 one a DOE facility, and they are writing their  
12 regulations.

13 So on one hand, you have that in front of  
14 you that could come along and help fill out the  
15 disposal capacity issue. The committee, I am sure, is  
16 aware of this also in Utah, which right now is the  
17 workhorse for Class A waste.

18 They actually have a license for B and C  
19 waste, which is the category that is going to be  
20 suffering with Barnwell's volume shutting down. But  
21 that license actually has never been implemented  
22 because they need -- and I am not an expert on the  
23 next steps, but I think it is the Governor's approval,  
24 and they need one legislative approval.

25 DR. RYAN: It is a legislative step as

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1 well.

2 MR. GREEVES: Yes, there is a couple, and  
3 which have never occurred. And they are doing a  
4 study. So depending on how much you worry about  
5 things like this, if you are an optimist, you could  
6 say, well, Envirocare is going to come along in a few  
7 years, and Texas will have something, and the  
8 destination will shift with the velocity. Dr. Ryan.

9 DR. RYAN: John, you have done a great job  
10 of summarizing it, and I think it his important to  
11 realize that it is not so much a strict capacity  
12 issue, but it is access to the capacity, because the  
13 access really -- I mean, it is not a question of  
14 having space in a disposal facility.

15 It is a matter of a political decision or  
16 some other type of decision that either allows or  
17 disallows access. Barnwell, for example, has  
18 volumetric capacity under the license to go past what  
19 the restrictions that are now in place.

20 You know, Envirocare has capacity and  
21 Texas is at least as you have highlighted in the early  
22 stages of capacity. So it is not so much strictly  
23 capacity as it is access to existing capacity, and  
24 again I think you recognize, too, that all during this  
25 period the generation of volume of low level

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1 radioactive waste has dropped dramatically.

2 MR. GREEVES: But the curies are still  
3 there.

4 DR. RYAN: The curies are still there, but  
5 the volume is not, because the curies are in the Class  
6 C hardware for the most part.

7 MR. GREEVES: Correct.

8 DR. RYAN: But well said, It is a good  
9 summary. But I really think that the focus is not so  
10 much capacity of new sites as access to capacity, and  
11 whether it is a new or an old site.

12 MR. GREEVES: It is probably a better  
13 word.

14 DR. RYAN: But at the same time the  
15 General Accounting Office is looking again at this  
16 topic. They did a report and I think it was a good 3  
17 years ago, and made some conclusions at the time that  
18 the compacting process was not working to satisfy this  
19 issue.

20 That it could be Federalized, or we could  
21 just limp along the way we are now. Now, they really  
22 weren't hard conclusions in that report as I recall,  
23 but they are back looking at it again. So they are  
24 quite interested in the Academies' study and I am sure  
25 they will be interested in what is going on at

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1 Barnwell, and Envirocare, and Texas.

2 But again it is sort of like a judgment  
3 call. The bottom line is that we have safe storage  
4 and disposal of radioactive waste in this country in  
5 the commercial sector.

6 And I think the Academy much said that  
7 that in the short term in their findings, and whether  
8 we 5 or 10 years from how will be in trouble with  
9 another, let's say, wave of decommissioning activities  
10 in the reactors, and that is the question.

11 CHAIRMAN GARRICK: Well, of course I  
12 realize that the NRC's responsibility is to health and  
13 safety, but it seems to me that there is an inherent  
14 accountability there that says that if the NRC has big  
15 worries, somehow those worries ought to be made known  
16 to somebody, Congress or whomever, and if our health  
17 and safety perspective is a proactive one.

18 MR. GREEVES: But let me just -- and I am  
19 talking for me and not for the Commission, but are the  
20 worries big?

21 CHAIRMAN GARRICK: Well, the only reason  
22 I picked up on it is that you started off your  
23 discussion on low level waste that there is -- that as  
24 an issue that disposal capacity was an issue.

25 MR. GREEVES: Yes. And at the same time

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1 how worried you are about that is tempered by what  
2 went on in Michigan for years. I mean, they stored  
3 waste for -- Dr. Ryan, you will remember for a long  
4 number of years, and the Canadians have no disposal  
5 capacity.

6 They store waste. So it is not on face a  
7 health and safety issue, but it certainly is  
8 preferable to have disposal capacity. And the problem  
9 with storage is that it is an opportunity for stuff to  
10 leak through the floor boards and go into the ground,  
11 which is one of the other topics that I talked about,  
12 about the legacy of poor storage conditions.

13 CHAIRMAN GARRICK: Ruth.

14 DR. WEINER: I am very interested that the  
15 compact of modes seems to be under consideration, and  
16 I think that is a good idea. I was one of the authors  
17 of Initiative 383 in Washington State, which led to  
18 the 1980 Act.

19 And the compact seemed like a good idea at  
20 the time. There was precedent for interstate  
21 compacts, and it has turned out to be a real headache  
22 for this, because it kind of ups a lot of the antes.

23

24 I was wondering if this is a good place to  
25 apply risk insights, because Mike is quite right. The

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1 problem is not capacity. It is access to capacity,  
2 and the whole compact structure came into being before  
3 we were considering risk.

4 In fact, the Act was passed before EPA  
5 started to look even at risk-based regulations. So I  
6 would suggest that perhaps that you can break some of  
7 this access impasse by looking at risk considerations.

8 MR. GREEVES: I am amenable to that, but  
9 we just need --

10 DR. WEINER: I don't know how you can get  
11 this started, and I am very gratified that the GAO is  
12 looking at Federalizing the process, rather than  
13 having it be on a State-by-State, compact-by-compact  
14 basis, because those compacts have been turned into a  
15 nightmare.

16 MR. GREEVES: I will just leave that one  
17 in. I think that individually that risk insights can  
18 go a long ways towards helping you understand what the  
19 right thing to do is, but it also is a political  
20 issue, and that results in things like reactors moving  
21 from San Onofre, or at least the plan is to move from  
22 San Onofre all the way around the horn, and back up  
23 the East Coast, because there is no access to that  
24 utility on the West Coast.

25 So I expect that we will talk more about

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1 this in future meetings. I think in one way or  
2 another that I have covered all my notes. So I am  
3 happy to go to other issues if there is something else  
4 on your mind, or to go back on one of these.

5 CHAIRMAN GARRICK: Any questions? George?

6 DR. HORNBERGER: No.

7 CHAIRMAN GARRICK: You know, one thing  
8 that we keep hearing, John, when you talk to us is  
9 about West Valley, and the Committee has written a  
10 letter on that some time ago, but we have always  
11 struggled a little bit as to what or how we can make  
12 a contribution there.

13 So you don't need to respond to it, but if  
14 there is any specific issues that the committee can  
15 advise you on, we would certainly appreciate that.

16 MR. GREEVES: Good. We will take a look  
17 at it, and maybe talk to John Larkins about it. The  
18 thing that is going to happen is we are going to  
19 effectively get a decommissioning plan for that major  
20 site.

21 CHAIRMAN GARRICK: Yes.

22 MR. GREEVES: And it is bigger than  
23 anything else I have ever -- it is not Yucca Mountain,  
24 but it is bigger than anything else that I have looked  
25 at.

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1 CHAIRMAN GARRICK: I see.

2 MR. GREEVES: It is more complicated, and  
3 we have looked at the tanks at Idaho and Valley River,  
4 but we only looked at them in a kind of small way. We  
5 are responsible for looking at the whole site here,  
6 and responsible for participating in the EIS.

7 So it is probably the biggest  
8 decommissioning project that I have faced as a  
9 regulator. So I enjoy the interaction with you, and  
10 we will think about it and ways to engage on that.

11 MR. LARSON: I was going to say that the  
12 one thing that the committee has been told is that  
13 once they got the performance assessment, whenever  
14 that comes in, that that might be something that the  
15 staff would talk to the committee about as far as one  
16 for a very complex site, because the committee has  
17 never really heard how the rules, the reason the rules  
18 apply to a complex site.

19 CHAIRMAN GARRICK: Is that a site-wide  
20 performance assessment?

21 MR. GREEVES: Yes, it is. It is going to  
22 have to include -- and in fact we need to  
23 understanding what is the contribution of the State  
24 disposal area, if there were any, to the North  
25 Plateau. So it is a site-wide -- and you have to do

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1 this for the environmental impact statement.

2 You don't have to necessarily do our  
3 licensing to include that, but for the EIS, you have  
4 to account for what is in the neighborhood, and this  
5 site has the State disposal there, which is one of the  
6 old low level waste disposal sites.

7 It is also what we can the NDA, which is  
8 an on-site disposal site has quite a few queries in  
9 it. So like I said, it is going to be a challenge for  
10 us, and there may be wisdom in carrying on a dialogue.

11 DR. HORNBERGER: So, John, the NRC is  
12 participating in the EIS, a participant in the EIS?

13 MR. GREEVES: Yes, we are cooperating.

14 DR. HORNBERGER: So what does that mean?  
15 Does that mean that you have staff people who are  
16 working on the EIS?

17 MR. GREEVES: Yes. The Department of  
18 Energy and NISERDA are the -- well, the Department of  
19 Energy is the lead Federal Agency. So they are  
20 writing the EIS, and cooperating agencies come in and  
21 in their area of expertise lend to that review  
22 process.

23 DR. HORNBERGER: So what area of expertise  
24 are you lending?

25 MR. GREEVES: Well, the regulatory

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1 performance assessment.

2 DR. HORNBERGER: So a fraction of an FTE,  
3 an FTE?

4 MR. GREEVES: Oh, no, no. It is several  
5 FTE.

6 DR. HORNBERGER: Okay.

7 MR. GREEVES: It is a substantive effort.

8  
9 DR. WEINER: I think you answered the  
10 question. Performance assessment is going to be part  
11 of the EIS?

12 MR. GREEVES: You have to do it to  
13 understand what is going on, yes.

14 DR. WEINER: So it will actually be a  
15 chapter in the EIS, or a section, or something?

16 MR. GREEVES: I am not that close to it,  
17 but it is going to be in there. There will be --  
18 there is somebody in the room that works on this, but  
19 I think we will come back and probably give you a  
20 little better briefing on the details.

21 MR. LEE: In the past both the staff here  
22 and at the center have been helping to develop the  
23 computational modules for the EIS, and it is a pretty  
24 sophisticated model that they are trying to develop,  
25 and with a shallow water table, and a landscape

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1 evolution. It is a pretty interesting site.

2 MR. GREEVES: And the EIS is really just  
3 a piece of this, because we actually hold the license  
4 for this piece of real estate, and ultimately we are  
5 going to have to take some kind of licensing action on  
6 it.

7 And we have asked the Department together  
8 to essentially a decommissioning plan, and the license  
9 is in abeyance at this time. But we are going to need  
10 a tool to take the licensing action. We asked the  
11 Department would you at least follow the same kind of  
12 procedures that we do for reactor decommissioning, and  
13 large site decommissioning.

14 And they saw the wisdom of that, and they  
15 said, yes, we will put together in addition to the EIS  
16 a decommissioning plan that essentially does the same  
17 thing that we are doing at reactor decommissioning  
18 sites, and complex decommissioning sites, because it  
19 will be the basis ultimately for us to make a  
20 licensing decision.

21 CHAIRMAN GARRICK: Any other questions?  
22 Well, John and Bill, you have distinguished yourself  
23 well by honoring our schedule. We are right on  
24 schedule. So thank you very much.

25 MR. GREEVES: Thank you for the time.

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1                   CHAIRMAN GARRICK: I guess that ends our  
2 court-reporting requirement does it not? So we are  
3 off the record now.

4                   (Whereupon, at 9:30 a.m., the meeting was  
5 concluded.)

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