

**NUCLEAR REGULATORY COMMISSION**

**Revised**

Title: Advisory Committee on Nuclear Waste  
159th Meeting

Docket Number: (not applicable)

PROCESS USING ADAMS  
TEMPLATE: ACRS/ACNW-005

Location: Rockville, Maryland

SISP REVIEW COMPLETE

Date: Monday, April 18, 2005

Work Order No.: NRC-337

Pages 1-178

**Revised**

NEAL R. GROSS AND CO., INC.  
Court Reporters and Transcribers  
1323 Rhode Island Avenue, N.W.  
Washington, D.C. 20005  
(202) 234-4433

TRO8

**ACNW OFFICE COPY - RETAIN FOR  
THE LIFE OF THE COMMITTEE**

ORIGINAL

DISCLAIMER

UNITED STATES NUCLEAR REGULATORY COMMISSION'S  
ADVISORY COMMITTEE ON NUCLEAR WASTE

April 18, 2005

The contents of this transcript of the proceeding of the United States Nuclear Regulatory Commission Advisory Committee on Nuclear Waste, taken on April 18, 2005, as reported herein, is a record of the discussions recorded at the meeting held on the above date.

This transcript has not been reviewed, corrected and edited and it may contain inaccuracies.

1 UNITED STATES OF AMERICA  
2 NUCLEAR REGULATORY COMMISSION

3 + + + + +

4 ADVISORY COMMITTEE ON NUCLEAR WASTE

5 (ACNW)

6 159<sup>TH</sup> MEETING

7 + + + + +

8 MONDAY,

9 APRIL 18, 2005

10 + + + + +

11 ROCKVILLE, MARYLAND

12 + + + + +

13 The Advisory Committee met at 1:30 p.m. in  
14 Room T-2B3 of the Nuclear Regulatory Commission, Two  
15 White Flint North, 11545 Rockville Pike, Dr. Michael  
16 T. Ryan, Chairman, presiding.

17  
18 COMMITTEE MEMBERS:

19 MICHAEL T. RYAN, Chairman

20 ALLEN G. CROFF, Vice Chairman

21 JAMES H. CLARKE, Member

22 WILLIAM J. HINZE, Member

23 RUTH F. WEINER, Member  
24  
25

## 1 ACNW STAFF PRESENT:

2 NEIL M. COLEMAN

3 JOHN FLACK

4 LATIF HAMDAN

5 JOHN T. LARKINS

6 MICHAEL LEE

7 RICHARD K. MAJOR

8 RICHARD SAVIO

9 MICHAEL L. SCOTT

10 SHARON STEELE

11  
12 NRC STAFF PRESENT:

13 ANDY CAMPBELL, NMSS

14 LARRY CAMPER, NMSS

15 SCOTT FLANDERS, NMSS

16 JAMES KENNEDY, NMSS

17 BILL REAMER, NMSS

18 JIM RUBENSTONE, NMSS

19 ASHOK THADANI, Deputy Executive Director for  
20 Operations

## A G E N D A

## NMSS DIVISION DIRECTOR'S QUARTERLY PROGRAM

UPDATE . . . . . 3

Mr. Bill Reamer

LOW LEVEL WASTE ANNUAL UPDATE . . . . . 30

Mr. Lawrence Camper

## ACNW WHITE PAPER ON LOW-LEVEL RADIOACTIVE

WASTE . . . . . 82

## DISCUSSION OF APRIL 14-15, 2005 VISIT TO

## THE CENTER FOR NUCLEAR WASTE REGULATORY

ANALYSES (CNWRA) . . . . . 123

ADJOURN . . . . . 178

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

(1:31:26 p.m.)

CHAIRMAN RYAN: The meeting will come to order. Bill Reamer, welcome. We're here for the NMSS Division Director's Quarterly Program Update. Welcome.

MR. REAMER: Okay. Good to see everyone. As I go through my items, please feel free to interrupt me as we go along. I want to make sure that you get the information you expect from me.

The status of our activities all are oriented around the completion of pre-licensing, consultation activities with the Department in anticipation of a license application, which they have told us they will be prepared to submit in December of this year. That means conducting a review of the license application, that means formulating a position with respect to adopting the Environmental Impact Statement for the Yucca Mountain Repository, and that means preparation for adjudicatory hearings before the Licensing Board.

Also, we anticipate the need to be ready to conduct a limited amount of inspection activities aimed at supporting the license application review, including the capability to be able to respond to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1       allegations that we receive once we get the license  
2       application, assuming we reach a favorable decision to  
3       docket and do the review.

4               Also, we anticipate ongoing performance  
5       confirmation activities being carried out by the  
6       Department, and an expectation that we will want to be  
7       involved, at least in terms of monitoring those  
8       activities, as well as continuing our own development  
9       of understanding.

10              And related to the repository, of course,  
11       are the activities in the Spent Fuel Project Office,  
12       which involve review of the transportation packages  
13       the Department will need to use in order to transport  
14       fuel from defense sites, and potentially as well as  
15       commercial sites to the repository.

16              And in that connection, you're aware and  
17       hopefully have received, or will receive current  
18       status of our package performance study activities, in  
19       which the NRC would carry out a limited amount of  
20       testing activities related to developing confidence  
21       with respect to transportation packages.

22              As I said, our assumption is a license  
23       application that the Department would be ready to file  
24       in December of 2005. We also assume that EPA will  
25       issue a proposed revision to the Yucca Mountain

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 standard, which I'll say more about in a minute.  
2 Sometime in FY 2005, our understanding based on the  
3 reports we've seen is that EPA is shooting for a  
4 proposed rule in the summer of this year. And then a  
5 final rule after comments have been received on that  
6 rule evaluated, as well. And then we will need to  
7 make changes to our own regulation, Part 63; because,  
8 as you know, the law requires us to be consistent with  
9 the Environmental Protection Agency Yucca Mountain  
10 Standard. So we will need to do that, make those  
11 changes to our Part 63 hopefully in parallel with the  
12 EPA, rather than waiting until EPA has issued a final  
13 rule before we commence any rulemaking activity.

14 Once we get the license application, we  
15 will first make a decision whether to docket that  
16 application. And also, as I said, whether to adopt  
17 the final Environmental Impact Statement. If we make  
18 a decision to docket the application, we will commence  
19 a safety review that we have set and have planned for  
20 completing in 18 months.

21 One question that may be on people's mind  
22 is, do you anticipate a delay in the license  
23 application? And my answer to that is what we have  
24 been told by the Department is a license application  
25 in December of 2005. There, obviously, are

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1       uncertainties related to that, uncertainties  
2       associated with the Department's obligation to certify  
3       documents on the licensing support network;  
4       uncertainties associated with the Environmental  
5       Protection Agency activities in revising the Yucca  
6       Mountain Standard; uncertainties with respect to  
7       allegations, concerns related to data provided by  
8       certain USGS scientists to the Department. And,  
9       obviously, also concerns related to budget, which  
10      always play a role in what activities can be carried  
11      out. But since the Department has said their schedule  
12      is December, 2005, that's what we are planning for;  
13      that's what we have to be ready to handle.

14               If there were a delay, we would look in  
15      various areas to make progress to use that delay to  
16      our advantage. One would be with respect to the EPA  
17      Standard, and the anticipation that additional  
18      activities will be required of the Department and of  
19      us based on what that standard proves to be. So I  
20      would say work activities associated with the EPA  
21      Standard would be one thing that would continue,  
22      notwithstanding a delay.

23               Also, there may well be developments with  
24      respect to the allegations on USGS that would result  
25      in the Department completing the activities that they

1 plan to complete, and that may provide information  
2 that we would want to look into, and prepare ourselves  
3 for issues that will end up on our plate because of  
4 these allegations.

5 Certainly, there are also lingering issues  
6 related to the key technical issues, the bulk of which  
7 we have reviewed and replied to the Department, but  
8 there are a small number of key technical issue  
9 agreements that still have open items that we would  
10 want to follow-up on with the Department. And in the  
11 pre-closure and design area, as well, my expectation  
12 is that activities could continue there because the  
13 state of those activities is not at the same state as  
14 the post-closure activities, just because as a matter  
15 of historical practice there was priority given to the  
16 post-closure, rather than the pre-closure on the  
17 Department's part.

18 Also, we want to continue our outreach  
19 activities, our information activities with respect to  
20 the people in Nevada who continue to have questions,  
21 including what are the impacts and significance of a  
22 delay in the license, and how will this affect NRC's  
23 review. So we have requests from Inyo County to  
24 already come and talk to them, because there are new  
25 County Commissioners in Inyo County, and so the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 expectation is we will continue to have a need to  
2 provide high-level waste communication activities, an  
3 ongoing need.

4 If we can, we would be looking to  
5 ultimately maintain the Yucca Mountain team, and that  
6 might be, assuming how much notice we get of delay,  
7 that might include options, such as being able to  
8 situate high-level waste staff working on non-high-  
9 level waste topics, non-high-level waste work;  
10 adjusting our own hiring activities in light of  
11 information on a delay. But both of those will take  
12 advance notice from the Department in order to be able  
13 to respond to them.

14 Turning then to the EPA Standard - as I've  
15 said, the information we have is that EPA will issue  
16 a proposed revision to the standard sometime this  
17 summer. EPA has the responsibility to issue the Yucca  
18 Mountain Standard. The Court of Appeals decision set  
19 aside a portion of their standard. That had the  
20 practical impact of invalidating that portion of our  
21 standard, the 10,000-year compliance period, but with  
22 respect to that, our standard is based on the EPA  
23 Standard, so the ball is really in EPA's court.

24 We understand they are considering options  
25 for revisions to the standard. There is an EPA docket

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 that has been established on the EPA website with  
2 respect to their activities. We want to continue to  
3 stay in touch with what they're doing, because it  
4 impacts what I suggested was at the staff level, our  
5 aim, which is to move in parallel with EPA in revising  
6 our regulations.

7 Moving on to a couple of additional  
8 related topics, the --

9 CHAIRMAN RYAN: Bill, just before you step  
10 away from the EPA Standard, is there any -- I mean, I  
11 realize we're in a very preliminary stage. Is there  
12 any shape in terms of the technical aspects of what's  
13 forthcoming, or is it too early to be asking that  
14 question?

15 MR. REAMER: Well, my understanding is EPA  
16 is considering the options. Of course, at a staff  
17 level, our view would be if it were legally  
18 permissible, the 10,000-year compliance period is  
19 adequate to protect public health and safety is the  
20 right standard to be applied to Yucca Mountain.

21 Also, according to interactions that the  
22 administration and EPA has had with stakeholders, it's  
23 our understanding other options being considered  
24 relate to a possible standard that would include a  
25 10,000-year provision, and then a separate provision

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 with respect to peak dose. And there may be other  
2 non-quantitative options that are on the table, as  
3 well.

4 CHAIRMAN RYAN: So there's perhaps a  
5 quantitative, as well as this new qualitative kind of  
6 thinking for peak dose.

7 MR. REAMER: I think at this point,  
8 they're looking at a range of options. That's my  
9 understanding. Until the proposed rule is issued,  
10 it's really speculative which option they choose to  
11 pursue.

12 CHAIRMAN RYAN: Oh, I know. I realize  
13 that that's true, but it's interesting the range  
14 you've outlined is helpful. Thanks.

15 MR. REAMER: Sure.

16 MEMBER HINZE: Following up on that, if I  
17 might; is the -- I understand that the EPA will be  
18 holding hearings. Do you know when those will  
19 commence, and will NRC be involved in these in any  
20 way?

21 MR. REAMER: Are you talking about after  
22 the rule is proposed?

23 MEMBER HINZE: After it is proposed,  
24 right.

25 MR. REAMER: Okay. I don't have specific

1 information on that. I would not be surprised if EPA  
2 held hearings, meetings - I'm not sure what term they  
3 use; perhaps it's hearings - during the public comment  
4 period. They did that, my recollection, when they  
5 issued Part 197. It's a very good way to inform the  
6 public about what's being proposed. It's a very good  
7 way to receive public comments, which they will,  
8 obviously, be interested in getting. So I wouldn't be  
9 surprised if they would hold public hearings during  
10 the comment period.

11 MEMBER HINZE: The changes that we might  
12 anticipate to 63, will those also be by rulemaking?

13 MR. REAMER: They will require rulemaking,  
14 yes. And so, something we would want to consider,  
15 which sometimes I don't follow the path as quickly as  
16 others, would be to be involved in those hearings with  
17 EPA because they would relate to and involve our own  
18 proposed regulation to be consistent with EPA, would  
19 be the right way, I would think off the top of my  
20 head, the right way to provide to the public the true  
21 nature of the proposals that the two agencies are  
22 making.

23 MEMBER HINZE: We learned last week at the  
24 center that TSPA 501 is making provision for the out  
25 years from 10,000-years as part of those changes. Are

1 there any other things that are being done to prepare  
2 yourself for whatever the EPA comes up with?

3 MR. REAMER: Well, we're certainly looking  
4 at what provisions in our own regulations would need  
5 to be changed. The documents that would be associated  
6 with that process, whether they range, obviously, from  
7 the notice of proposed rulemaking, to the commission  
8 paper that will obviously be involved, associated with  
9 that. So we want to be ready to move in parallel with  
10 EPA.

11 The main issue here involves the EPA  
12 Standard, but we have to be consistent with that  
13 standard, so to the extent that we can move in step  
14 with EPA, I think that's desirable for us to do that.

15 MEMBER HINZE: Thank you.

16 MR. REAMER: A couple of other items I  
17 want to mention. There are two petitions that the  
18 State of Nevada has filed; one was filed - and they  
19 both involve rulemaking. One was filed in March. It  
20 requested the Commission to revisit the Commission's  
21 Waste Confidence decision. I believe the Committee --  
22 I don't know whether this committee membership has  
23 been recently briefed on waste confidence, but I know  
24 in the past we have provided information to the  
25 committee on the waste confidence proceeding. But the

1 state is proposing that the Commission undertake a  
2 process that would change the current generic  
3 findings, and issue a new generic finding that there's  
4 reasonable assurance that all licensed spent fuel will  
5 be removed from storage sites to some acceptable  
6 disposal site before storage of spent fuel causes any  
7 significant safety or environmental impact. The NRC  
8 has that petition, obviously, under consideration.  
9 The ball is in our court to decide on the next step  
10 with respect to the petition.

11 Also, recently the state submitted a  
12 petition on April 8 to amend our NEPA, National  
13 Environmental Policy Act regulations, Part 51, and  
14 we're looking at that petition, as well. I'm not  
15 intimately familiar with the details of the petition,  
16 and I'm not sure -- I believe I saw a copy of a piece  
17 of correspondence that at least the Committee has been  
18 informed of the petition by the state, because of your  
19 own planned activities. But a quick read; it appears  
20 the state is arguing that the current regulations need  
21 to be changed in order to be consistent with the  
22 National Environmental Policy Act, so that would  
23 require a review by us, including a legal review, of  
24 the arguments being made in support of the April 8  
25 petition by the state.



1 Addressing the environmental area, the  
2 Department of Energy, as we know, issued a record of  
3 decision based on the Yucca Mountain Repository about  
4 a year ago to move forward with the Caliente rail  
5 corridor proposal. They've also issued a notice of  
6 intent to do an Environmental Impact Statement. We  
7 expect a draft of that statement will be issued this  
8 fiscal year. That decision, the state is contesting  
9 in the Court of Appeals.

10 MEMBER WEINER: Before you go any further,  
11 what is NRC's role in a routing decision like that to  
12 proceed with Caliente corridor and issue an EIS?

13 MR. REAMER: Yes. Our basic role here  
14 relates, I think, to first off, the adoption of the  
15 repository EIS. The activities that the Department  
16 proposes to take with respect to transportation, we  
17 need to monitor those, because if there is any  
18 information that would be regarded as new, significant  
19 new information that would have a substantial impact  
20 on the acceptability of the repository EIS, then that  
21 would relate to our adoption decision. So our role is  
22 clearly to monitor what's going on in the rail  
23 corridor EIS, so that we're informed and prepared for  
24 potential questions that might arise on the impact of  
25 that activity on the repository EIS.

1 MEMBER WEINER: So you really consider  
2 this proposed EIS on the rail corridor as part of the  
3 Part 51 EIS.

4 MR. REAMER: The adoption decision that we  
5 will need to make relates to the repository EIS. One  
6 of the reasons that our regulations layout or set-out  
7 as a reason why we would not be able to adopt is if  
8 there is significant new information that goes to the  
9 environmental bottom-line. So the rail corridor EIS,  
10 as design activities -- really all of what DOE is  
11 doing potentially relates to that can we adopt the  
12 repository EIS. In that sense, the rail corridor EIS  
13 is not part of the repository. It's a separate EIS,  
14 but clearly, it's relevant to our adoption decision  
15 for the repository EIS.

16 MEMBER WEINER: Thank you.

17 MR. REAMER: I wanted to talk a little  
18 about quality assurance, because it's very much a  
19 topic of interest. We've consistently told the  
20 Department our expectation is that the license  
21 application be complete and of high quality. A  
22 quality license application includes data, models, and  
23 software that are reliable, transparent, and  
24 traceable.

25 Historically, the Department has had

1 problems in the QA area. They have done a good job  
2 generally in identifying problems. They've had a more  
3 difficult time in fixing those problems, so that they  
4 don't recur.

5 Last year we conducted a field activity  
6 that resulted in giving the Department our own  
7 independent evaluation of certain analysis model  
8 reports, and how they compared to our expectations on  
9 quality. As a result, the Department engaged in an  
10 integration review of a lot of its technical  
11 information. And post-closure, our understanding is  
12 they're considering the same kind of review with  
13 respect to their pre-closure documents.

14 We think that the Department believes it  
15 understands its QA issues, and that it's working to  
16 solve those, so that we can have confidence that the  
17 future activities for the repository, future design  
18 activities, perhaps even extending out beyond design,  
19 are conducted pursuant to a QA program that's sound  
20 and adequately implemented.

21 CHAIRMAN RYAN: Bill, just a quick  
22 question there. We had a briefing on this topic, and  
23 as I recall, and correct me if I'm wrong, somebody -  
24 but the DOE had done a lot of programmatic  
25 improvements to their quality program as a result of

1 your examination of data sets, and data packages, and  
2 so forth, and they had done improvements to their  
3 processes and systems. And I asked if there was any  
4 planned test of those improvements, was there going to  
5 be a second review or another round of evaluations.  
6 And, of course, with the then impending end of the  
7 year in 2004, that didn't seem like it would fit, but  
8 I wonder have you thought about doing anything in that  
9 area now?

10 MR. REAMER: We don't have current plans  
11 to conduct another field-type activity. That was not  
12 in our planning, obviously, for '05 we expected to  
13 have a license application. It's something that I  
14 wouldn't totally rule out based on the recent  
15 activities involving USGS allegations, but at present,  
16 we don't have plans for additional in-field  
17 verification-type activities.

18 CHAIRMAN RYAN: Okay. Thanks.

19 MEMBER HINZE: If I may; you mentioned  
20 KTIs. I am curious how you're approaching the  
21 resolution of KTI open items with the DOE. Are you  
22 meeting with DOE? Are there interchange of letters?  
23 Are there technical sessions going on? How are you  
24 approaching these, and what are the critical KTIs that  
25 are left open in your mind?

1 MR. REAMER: We're still operating under  
2 the understanding that existed in the second-half of  
3 last year, in that our goal is to provide feedback to  
4 the Department on all of the key technical issue  
5 agreement responses that they finished providing to us  
6 in late August/early September time frame.

7 We set as our first goal to provide  
8 feedback on the 40 or so high-significance agreements.  
9 We completed that sometime in January. My  
10 recollection, obviously, is igneous remains a high-  
11 significant agreement where we still have outstanding  
12 issues to work. There may be some TSPA-related  
13 issues, as well. I can't give you a specific answer  
14 with respect to what issues remain open with respect  
15 to the highs.

16 What we've heard recently is that the  
17 Department may be able to interact with us, in light  
18 of the fact that the license application date is now  
19 December. They want to interact with us on some of  
20 the specific KTI follow-up items that have been left  
21 open, but what we are operating under really is the  
22 understanding they gave us last summer; which is, that  
23 they would intend to address our feedback, any  
24 feedback in the license application, and not prior to  
25 the application. So a long-winded way of saying

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 they've told us that our feedback will be addressed in  
2 the license application. We have heard indications  
3 that they may want to, on specific agreements, meet  
4 before then.

5 MEMBER HINZE: If I might also, on these  
6 pre-closure issues, could you enlighten us a little  
7 more in terms of what kind of issues you're talking  
8 about, and what are the ones that are principally on  
9 your plate?

10 MR. REAMER: Yes. We gave DOE a letter  
11 last October, and identified four or five issues, the  
12 aircraft crash issue - I think we've probably provided  
13 that letter to you. Since then, we've continued to  
14 interact with DOE. We've urged the Department to put  
15 itself in a position of being able to support public  
16 interactions on pre-closure. What that will take,  
17 however, is for the Department to complete documents,  
18 because we want our interactions with the Department  
19 as they relate to pre-closure documents to be with  
20 respect to documents that are public, so we have an  
21 expectation that there will be interactions and  
22 meetings with the Department, but we don't have a firm  
23 schedule at this point with respect to specific  
24 interactions on specific dates.

25 MEMBER HINZE: These primarily deal with

1 waste-handling facilities?

2 MR. REAMER: Including waste-handling,  
3 that's right.

4 MEMBER HINZE: Are there any design  
5 aspects of the structure of the repository itself that  
6 are involved in that?

7 MR. REAMER: Yes. Let me see if I can get  
8 some help from staff that are here.

9 MR. KOKAJKO: Lawrence Kokajko, Deputy  
10 Director of High-Level Waste. Part of the problem  
11 that we had, if you've read the October letter, was  
12 the fact that there was a paucity of design  
13 information that we've been able to review thus far.  
14 And DOE has acknowledged that, and are working  
15 diligently to provide that.

16 We also have looked at other issues that  
17 we think could be coming out of that fuel-handling and  
18 aging facility area. If, for example, crane placement  
19 and movements, repackaging of fuel, what it takes to  
20 repackage in this particular environment, looking at  
21 ventilation, perhaps a nitrogen blanket within the  
22 cells themselves, and other related topics. But right  
23 now, we don't have a lot of information to go on, but  
24 we are looking at that now. And we are interacting  
25 with DOE as they begin to get more information

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 available to us.

2 MEMBER HINZE: And you anticipate getting  
3 more information before the license application, or  
4 will this be in the license application? What's the  
5 outcome? Excuse my ignorance, but --

6 MR. KOKAJKO: It will be in the license  
7 application, but we also expect that DOE will provide  
8 more information between now and LA. And we hope to  
9 have technical exchanges on some of these topics.

10 MEMBER HINZE: Great. Thank you very  
11 much.

12 MR. REAMER: And we've communicated to the  
13 Department, and I think at a management level, they  
14 agree that pre-licensing interaction with respect to  
15 pre-closure can help identify and resolve issues, just  
16 the way it's worked in post-closure. But first, the  
17 information needs to be made available publicly in  
18 order to have a fruitful interaction.

19 MEMBER HINZE: And you don't have any  
20 schedule on that forthcoming from the DOE.

21 MR. REAMER: We don't have a firm  
22 schedule. I believe that's correct.

23 UNIDENTIFIED: That is correct. We do not  
24 have a firm schedule.

25 MR. REAMER: Okay. So a couple of more

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 comments on the QA issue. We were informed March 11  
2 by the Department that the Department had discovered  
3 emails dated in the 1998-1999 time frame that  
4 suggested a failure to follow DOE Quality Assurance  
5 procedures by the United States Geologic Survey  
6 employees, as well as the possible falsification of  
7 records, and possible misuse of funds by USGS.

8 At that time, we were told by the DOE that  
9 the email related to data on infiltration of water  
10 from the surface to the underground, that the  
11 documents were discovered during the screening of  
12 documents by DOE associated with the NRC's licensing  
13 support network that the Department had notified its  
14 Office of Inspector General, and we, of course, later  
15 learned, also, that the Department of Interior  
16 Inspector General has been notified, and both are  
17 following up on investigatory activities.

18 The Department told us that they would be  
19 assessing the technical implications of the discovery  
20 on both their past activities related to site  
21 suitability, as well as on the license application.  
22 And that's pretty much where things stand there.

23 We will continue to monitor their  
24 activities. Obviously, as I said, this issue will end  
25 up with us, if there is a license application and a

1 review. And so we want to continue to monitor what's  
2 happening as the Department unfolds its follow-up  
3 activities on the USGS allegations.

4 The last topic I'll talk about - actually,  
5 I guess I have a couple. Well, we've already talked  
6 about pre-closure, so I think I don't really have  
7 anything more to offer there. But with respect to  
8 risk-informing our activities, we do continue to  
9 improve our understanding in the consequence modeling  
10 area of the TPA code, trying to make improvements.  
11 Obviously, the code and the usefulness of the code are  
12 important, not only with respect to the 10,000-year  
13 compliance period, but also if the compliance period  
14 goes to peak dose, we will rely on the tool to assist  
15 our own understanding and review with respect to a  
16 post-10,000-year activity.

17 We are looking at the code's usefulness  
18 with respect to peak dose, and whether there would be  
19 any aspects of the code that would render it not  
20 usable for peak dose. We haven't identified any such  
21 problems. Our modifications have focused on two  
22 areas, extending, as I said, the model to accommodate  
23 simulations greater than its current capacity, which  
24 is 100,000 years, and improving computational  
25 efficiencies.

1                   So that pretty much covers what I had  
2                   intended to talk about. Are there any questions with  
3                   respect to any of my comments?

4                   CHAIRMAN RYAN: Just one on our schedule,  
5                   Bill, if I may. Our letter-writing session this  
6                   morning ran a little long. We were going to consider  
7                   the time of period of compliance for a proposed  
8                   repository as an information exercise, and I think  
9                   we'll move that to our letter-writing session  
10                  tomorrow.

11                  Mr. Malsch was here earlier. He wanted to  
12                  leave, and he left because we rescheduled it at that  
13                  time for -- he'll be here tomorrow. So just a quick  
14                  schedule change there, and your presentation is  
15                  helpful in that regard. Thank you. Anything else,  
16                  any other questions?

17                  MEMBER HINZE: A quick one. TSPA 501,  
18                  when is that going to hit the street?

19                  MR. REAMER: Andy, could you help me on  
20                  that?

21                  MR. CAMPBELL: This is Andy Campbell. I'm  
22                  Chief of Performance Assessment Section for high-level  
23                  waste. Our planning right now is to have it ready for  
24                  the staff to evaluate issues with respect to the EPA  
25                  standard for the longer-term calculations, whenever

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 that occurs. Then having a code ready for us to be  
2 used in licensing, we're looking at the end of the  
3 year as having that ready for our ability to use it in  
4 licensing review. But right now, what we're focused  
5 on is making sure we can actually run the calculations  
6 out longer than 100,000 years.

7 MEMBER HINZE: In just a mechanistic  
8 fashion, not necessarily changing of parameters and  
9 coupling, and so forth.

10 MR. CAMPBELL: What we're looking at are,  
11 we have been evaluating the parameter inputs to TPA  
12 and making sure that there's a technical basis for  
13 those inputs, but that's been an ongoing process that  
14 we started last year. But we also intend to have that  
15 completed the same time that the code is ready to be  
16 run at these long time frames.

17 MEMBER HINZE: Thanks.

18 MR. REAMER: Any licensing decision would  
19 have to be based on the EPA standard. The EPA  
20 standard really would dictate what changes we would  
21 need to make to our own review, and the tools we would  
22 use in our review.

23 CHAIRMAN RYAN: Okay. Thanks, Bill. Any  
24 other questions for Bill? Yes.

25 MEMBER WEINER: How will the ACNW be

1 involved in any Part 63 rulemaking?

2 MR. REAMER: I would imagine the same way  
3 that the Committee was involved in the original rule;  
4 which is, we provide the Committee information as  
5 soon as our protocol allows us to provide it. In some  
6 cases that may be pre-decisional documents, but we can  
7 share that information on an understanding we have  
8 with the Committee to keep the Committee informed. So  
9 we do that, unless instructed otherwise by our  
10 management. Once the EPA standard proposal becomes  
11 more apparent, publicly apparent, it may be possible  
12 for us to have an interaction with the Committee, as  
13 well, with respect to how we would implement that in  
14 our proposal.

15 MEMBER HINZE: One more if I might, Bill;  
16 we had an interesting session at the center last week,  
17 and a number of the things that we heard with regard  
18 to igneous activity were pre-decisional. It makes it  
19 a little difficult for us to comment on it. Is there  
20 any time frame in mind where we might be able to hear  
21 from the staff and the center where we might lead to  
22 some formal response?

23 MR. REAMER: Are you talking specifically  
24 about igneous activity in our schedule?

25 MEMBER HINZE: Yes.

1 MR. REAMER: I'm not sure whether we have  
2 the right people here on our schedule to complete our  
3 activities. If we do, come forward. If not, we'll  
4 get you that information as soon as we can.

5 MEMBER HINZE: That's of quite importance  
6 to us, because it's a matter of how we comment on our  
7 research review, and upon the comments that the  
8 Committee has made, and the EDO's response.

9 MR. REAMER: Yes. I understand.

10 MR. RUBENSTONE: This is Jim Rubenstone  
11 from High-Level Waste Repository Safety. Bill, some  
12 of that is really on a case-by-case basis, some of  
13 what was discussed last week has to do with center-  
14 deliverable products. And as those become available  
15 to the public, then they're open for discussion.  
16 Certainly, things that are being done with the TPA  
17 code are tied to as the TPA code becomes available, so  
18 I can't really give you a blanket answer on that.  
19 It's really a kind of case-by-case.

20 CHAIRMAN RYAN: I think a request, Bill,  
21 would be that as any of them become available, the  
22 sooner the better in terms of us having the chance to  
23 take a look, and at least being current with the  
24 documentation. I know cycling briefings can be a  
25 chore to get everybody scheduled properly, and impose

1 on them to prepare presentations, but if the documents  
2 themselves can be brought forward concurrent with them  
3 being available there, that would be a big step  
4 forward. Thank you.

5 MR. REAMER: Every Center-deliverable has  
6 a due date, and then we have an expected review time,  
7 so I'm sure we can give you a schedule with respect to  
8 specific deliverables.

9 CHAIRMAN RYAN: That would be real  
10 helpful. That would help us plan a little bit, too.

11 MR. REAMER: Yes.

12 MEMBER WEINER: If I could just follow-up  
13 on that; one of the things that we observed at the  
14 center, which is their standard operating procedure,  
15 is that when they get a result, they abstract it into  
16 the code. And I was wondering if we had to wait until  
17 TPA 5.0.1 or whatever the next release is, is fully  
18 released, or would we have in order to discuss those  
19 abstractions, or could we do it when the appropriate  
20 documents are released?

21 MR. RUBENSTONE: Certainly, anything that  
22 ends up in the TPA code, there's a supporting  
23 document, one or more supporting documents that  
24 describe that. For example, some of the work that's  
25 being done on redistribution, we had a scoping

1 document that I believe is already publicly available  
2 from last fall, and there's a follow-up on that being  
3 prepared. So as each of those documents comes out, we  
4 can certainly bring those forward. You don't have to  
5 wait until the full code release is there. I mean,  
6 the code gives you how it's implemented, and the  
7 parameters, and the results. But the documents are  
8 the technical basis for the abstraction, and those  
9 will be well in advance of the final release of 5.01.

10 MEMBER WEINER: Thank you.

11 MR. CAMPBELL: Just one thing to add,  
12 Ruth; this is Andy Campbell. Once we have a  
13 deliverable date for the revised code, as it becomes  
14 a public document, we can provide that. Now we have  
15 a schedule, but we're working that schedule and  
16 determining what that date will be, and we can get  
17 back to you with that.

18 CHAIRMAN RYAN: Thanks. Other questions,  
19 comments?

20 DR. LARKINS: Just a quick question. Is  
21 there a schedule for the Commission to make a decision  
22 on waste confidence?

23 MR. REAMER: Not to my knowledge, but let  
24 check and get back to you after the meeting.

25 DR. LARKINS: Okay.



1 CHAIRMAN RYAN: Bill, I think you're  
2 right. This Committee makeup has not heard that, and  
3 I guess I would just suggest that you might want to  
4 work a briefing on that topic for the current makeup  
5 of the Committee. That would be helpful.

6 MR. REAMER: Okay.

7 CHAIRMAN RYAN: Thank you. All right.  
8 Thank you.

9 MR. REAMER: You're quite welcome.

10 CHAIRMAN RYAN: We all appreciate your  
11 coming with us, and giving us a real informative  
12 update on what's going on. I guess next up is Larry  
13 Camper. Is that correct? Good afternoon. How are  
14 you?

15 MR. CAMPER: Good afternoon. How are you?

16 CHAIRMAN RYAN: Fine, thanks.

17 MR. CAMPER: By the way, this is my first  
18 day back from survey after three weeks, so you can't  
19 beat me up too bad.

20 CHAIRMAN RYAN: We'll go easy.

21 MR. CAMPER: Good afternoon. It's a  
22 pleasure to be with you. It's especially important  
23 for me to be here because I took over the Division of  
24 Waste Management and Environmental Protection on the  
25 10<sup>th</sup> of January. And although I'm not new to the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 Division, I had spent four years as a Branch Chief of  
2 the Decommissioning Program, and then before coming to  
3 the Division, I spent 20-months as the Deputy Director  
4 of the Spent Fuel Project office, so I've been in and  
5 about waste issues for quite some time now, but it's  
6 interesting to be in this role.

7 I also think this is a good opportunity  
8 today because, frankly, one of the things that I view  
9 as a priority is to enhance the relationship between  
10 my Division and this Committee. I think there's  
11 always been a good working relationship between the  
12 Committee and the Division, but I think we can make it  
13 better. In fact, to that end, about two months ago or  
14 so, shortly after I had come on board, John and I had  
15 a conversation about that one evening in the gym about  
16 what can we do to make the interaction between the  
17 Division and the Committee - we were doing the  
18 treadmill thing and conducting a little business - so  
19 I do view it as a priority. And to that end, for  
20 example, I intend to accompany you to your visit to  
21 South Carolina. I would like to hear first-hand the  
22 Committee's questions. I especially want to hear what  
23 the Committee has on its mind in terms of the DOE  
24 meeting on waste incidental to reprocessing. So I  
25 look forward to that visit with you, and I think it

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 would be a good learning experience, first-hand.

2 When I learned of the meeting, the first  
3 thing I asked myself is, if I were going to talk to  
4 you about a few things, what would it be? And that's  
5 before I saw your questions, and the format that you  
6 wanted to hear about. But these are some of the  
7 things that were on my mind. Needless to say, of  
8 course, first is waste incidental to reprocessing, and  
9 we'll talk much more about that here in a moment.  
10 It's a big priority for us, and I'll cover it in some  
11 detail in addressing your questions. And then also  
12 later on, there's a presentation on the low-level  
13 waste program, so you'll hear more about it then, as  
14 well.

15 The National Low-Level Waste Program, it's  
16 been a small program for us for some years now, about  
17 three FTE, and it's been fairly quiet. But we see  
18 things on the horizon that may change that, and you're  
19 going to have a briefing following my presentation by  
20 Scott Flanders, who is my Deputy for the Environment  
21 Assessment Area in Low-Level Waste, and Jim Kennedy,  
22 who is our resident expert on low-level waste issues.  
23 It's been that way for a long time, so you'll hear  
24 more about the program from the two of them following  
25 me.

1 Greater-than-Class C- waste disposal -  
2 there are things finally happening on GTCC. And  
3 again, we'll talk to you more about that during Scott  
4 and Jim's presentation. But yes, DOE is now making  
5 some movement.

6 The Integrated Decommissioning Improvement  
7 Plan, or IDIP; this is our comprehensive plan that we  
8 are developing and implementing, which addresses a  
9 wide array of changes to the Decommissioning Program.  
10 I'll cover it in more detail in a bit; but briefly, it  
11 grows out of the license termination rule analysis  
12 that we did about two years ago now. And briefly,  
13 it's a comprehensive plan to try to address a number  
14 of major changes on the decommissioning front.

15 And then next is the legislative proposal  
16 for NRC to regulate Radium and accelerator-produced  
17 materials. The Commission sent this proposal to  
18 Congress on March 30<sup>th</sup> of this year. It provides for  
19 NRC authority over accelerator-produced materials,  
20 discreet sources of Radium-226, and other discreet  
21 sources of NORM that would pose a similar threat to  
22 that of Radium-226. It specifically provides for  
23 continued disposal of these materials at currently  
24 used disposal facilities, like U.S. Ecology and  
25 Hanford for Radium-226 sources.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1           The Organization of Agreement States and  
2     the Health Physics Society have developed their own  
3     legislative proposal for these materials. It adds a  
4     definition for discreet sources based upon the risk.  
5     It permits disposal of these materials in mill tailing  
6     impoundment. Now we understand that there may have  
7     been or will shortly be some legislation introduced  
8     that has been suggested by NEERS, that may be yet a  
9     different approach than the Commission proposed in its  
10    legislation, or that the OAS and HPS has proposed.  
11    And one of the things that that particular legislation  
12    would call for, whatever comes of it, would be that  
13    the material could only be disposed of at AEA-  
14    licensed sites, so that would be a departure from what  
15    we have right now.

16           We have been briefed by the Organization  
17    of Agreement States and the Health Physics Society on  
18    their proposal, and I think basically what I would  
19    suggest to the Committee is the same thing that I'm  
20    suggesting to us, and that is stay tuned. Let's watch  
21    this closely, and I expect we'll be talking about it  
22    more in the near term.

23           Now in terms of the things that you  
24    specifically wanted to hear about, I'll step through  
25    your format and hopefully cover the waterfront, and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 we'll entertain questions. I would suggest that we  
2 just go with questions along the way. That's probably  
3 the simplest thing to do.

4 We do have a lot going on right now. The  
5 first, of course, is Waste Incidental to Reprocessing,  
6 or WIR. We have a lot of new responsibilities  
7 regarding incidental waste under the National Defense  
8 Authorization Act of the year 2005, which went into  
9 effect in October or November of last year. The NDAA  
10 requires DOE to consult with NRC on its non-high-level  
11 waste determinations in South Carolina and Idaho. And  
12 requires NRC to monitor DOE's waste disposal actions  
13 to ensure that they meet the performance objectives of  
14 10 CFR Part 61.

15 The legislation, as I said, was passed  
16 recently, and the NRC and DOE staffs have been working  
17 together already aggressively to determine priorities,  
18 schedule, tasks, and resource needs. We've already  
19 had three or four meetings with the DOE folks, a  
20 couple of meetings with South Carolina, and we plan a  
21 similar meeting with the folks out in Idaho in May, as  
22 soon as the wintertime moves along a little bit.

23 These are very high priority activities  
24 within both DOE and NRC. WE know, for example, in  
25 talking with senior level managers at DOE, this is an

1 item of high interest for the Secretary himself,  
2 Secretary Bodman, so it's necessarily getting a lot of  
3 attention within the DOE organization. And similarly,  
4 we know there's a lot of Commission interest in it.

5 The states have important roles with  
6 regard to the DOE sites. WE've had, as I said, a  
7 couple of meetings with South Carolina already. The  
8 states want to be actively involved. They've made  
9 that very clear. There is a permitting process that  
10 goes on that's part of this, and the states want very  
11 much to follow closely our interactions with DOE, and  
12 look closely at the questions that we ask of DOE in  
13 our review process. They are interested in  
14 piggybacking on their technical concerns within our  
15 review process, and our questions. And they have  
16 asked us - certainly South Carolina has asked us - to  
17 be involved in their public meetings associated with  
18 the public permitting process, and we've agreed to do  
19 that.

20 We're developing a Commission paper that  
21 describes how we intend to carry out these activities,  
22 and it will discuss our review approach, our  
23 resources, our schedule, and our plans for stakeholder  
24 interactions. This paper is due to the Commission at  
25 the end of April, and we look forward to hearing their

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 opinions, of course, on our proposed approach. And we  
2 would hope to make the Committee aware of that process  
3 along the way. We do not plan to provide the paper to  
4 the Committee for comment while under development.  
5 There simply isn't time. We were given a very short  
6 time line by the Commission following the annual waste  
7 briefing back earlier in the year, but we certainly do  
8 want to make the Committee aware of what is going on  
9 in that Commission paper, and we plan to do that.

10 The first review under the NDAA will be  
11 for the Salt Waste Processing and disposal at Savannah  
12 River, which you are going to hear a lot more about,  
13 of course, from the staff, and then while we're down  
14 there in September. DOE has submitted that  
15 determination for the Salt Stone on the 28<sup>th</sup> of  
16 February, and we are currently conducting our  
17 technical review of that submittal.

18 Due to the decreasing free working volume  
19 in the tanks at the site, DOE has asked for our  
20 review to be complete within six months, so you can  
21 imagine that is, indeed, a very aggressive schedule.  
22 In accordance with the schedule, we are hoping to  
23 complete our request for additional information by the  
24 end of May, and as recent as this morning, Scott  
25 Flanders assured me that we are on schedule.



1           The NDAA provides the applicable WIR  
2 criteria, and these are the criteria that NRC staff is  
3 using for its review. These criteria are somewhat  
4 different from the criteria that have been previously  
5 used in our reviews, but are not markedly different.  
6 Therefore, our experience in conducting the waste  
7 incidental reviews will be directly applicable in  
8 carrying out our new responsibilities. It is very  
9 fortunate, given the time line with this piece of  
10 legislation and the responsibilities that we have,  
11 that we have heretofore reviewed several non-high-  
12 level waste determinations in the past, because we  
13 were able to draw upon that experience, and we have  
14 several staff members that were available to us that  
15 have the right expertise. But at the same time, that  
16 will not work in the future, and we are rapidly  
17 gearing up to accommodate the reviews that are coming  
18 down the pike.

19           The universe coming down the pike is  
20 something on the order of five of these in play in the  
21 next several fiscal years. We're obligated to  
22 complete one this year, and then three in the two  
23 subsequent fiscal years, so a lot of activity going on  
24 there.

25           It is important to note that the NDAA does

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 not apply to the Hanford or West Valley sites, but  
2 they are conducting a similar review for Hanford, but  
3 we are conducting a similar review for Hanford under  
4 a separate reimbursable agreement. We transmitted an  
5 RAI to Hanford on the 19<sup>th</sup> of January, and we are also  
6 involved with West Valley, under the West Valley  
7 Demonstration Project Act. And we'll probably be  
8 reviewing tank-related information later this year in  
9 a pre-decisional draft EIS, which I'll mention more in  
10 a moment.

11 As part of this process, we are planning  
12 to develop a standard review plan for waste  
13 determination reviews. The SRP will provide  
14 consistency, and guidance to the NRC staff during its  
15 reviews, as well as help the Department of Energy  
16 understand what we need for those submittals to  
17 contain.

18 Now I note that the Committee is planning  
19 on having a working group on incidental waste in July,  
20 so we're going to be working with the Committee staff  
21 to develop an agenda, a speaker list, and so forth,  
22 and we'll be interested in getting any of the  
23 Committee's input on what you'd like to hear in that  
24 July time frame. And the point that I would make with  
25 regard to the standard review plan is that the July

1 meeting will be a very good opportunity for the staff  
2 to convey information to the Committee about the  
3 contents of the SRP, and to get the Committee's input,  
4 so there will be a very viable and active role for you  
5 to play in that time frame.

6 The NDAA also requires that the National  
7 Academy of Science conduct a study of DOE's plans for  
8 incidental waste that exceeds Class C concentrations  
9 that DOE does not plan to send to a geologic  
10 repository. The Academy has one-year to complete this  
11 study, and we have given the Committee two  
12 presentations, thus far, describing our previous  
13 involvement with incidental waste, as well as  
14 applicable reference documents, such as our previous  
15 reviews. And we will remain involved with the  
16 Committee as it carries out its study to completion,  
17 and expect to meet with you several more times.

18 The next topic that I wanted to cover was  
19 the Integrated Decommissioning Improvement Plan, the  
20 IDIP.

21 DR. LARKINS: Before you move on to that,  
22 you said the NAS study is one year, and you've been  
23 working with them currently. What is the schedule for  
24 completion of that?

25 MR. CAMPER: Well, it was one-year. The

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 legislation called for the study to be completed in  
2 one-year, Scott. Do you know what their actual date  
3 for completion is?

4 MR. FLANDERS: This is Scott Flanders,  
5 Deputy Director of Division of Waste Management. I  
6 don't know the specific schedule, but they were given  
7 one-year from the enactment of the legislation, and  
8 that was in the October time frame, with an interim  
9 report due within six-months. So they're actively  
10 working on the interim report right now.

11 MR. CAMPER: We want to interact with the  
12 Committee for a lot of reasons. I mean, of course, we  
13 want to provide the best information possible. We  
14 want to make sure that the conclusions are as accurate  
15 as possible, but also it's important to maintain an  
16 awareness, because if you look at what the Committee  
17 is charged to do, one could get the impression that it  
18 arguably gets right at what we're asked to do. That's  
19 part of our determinations, as well. So we clearly  
20 want the Committee to understand the process that we  
21 are following, to answer all their questions, and make  
22 sure there's a good mutual understanding of what the  
23 process involves.

24 DR. LARKINS: All right. Let me ask  
25 another quick question. On the states' role, and you

1 said you want to work them on the permitting process,  
2 does the state come in on the back-end of that, or  
3 after you've made a finding?

4 MR. CAMPER: The states permitting process  
5 --

6 DR. LARKINS: Unless Scott is going to  
7 cover this; I don't want to pre-empt anything you're  
8 going to say.

9 MR. CAMPER: Are you going to cover this,  
10 Scott?

11 MR. FLANDERS: We weren't going to go into  
12 this on our low-level waste discussion, so you can go  
13 ahead answer, or I can answer.

14 MR. CAMPER: The states' permitting  
15 process is actually being conducted in parallel to our  
16 process. In fact, as I mentioned, John, they want to  
17 make sure that their concerns that they need to  
18 address in their permitting process are being  
19 addressed within our RAIs, as well. And they would  
20 like for us to participate in their public meetings  
21 called for in their permitting process, because they  
22 know that some of the technical issues that we're  
23 getting at will also come up in that process, so it's  
24 really going on in parallel.

25 Okay. The IDIP, the Integrated

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Decommissioning Improvement Plan, this combines  
2 regulatory program management and Commission-directed  
3 improvements. And it grows out of the regulatory  
4 improvements that we identified as being needed in the  
5 license termination rule analysis. If you go back a  
6 couple of years ago, you might recall that we did an  
7 in-depth analysis of the LTR. At that point, we had  
8 about six or seven years of experience. It had gone  
9 well overall, but we thought it could be done better.  
10 One of the issues that emerged, for example, was  
11 institutional controls. No one was going with a  
12 restricted release. WE felt that the process embodied  
13 within the regulations were fairly burdensome, and so  
14 that was one of nine issues that we identified as  
15 warranting further attention.

16 We have interacted with the Committee  
17 along the way several times on the LTR analysis. We  
18 did a briefing, for example, for you in October of  
19 '04. WE have been coordinating with you in  
20 preparation for the April stakeholder work shop, which  
21 takes place later this week, which you're going to  
22 attend, and we're very glad you're going to be there,  
23 and hear first-hand the input that we're going to get.  
24 And there are going to be breakout sessions where the  
25 various guidance documents are going to be discussed,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 so you're going to get a chance to hear first-hand the  
2 concerns of those that are out there doing the  
3 decommissioning. By the way, we have more than 170  
4 people registered for the workshop, so we're really  
5 looking forward to it being a good process.

6 We are working toward a meeting with you  
7 in June on the guidance. And what I think will be  
8 ideal is we'll all hear first-hand what the industry  
9 has on its mind in terms of things that can be  
10 improved, and that will foster a better discussion  
11 between the staff and the Committee then, when we talk  
12 about how to improve the guidance. And you should be  
13 positioned, I would think, to give us some pretty good  
14 indications of improvements that we might make.

15 CHAIRMAN RYAN: Larry, just a quick  
16 question on the format for the meeting.

17 MR. CAMPER: Sure.

18 CHAIRMAN RYAN: I know you're going to be  
19 giving presentations and getting input. Is a record  
20 going to be created of that, as well?

21 MR. CAMPER: What we're doing on Day One  
22 is, we have several members of the staff taking notes,  
23 extensive notes. Day Two will be a recorded meeting,  
24 transcribed meeting.

25 CHAIRMAN RYAN: Okay. Thank you.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. CAMPER: That's a great question.

2 CHAIRMAN RYAN: I just wanted to get my  
3 own pencil sharpened up for that.

4 MR. CAMPER: That's a great question  
5 because one of the things that the people that attend  
6 are going to want to know, and I'm going to say up  
7 front - I mean, they're going to want to know what  
8 we're going to do with all this, how will it be  
9 addressed? And there are several mechanisms whereby  
10 it will be addressed, and I'll cover that. But taking  
11 extensive notes on Day One and recording the meeting  
12 on Day Two.

13 CHAIRMAN RYAN: Just a quick comment, too;  
14 I think on behalf of the Committee, this is a real  
15 success from our point of view, too, and that we're  
16 hopefully saving you cycling presentations two and  
17 three times, or extra times just for us. And it does  
18 give us an opportunity to fulfill part of our mission,  
19 which is to obtain the public input. I think this  
20 direct approach works for both of us.

21 MR. CAMPER: Sure.

22 CHAIRMAN RYAN: We appreciate the  
23 collaboration to get that rolling.

24 MR. CAMPER: Well, you're quite welcome.

25 We are trying to use the IDIP to improve

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 communications. For example, we have put together a  
2 web page and a brochure that will convey more  
3 information about the decommissioning process. We're  
4 looking at revising our program performance measures,  
5 and more closely tracking our resources; what does it  
6 actually cost to review a decommissioning plan, or a  
7 license termination plan, and how can we reduce that  
8 cost over time?

9           There are a number of Commission-directed  
10 improvements that we're looking at as part of the  
11 IDIP. The Commission, for example, in the briefing  
12 last fall expressed a great deal of interest in  
13 Lessons Learned. Commissioner Merrifield was speaking  
14 to the gathering on Thursday morning, and the  
15 Commissioner has had a lot of interest in Lessons  
16 Learned. The concern the Commission has is, we've had  
17 a lot of success today in decommissioning, and  
18 especially on the reactor side. We've had several  
19 reactors that are now going through the process, but  
20 the fact of the matter is, because of all the  
21 renewals, we're going to go into a hiatus. And how do  
22 we ensure that that information carries forth for the  
23 next 15, 20, 25, 30 years when these other reactors  
24 need to go into decommissioning? So getting Lessons  
25 Learned memorialized, and getting the word out there

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 is something that's important.

2 I mentioned we'll be briefing the  
3 Committee in June on the Lessons Learned feedback, and  
4 looking for some very active discussion with you on  
5 how to make the guidance better. Again, I would  
6 reiterate what you said, Mr. Chairman, in terms of  
7 your being there this week and hearing first-hand.  
8 We're glad you're going to be there.

9 A Low-Level Waste Hearing - Senator  
10 Domenici stated in a hearing last September that he  
11 was going to look into legislation to revise the Low-  
12 Level Radioactive Waste Policy Act, as amended. I  
13 think all of you know that the Senator is concerned  
14 about the fact that there really had been no new low-  
15 level waste disposal sites developed for many, many  
16 years now. Barnwell closing in 2008 causes the  
17 Senator some concern. We don't have a definitive word  
18 yet as to if and when that hearing will take place.

19 Clearly, if it does, we'll have a lot of  
20 preparation to do. I would think there would be an  
21 opportunity there to discuss with the Committee the  
22 types of information that we're gathering, and gain  
23 perspectives as we prepare for such a hearing. I  
24 would view that as an important role. And we're just  
25 going to stand by and see what happens.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealgross.com](http://www.nealgross.com)

1           The National Academy and the GAO reports -  
2       later this year both organizations will issue  
3       reports. The National Academy's on low-activity  
4       waste, and the GAO on the safety and security of Class  
5       B and C low-level waste. This is a follow-on to their  
6       earlier report which, as you know, we had a number of  
7       extensive comments on.

8           We certainly could be affected. It's  
9       always difficult to imagine not being affected by NAS  
10      reports, or GAO reports, so we certainly thing  
11      something will come out of that, don't know what, but  
12      again, stay tuned.

13          You asked about international activities,  
14      and how the ACNW expertise could be overlaid on  
15      international activities, and what we learn from  
16      international work. I would agree that there is a  
17      benefit to be gained there, and certain thoughts come  
18      to my mind as to how we might do that.

19          Now I think that we need to have a follow-  
20      on working discussion about how to do this. But, for  
21      example, I'm heading over this weekend for the Waste  
22      Advisory Safety Committee (WASC 19) meeting at IAEA.  
23      I do that twice a year in my role as the Division  
24      Director.

25          We get a lot of documents that are going

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 to be discussed at these WASC meetings. I mean,  
2 typically the stack of documents is three or four  
3 inches thick. We get them starting in January-  
4 February, sometimes as late as March for a meeting  
5 taking place in April. But it is certainly possible  
6 that we could give some Committee review of those  
7 documents, as well.

8 We use our staff to do that. We have a  
9 couple of consultants that help us to do that. We  
10 have used the Center in the past. We don't currently,  
11 but we have in the past. But possibly there's a role  
12 to be played there. Now the only caveat that I would  
13 offer, is it's a lot of documents and a tight  
14 schedule, but that's a possibility.

15 We're doing a lot of work right now on the  
16 Joint Convention. The next national report will be  
17 provided in Vienna next May. The working group has  
18 put together the current version of the draft for  
19 review. There is a lot of work going on. It is  
20 certainly possible that sometime during the summer we  
21 could brief the Committee on the Joint Convention  
22 preparation report, and get your thoughts on that.  
23 But again, by the August-September time frame, we've  
24 really got to be finalizing the draft, because there  
25 are meetings in November where it's all being put

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 together, the bow is being put on the package, and  
2 we're getting ready to send it over to IAEA. But I  
3 would think that there's a possibility there during  
4 the summertime.

5 I think that the Committee should be added  
6 to recipients for the staff's international trip  
7 report. As you know, we put out an early 30-day  
8 notice that we're going to go on some international  
9 activity; generally, what it's about. We then come  
10 back following that meeting and post a seven-day trip  
11 report, which is a quick look. An then 30-days after  
12 the meeting, we provide a more in-depth report. I  
13 think that would be a way for the Committee to have a  
14 better awareness of what's going on internationally.

15 CHAIRMAN RYAN: Larry, at the end there  
16 may be one or two key ones that a briefing might  
17 result from, from one of those trip reports a little  
18 bit more detail and interactively. I think we've  
19 identified a couple of opportunities just from a quick  
20 look that seems like ones that would be interesting to  
21 hear the gory details on that one, for example, so  
22 that might fall out of it.

23 MR. CAMPER: All right.

24 CHAIRMAN RYAN: I might add, too, that the  
25 Committee travels typically internationally every

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 other year or so, and we're going to have a  
2 Subcommittee going to Japan in May, and we'll be happy  
3 to share our trip report with you, of course, in the  
4 same.

5 MR. CAMPER: Good. Okay. I think you  
6 know there's a lot of staff involvement in several  
7 areas internationally. We're closing working with the  
8 ICRP on some of its activities; particularly on  
9 environmental protection. The NEA, the Nuclear Energy  
10 Agency in Paris, Margaret Federline has been actively  
11 involved in that for some time. She actually chairs  
12 the Radioactive Waste Committee of the NEA, and has  
13 done that for several years. Obviously, the IAEA, in  
14 terms of advisory committees.

15 There are various international  
16 conferences that we actively participate. For  
17 example, several of us are participating in the ICEM  
18 '05 conference in September. Karen Cyr, the General  
19 Counsel, is actually going to that meeting as one of  
20 the plenary speakers. So there's a lot of  
21 international activities, and I would think that  
22 during your meetings as an agenda item, we could  
23 certainly provide, if nothing else, a brief overview  
24 of what's going on, make sure you get these reports  
25 that I've cited already, and try to answer questions

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 that you might have, and figure out which of these  
2 things is of most interest to you.

3 CHAIRMAN RYAN: And I'm sure you're aware  
4 of it, but the SRM from the Commission directed us to  
5 be cognizant of the ICRP developments and as we know  
6 two of those foundation documents hit the web, I  
7 guess, last week and we're planning on reviewing those  
8 and making comments together and so forth.

9 MR. CAMPER: Right. Exactly. Good. And  
10 again, I think if you'd like this something that we  
11 could discuss in a separate meeting more operationally  
12 just how to do this in a better coordinated fashion,  
13 but at least, I think that will give you some ideas  
14 about how we might do this.

15 Risk-informing activities in NMSS. What  
16 I'll try to do is speak specifically to what is going  
17 on within my division. I think you know there are  
18 some activities going on NMSS-wide in terms of a  
19 guidance document having been developed. I understand  
20 you either have been or you're going to hear from  
21 Dennis Damon about what's going on in NMSS in terms of  
22 risk informing. So I'll talk a little bit more about  
23 what we're doing.

24 We are obviously following the guidance  
25 document that's been developed and that is a process

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 document that the staff steps through to determine  
2 what level of risk-informed process best applies. But  
3 let me speak to it in practical terms of what we're  
4 actually trying to do. The IDIP is a process that we  
5 believe is risk-informed and we're going to be  
6 discussing that extensively in the upcoming workshop  
7 on Wednesday and Thursday of this week.

8 Basically, what we're trying to do is to  
9 help us become more efficient and by placing the  
10 appropriate level of regulatory concern where the  
11 highest risk activities are being carried out. I  
12 think you're aware, for example, that we've made a  
13 number of changes in our inspection process where we  
14 actually go during higher risk activities in the  
15 commissioning process and we cut out a number of  
16 routine things and therefore, save some resources. So  
17 we're going to use the whole IDIP process to make our  
18 efforts more risk-informed.

19 Some examples that come to mind for  
20 instances are the use of realistic scenarios for end  
21 uses of sites theretofore. In the past, I think an  
22 awful lot of applicants defaulted to the resident  
23 farmer scenario as did our staff because it was very  
24 difficult to predict what was going on a thousand  
25 years out. In the LTR analysis, one of the things we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 suggested was to look at near-term scenarios, say, on  
2 the order of tens to one hundreds of years as opposed  
3 to defaulting the resident farmer. It makes a big  
4 difference.

5           Phased institutional controls. I mean the  
6 fact of the matter is every site doesn't need to have  
7 the same kind of institutional control. It's a  
8 function of risk of what's actually at the site.

9           Intentional mixing of soils was discussed  
10 in the LTR analysis in a subsequent paper to the  
11 Commission.

12           Within the waste incidental to  
13 reprocessing activities, we think that could be risk  
14 informed. We do have a good performance-based  
15 standard in Part 61, Subpart C. We're trying to bring  
16 that to bear as much as possible in the wear reviews.

17           On the low waste front, we're making  
18 efforts not to regulate based on the origin of the  
19 waste but rather upon the waste risk that is posed.  
20 There are number of things going on, the use of RCRA  
21 cells for example which is taking place in our EPA  
22 advanced notice of proposed rulemaking which we've  
23 been working with EPA on

24           Using and approving 10 CFR 20.2002  
25 disposals, we have done that recently with some

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 Connecticut Yankee waste going out to Idaho. We've  
2 done it in the past with Big Rock Point. So there is  
3 a mechanism there that if you bring risk to bear it  
4 provides a pathway for disposal of waste.

5 We do look forward to the Committee's  
6 white paper on low level waste and what we can learn  
7 from further informing Part 61. A big question that  
8 comes in terms of risk informing is if GTCC ever does  
9 advance what's the right level of regulatory pressure  
10 to bring to bear on that. I mean it's not high level  
11 waste and it's not low level waste. It's something in  
12 between. So what would be the best approach in terms  
13 of risk?

14 Integration of the ACNW action plan into  
15 the NMSS operation plan. We already --

16 CHAIRMAN RYAN: Before you leave the risk-  
17 informing if I may, Larry, I think the Committee and  
18 my predecessors as you all know John Garrick is  
19 interested in risk questions and I think we continue  
20 in that interest as a committee. We did recognize the  
21 staff group that was involved in the risk-informing  
22 activities that I guess is no longer constituted as a  
23 group.

24 I think our key question is all the things  
25 you mentioned in terms of seeing risk-informing

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 approaches applied. But then the second question for  
2 us becomes a consistency question. Is it done the  
3 same way across the board?

4 So if we ask the question in a lot of  
5 different briefings, it's not that we don't think that  
6 folks are doing it. I think it's an issue of is there  
7 consistency. Do we see a pattern of it's going well  
8 or a pattern where one might be different? Maybe it's  
9 different for a good reason. So it's that kind of an  
10 interest that has us asking that question a lot.

11 MR. REAMER: Well, I think it's a fair  
12 question. It's a challenging question. It's a  
13 question that I worry about because if I had ten  
14 different reviewers --

15 CHAIRMAN RYAN: Exactly.

16 MR. REAMER: -- are they all doing it  
17 consistently.

18 CHAIRMAN RYAN: And then one guidance  
19 document probably isn't going to be as broad or as  
20 detailed as it might need to be to cover all  
21 contingencies and so forth.

22 MR. REAMER: And frankly, people interpret  
23 guidance somewhat differently.

24 CHAIRMAN RYAN: A little differently.  
25 That's really our interest.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 MR. REAMER: Yes, they bring their own  
2 biases to bear and what have you. So consistency is  
3 a good point.

4 CHAIRMAN RYAN: Integrating the ACNW  
5 action plan into the respected NMSS operating plan.  
6 Whatever commitments we make to the Commission  
7 obviously or to the Committee, we do carry as line  
8 items in our operating plan with due dates,  
9 responsible persons and organizations. We are open to  
10 including others. We need to be mindful, of course,  
11 that certain commitments and schedules that are made  
12 to the Commission, we have little or no flexibility on  
13 that unless we seek an extension.

14 But we are certainly amenable to looking  
15 at your plans and our operating plans and doing what  
16 we can to make sure they are in sync. And again, that  
17 may be something that we can discuss in the more  
18 operationally-oriented discussion.

19 MR. REAMER: Just another comment there if  
20 I may. I think that we've done an awful lot of  
21 planning so far. It's going well. I think the more  
22 we work on it the better our interaction becomes and  
23 smoother for everybody in terms of our schedule and  
24 your schedules, of course, and all that.

25 CHAIRMAN RYAN: Right.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. REAMER: I'd be remiss if I didn't  
2 recognize Sam Jones for his on-going help in getting  
3 our calendar up and running. He works very hard at it  
4 and it's working. So we appreciate it.

5 CHAIRMAN RYAN: Good. Thank you.

6 DR. LARKINS: I have a comment. I think  
7 one of the things we'd like to see in the future is  
8 that when there is a request or a schedule developed  
9 for particular items that we let the Commission know  
10 that they're going to seek advice or we'd like advice  
11 from the ACNW that they need to build it into the  
12 staff's schedule.

13 MR. REAMER: Okay. And, John, we agree  
14 with that. It's worthwhile. As you know, they don't  
15 often give us the time we want and we go back, but I  
16 think it's worthwhile to emphasize the need for  
17 interactions and we can certainly do that.

18 In terms of aligning priorities between  
19 the Committee and NMSS, as you know, the Commission  
20 often sets our priorities and those are givens, of  
21 course, just as it is for you. We want to be  
22 cognizant of what priorities the Commission is giving  
23 you in your Tier 1 areas and make sure we work  
24 together on them.

25 I think the issues there is how do we best

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 coordinate so that the Committee can add value and  
2 this is John's point precisely. I think I would  
3 suggest again an operational discussion. I actually  
4 have an idea for how we might do that here in a  
5 moment. I think we need to consider a periodic  
6 meeting between the Committee chair and the division  
7 directors to discuss tasks and priorities and frankly,  
8 I think we ought to do that a couple times a year.

9 I think there might be value in fact in  
10 the chair or certain members of the Committee coming  
11 to a Leadership Team Meeting. The Leadership Team is  
12 the NMSS division directors and put this topic on the  
13 table and let's discuss with the division directors  
14 how we might best facilitate this kind of  
15 coordination. But I think that it is an area where we  
16 can all do a better job.

17 With regards to recent SRMs, I'll cover  
18 obviously those in my division only. We did get an  
19 SRM on the waste arena briefing which took place on  
20 the 28th of February. The staff is to keep the  
21 Commission informed on DOE/GTCC strategies. The staff  
22 is to recommend NRC's potential role especially with  
23 respect to an EIS.

24 We are currently developing a Commission  
25 paper laying out what we believe to be the appropriate

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 role regarding the EIS. We've had management meetings  
2 with NMSS on that and would hope to get that paper up  
3 to the Commission in May. We had not planned to  
4 coordinate that particular paper with the Committee.  
5 It's a policy kind of thing in terms of what level the  
6 staff should be involved in the EIS. It's a question  
7 of are we going a commenting agency on the EIS or are  
8 we going to be a cooperating agency on the EIS and  
9 what are the pros and cons and we have gotten sort of  
10 mixed signals at this point from the various  
11 commissioners on their preference on that.

12 DR. LARKINS: At some point, are you going  
13 to be looking at potential options to facilitate the  
14 handling of greater than Class C?

15 MR. REAMER: Well, the immediate question  
16 on the table in the paper is this question of what to  
17 do about the EIS. Now as far as what to do about  
18 GTCC, a lot of that will unfold in the preferred  
19 alternative within the EIS. From the staff's  
20 standpoint, and we've made this clear already, we  
21 think there's value of being involved along the way of  
22 the process.

23 However, there are some concerns given  
24 that ultimately we would have to license a GTCC  
25 facility should we be a cooperating agency versus a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 commenting agency. What we're going to do is focus  
2 upon that first, John, and lay out pros and cons and  
3 make a recommendation to the Commission. Then we'll  
4 be dealing with what is the process for the GTCC  
5 facility in the EIS as you look at referral terms.

6 DR. LARKINS: I was thinking since you are  
7 going to have to license or sort of file or make some  
8 review, you might have preferred options that the  
9 staff would prefer that makes sense be that from a  
10 risk perspective or dose perspective.

11 MR. REAMER: Right.

12 DR. LARKINS: So at some point, are you  
13 thinking about trying to develop something along that  
14 line?

15 MR. REAMER: As we review the EIS, we'll  
16 look at that. Scott, do you want to comment in terms  
17 of the EIS itself? Do you want to add to that at all?

18 MR. FLANDERS: Again, it will greatly  
19 depend on the role we're playing whether we're a  
20 cooperating agency or a commenting agency. But  
21 certainly in the context of being a cooperating  
22 agency, we would be able to review the different  
23 proposals and look at what kind of criteria we would  
24 need to establish in order to license at your  
25 facility.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1           If we're a commenting agency again, we  
2       would comment on the document, but regardless of what  
3       role, we need to begin to think about the appropriate  
4       criteria which we would license at your facility. We  
5       think there's certain advantages of us being a  
6       cooperating agency which would facilitate that  
7       process. But we are going to have to start thinking  
8       about that and as we do that, I believe it would be  
9       appropriate for us to come and talk to ACNW as we're  
10      getting more and more into it.

11           MR. REAMER: I mean clearly there's value  
12      in -- Ultimately, if you had an EIS that you could  
13      adopt, there's efficiency in that that we can develop  
14      around the EIS if need be and EIS, of course, will  
15      support the licensing action whatever that pathway is.  
16      But from an efficiency standpoint, we think there's  
17      value.

18           Now that has to be juxtaposed against  
19      concerns about being a cooperating agency because  
20      ultimately, we're going to be a licensing agency. And  
21      we are a cooperating agency at West Valley, but the  
22      distinction there is we're not licensing something out  
23      there at this point as compared to GTCC.

24           DR. LARKINS: Yes. My whole point was  
25      that it makes sense to push. I mean it's an

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 opportunity here to make some advancements in this  
2 greater than Class C issues that's been going on for  
3 20 plus years. It seems like the agency might want to  
4 take a little proactive role in trying to advance some  
5 particular option that makes sense from a risk or dose  
6 perspective.

7 MR. REAMER: I think your point is  
8 something we certainly should think more diligently  
9 about as we prepare the Commission paper.

10 CHAIRMAN RYAN: You mentioned U.S. Ecology  
11 and it brings to mind that they did some special  
12 determination, for example, for a reactor vessel. I  
13 know sometimes sealed sources are exempted in barn  
14 wall even though they calculate on the basis of the  
15 little foil Class C if you take the foil and the  
16 source holder and the gadget. So things like that are  
17 done.

18 I wonder if there's an information  
19 gathering step in there that might be beneficial to  
20 gather that experience all in one place of how greater  
21 than Class C waste has been addressed before. I'm  
22 also just recalling that there is a BTP on averaging,  
23 for example, of light types of irradiated hardware  
24 where one portion may be greater and one portion is  
25 less and the average is less than Class C and the high

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 and the low is going to span no more, I think, it's a  
2 factor of ten if I recall correctly and those kinds of  
3 things. I wonder if the Committee could have any role  
4 for example in one of our working group meetings where  
5 we try and bring that real live experience where  
6 people have dealt with this whether it's a state  
7 regulator for the disposal sites or NRC staff in terms  
8 of --

9 DR. LARKINS: Well, I'll give you the  
10 simple answer. I would think so because I think the  
11 more we know about what the practices have been,  
12 what's out there, how to best deal with it, the better  
13 off we are. And again, if I understood correctly, the  
14 DOE schedule is not exactly clear at this point. So  
15 it's down the line a bit, but it might not be too  
16 early to start thinking about such a working group  
17 meeting.

18 MR. FLANDERS: Right now, DOE's schedule  
19 is uncertain but one of the activities they recognize  
20 is really to try and get a handle on potential  
21 inventories and some of the issues that you raised  
22 really drives to the issue of really how much of an  
23 inventory do you really have for a facility for  
24 greater than Class C.

25 CHAIRMAN RYAN: The other aspect of it too

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1       that I think about when I think of greater than Class  
2       C is the commercial versus DOE and there's a bit of a  
3       split there in terms of who has greater than Class C  
4       waste and so on. It really would be an interesting  
5       exercise to look at reactors as a license type and  
6       then other non-reactor licensees and see where the  
7       action is so to speak. Putting that together and  
8       bringing in the practitioners to have an open meeting  
9       on that topic might be ultimately efficient and  
10      helpful for you all.

11               MR. FLANDERS: I agree.

12               MR. REAMER: You'll hear no objection from  
13      us. I think that's a good idea. On waste incidental  
14      to reprocessing, we are to inform the Commission of  
15      our plans for open and closed meetings. That's  
16      something we heard a lot from the Commission during  
17      the waste briefing. We're going to make the  
18      Commission aware of our overall process and the level  
19      of resources that will be used for the waste  
20      incidental to reprocessing initiative. That paper is  
21      currently in the works. It's due at the end of the  
22      month.

23               Again, we have not seen the need for an  
24      ACNW review on that because it's primarily an  
25      operational type of paper. But again, I point out

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 that I think where the real opportunity for technical  
2 input is on the standard review plan which we would  
3 talk with the Committee about this summer. In the  
4 Commission paper, we reference the fact that we are  
5 developing a standard review plan. So there's an  
6 opportunity as I mentioned before.

7 We are to keep the Commission informed on  
8 emerging issues and technologies that give rise to  
9 near-term policy issues and demands of resources, for  
10 example, in low level waste arena. We're going to  
11 monitor that closely and react accordingly. We don't  
12 see issues right now but again the Congressional  
13 hearing is something that may prompt prompt action.

14 We have an SRM. Of course, you have an  
15 SRM on the 5th of April from your meeting with the  
16 Commission in which the Commission just finished a  
17 review of proposed rulemaking on the disposition of  
18 solid materials. Our division prepared the EIS for  
19 that rulemaking and we want to work with you as needed  
20 in your review to discuss the background behind the  
21 Environmental Impact Statement.

22 The Commission looks for the Committee's  
23 white paper on low level waste issues as we do, too,  
24 of course and we would like to review that or discuss  
25 it with you along the way as appropriate given your

1 timing. Efforts in low level waste at large, Jim and  
2 Scott will talk about that in much more detail in a  
3 few minutes.

4 Decommissioning guidance, we've discussed  
5 this already. You're being at the meeting this week.  
6 Hearing first-hand that our subsequent meeting in the  
7 summertime. We look forward to those interactions.

8 West Valley and involvement in West Valley  
9 by the Committee, I know that you're planning a one-  
10 day site visit and workshop in October as we speak  
11 near the site.

12 You're curious as to how the pre NRC and  
13 DOE performance assessments are progressing to make  
14 this meeting possible. That's a great question.  
15 Unfortunately, as I sit here today, I don't know. I'll  
16 know better in August. We're looking to get the draft  
17 EIS from DOE in August. So we'll have a much better  
18 handle on the performance assessment's status at that  
19 time.

20 What I would envision sometime during  
21 August or September, we need to be talking  
22 aggressively about the contents of that. Now we have  
23 to be careful because this is something that would  
24 need to take place between the Committee and the staff  
25 as opposed to a normal ACNW meeting with DOE which

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 would be public because it's pre decisional  
2 information. So I think that the way to do this is  
3 between the staff and the Committee as to the status  
4 of the performance assessment and then we can make a  
5 call in the August/September timeframe as to whether  
6 or not it's going to be prudent and timely for the  
7 Committee to go out and do the workshop in October.  
8 I think that's how we're going to need to proceed on  
9 that.

10 CHAIRMAN RYAN: And to be fair, we  
11 appreciate your flexibility here as the schedule is  
12 not necessarily yours to control based on when the EIS  
13 comes into you. We recognize that's not something you  
14 dragged out just because you wanted to. It's based on  
15 the schedule of DOE and the EIS. Thanks.

16 MR. REAMER: Right.

17 DR. LARKINS: I was going to say one of  
18 the points, one of the areas of emphasize, is on the  
19 methodology of the staff and if you are using similar  
20 methodology for the performance assessment. Last time  
21 we had a discussion as such and we did make a  
22 commitment also to keep my service (PH) and others  
23 informed or involved to the extent practical.

24 MR. REAMER: Okay. Well, I think again  
25 during August/September we should be talking to staff-

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 to-Committee and we'll see what we have in the  
2 submittal side and then we'll figure out where we are  
3 and see if it's going to be worthwhile to regroup in  
4 October.

5 MR. FLANDERS: About what you said,  
6 clearly one of the important things we need to keep in  
7 mind is the fact that the document we're going to get,  
8 the draft EIS we're going to get in August, is pre  
9 decisional.

10 MR. REAMER: Right.

11 MR. FLANDERS: So in terms of thinking  
12 about a workshop, we need to think about what can and  
13 can't be discussed recognizing that it is pre  
14 decisional at that point. Their schedule for making  
15 it public is not until the summer of '06.

16 MR. REAMER: Yes. That's why I'm  
17 suggesting that we would have a staff-to-Committee  
18 discussion and then also the pre decisional  
19 considerations in a workshop.

20 Let me wind down as I started out by  
21 saying that I certainly welcome this opportunity to  
22 talk with the Committee. I sincerely do feel that  
23 what the Committee does, the work that you do, is  
24 important. It can help our program. I would like to  
25 work very closely with the Committee to enhance the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 relationship, to improve the relationship, which has  
2 always been good, but we can make it better and  
3 frankly, to help the Committee do the work the  
4 Commission has asked you to do and for you to help us  
5 do the work that they've asked us to do.

6 I see a need for several or at least one  
7 or two perhaps operational discussions to go into some  
8 more detail into some of these things and  
9 particularly, coordinating your plan, coordinating the  
10 operating plan, try and figure out how we can best  
11 communicate on some of these things. I really do  
12 think this idea of the Committee chair talking with  
13 the Executive Leadership Team, once or twice a year  
14 and then talking with the division directors about how  
15 best to facilitate the work of the Committee and the  
16 work that we have would be of value. So I look  
17 forward to our interactions in the future and  
18 appreciate the opportunity to be here and answer any  
19 questions you might have.

20 DR. LARKINS: I was going to say. I think  
21 we are on the schedule to meet with the Executive  
22 Leadership Team sometime in May.

23 MR. REAMER: Good.

24 DR. LARKINS: I see Sam shaking his head  
25 yes. The other question I was going to raise is we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 met with the Commission and we talked about looking at  
2 West Valley. They mentioned that there were some  
3 other sites that are recently going through  
4 decommissioning that may be good for a learning  
5 perspective before you fully launched into a complex  
6 site. Maybe some opportunity here about some recent  
7 experiences with some simpler sites would be good.

8 MR. REAMER: Yes, we can do that. We  
9 truly have a population of 43 complex sites on the  
10 books right now. Most of these are very old Legacy  
11 sites, old uranium and thorium processing sites. Most  
12 all of them are very complicated, groundwater  
13 contamination, previous spills, lots of issues. So we  
14 could perhaps identify two or three of the ones that  
15 would be most useable in terms of learning for West  
16 Valley. We could do that.

17 DR. LARKINS: Yes. We talked about one  
18 time Sequoyah.

19 MR. REAMER: There's a good one.

20 DR. LARKINS: Although it probably may not  
21 be a simple site.

22 MR. REAMER: No.

23 MR. LEE: Yes, John. We have a request in  
24 to NMSS to give us a little look/see as to what is the  
25 transition from a simple decommissioning site to a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 complex and we were hoping that in that presentation  
2 we can get some examples of how you make that leap.

3 CHAIRMAN RYAN: Okay. In addition, that  
4 could be a large or small site or lots of license  
5 material or not so much. But I think, too, we're  
6 trying to get some input from industry practitioners  
7 in the working session that Jim Clarke is organizing.  
8 So we can hear that even though it might be a small  
9 site there may be site features or facility features  
10 that make it more complicated than not. So there's  
11 those aspects we maybe will hear a little bit about  
12 too. It's not necessarily the quantity of material  
13 under license, but maybe even the setting itself.

14 MR. REAMER: It is the setting. To a  
15 large degree, it is the setting.

16 CHAIRMAN RYAN: Because, you know, big  
17 decisions are made on are we going to have to take out  
18 the hillside and make that low level waste or is it  
19 some other disposition pathway or is it left in place.  
20 You know those are big swings in terms of financial  
21 costs, but it all comes back to the same reason and  
22 complexity.

23 MR. REAMER: Yes. I think in addition to  
24 hearing about two or three of the more complex or the  
25 complex sites might also have some value in terms of

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 hearing about certain sites where we were able to have  
2 the site successfully remediated or removed from the  
3 previous STMP. In certain cases, it's not just about  
4 remediation. It's about correct and proper dose  
5 modeling and what is the best scenario.

6 One comes to mind recently, for example,  
7 Kiski Valley Water Authority in Pennsylvania. I mean  
8 the bottomline was after an awful lot of time had gone  
9 by, an awful lot of staff effort, an awful lot of  
10 effort by the Water Authority, the fact of the matter  
11 is when you ran the dose modeling on it you found that  
12 it was suitable for release as it was. You did not  
13 need further remediation.

14 So it's not just about the size or the  
15 saedas about site specifics. It's about operational  
16 events that occurred. We can provide the Committee  
17 with a pretty reasonable cross section of sites to  
18 help John with that point.

19 CHAIRMAN RYAN: And again, I think one of  
20 our speakers in the workshop will be a state regulator  
21 that has done decommissionings on exactly the kind of  
22 lines that you're talking about. So I think that will  
23 all come together as a good package of information to  
24 go forward with.

25 MR. REAMER: And really, they have a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 different perspective, frankly, than we do  
2 particularly in Pennsylvania. I recall vividly  
3 meeting with one of the under secretaries up there in  
4 Pennsylvania and he pointed out to me. He said, "You  
5 know your dose standard is all fine and good. But  
6 remember something happened here in 1979 that drives  
7 this to a large degree." So they have perspectives  
8 and concerns that are different than ours.

9 CHAIRMAN RYAN: Any other questions?

10 VICE CHAIRMAN CROFF: When you were  
11 talking about wear early on, did I understand you to  
12 say you've planned some public meetings down at  
13 Savannah River to get input?

14 MR. REAMER: No, we have not. We are  
15 meeting with DOE and we had a meeting with DOE. We'll  
16 continue to have technical exchanges with DOE. The  
17 Commission has expressed interest in seeing those  
18 meetings to the maximum extent possible be public  
19 meetings. Most of those meetings will take place  
20 here.

21 The public meeting I was referring to in  
22 South Carolina is that the State of South Carolina  
23 issues a permit. For disposal that takes place on  
24 site, they issue a permit for that disposal situation  
25 to occur. They have a permitting process. Part of

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 their permitting process is a public meeting or public  
2 meetings. We have agreed to participate in those  
3 public meetings. We would do the same thing with  
4 Idaho if so asked. So there will be public meetings  
5 that will take place between us and DOE.

6 One of the sensitivities that you get into  
7 is do all of those public meetings have to be open to  
8 the public. Are there certain meetings that should be  
9 government-to-government or should they all be public?  
10 So what we're trying to do in this paper to the  
11 Commission is articulate what our preferred approach  
12 is, but clearly, there's a great deal of interest of  
13 the Commission of seeing to the extent possible that  
14 the meetings be open publicly. We supported that.  
15 It's just a question of do they all need to be and if  
16 not, what criteria would demarcate.

17 VICE CHAIRMAN CROFF: Okay. Thanks.

18 CHAIRMAN RYAN: Other questions?

19 MEMBER CLARKE: One quick question. I  
20 think I heard you say that so far none of your  
21 decommissioning sites have involved restrictive  
22 access.

23 MR. REAMER: Restrictive release.

24 MEMBER CLARKE: Restrictive release.

25 MR. REAMER: None have. We have never had

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 a site go from A to Z pursuant to restrictive release.  
2 We had a couple of starts. Molycorp at one point was  
3 pursuing it through a private enterprise scenario.  
4 They decided not to. Pretty much what you look at is  
5 is if you look at the commitments that the provider of  
6 the institution controls has to put in place for the  
7 long term, there's a lot of liability implied and  
8 state governments and local municipalities were not  
9 prepared to do that nor was the private enterprise  
10 scenario.

11 So what we have done in the LTR analysis  
12 is to ask ourselves why is that and do we need to have  
13 the same level of institutional controls for all  
14 sites. It used to be if it's restrictive release it  
15 had to be all. I think there were six criteria in the  
16 license termination rule. Well, is that really  
17 necessary or should it be driven in a phased approach  
18 as a function of risk? What materials are at the  
19 site? What is the extent of contamination? What does  
20 it dose out and therefore, determine the appropriate  
21 level of institutional controls accordingly?

22 Or, for example, should there be some sort  
23 of license in perpetuity? Or should we play a larger  
24 role in providing some sort of institutional control  
25 or oversight for the future? But no one, no site,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 ever went from A to Z.

2 MEMBER CLARKE: Thank you.

3 MS. STEELE: I have a question. You  
4 mentioned that your organization performed the EIS on  
5 clearance? Could you give us the status on the  
6 rulemaking package?

7 MR. REAMER: Scott, I'll defer to you.  
8 You're probably up on it more than I am.

9 MR. FLANDERS: The rulemaking package is  
10 with the Commission and my understanding is that the  
11 Commission made that publicly available today.

12 MS. STEELE: They did?

13 MR. REAMER: Today, yes. That's right.

14 MS. STEELE: So we should be getting a  
15 copy of it, the package, soon I guess. Would there be  
16 -- We're planning on getting a briefing from NMSS on  
17 the rulemaking package, but I was wondering if we  
18 should probably try to pursue a briefing from your  
19 organization on the EIS.

20 MR. REAMER: Yes. That's what I was  
21 indicating in my comments. I think that we should do  
22 that. I think you should hear from us directly  
23 without the EIS.

24 MS. STEELE: Right. So maybe -- Okay. On  
25 the topic of EIS, also you are preparing the EIS for

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 USEC, U.S. Enrichment Facility. Is that an area we  
2 can expect to be briefed on as well when the draft is  
3 available?

4 MR. FLANDERS: I would recommend for both  
5 of those that we would do one briefing in the context  
6 where you can hear about the safety review as well as  
7 the environmental review at one time. We would come  
8 and make the presentation on the EIS. But I think for  
9 efficiencies and discussion of information too, I  
10 think it would make sense to time those together. So  
11 when the folks from NMSS come to talk about the  
12 rulemaking, it would make sense for us to come and  
13 talk about the EIS at the same time. The same is true  
14 for USEC.

15 MR. REAMER: Do them both at the same  
16 time?

17 MR. FLANDERS: Do the safety and the  
18 environmental reviews at the same time.

19 MS. STEELE: Yes. Both divisions brief on  
20 the same topic.

21 MR. FLANDERS: Exactly. Right.

22 MS. STEELE: Thank you.

23 CHAIRMAN RYAN: Other questions?  
24 Comments?

25 MR. REAMER: Great.

1 CHAIRMAN RYAN: Thanks very much.

2 MR. REAMER: You're quite welcome.

3 CHAIRMAN RYAN: We appreciate it.

4 MR. REAMER: Sure.

5 CHAIRMAN RYAN: Gentlemen, welcome.

6 (Chorus of thank yous.)

7 CHAIRMAN RYAN: Who starts?

8 MR. FLANDERS: Before I turn it over to  
9 Jim to lead the discussion and walk us through the  
10 slides, I just wanted to take a moment to expand on a  
11 couple of points that Larry made and he pointed out  
12 that we anticipate a fair amount of activity in low  
13 level waste coming down the horizon. We think that as  
14 a result of that the time of this briefing is very  
15 good.

16 You know in recent years there's been an  
17 increased focus on low level waste given the current  
18 situation that we have. I think at the last ACNW  
19 meeting, Dr. Ryan, you gave a good presentation that  
20 clearly articulated what the current situation is.

21 CHAIRMAN RYAN: I felt comfortable because  
22 Jim was there to correct me if I made a mistake.

23 MR. FLANDERS: And because that current  
24 environment that we have around low level waste and  
25 some of the concerns as to whether licensees or the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 majority of licensees will have a disposal home for a  
2 Class B and C waste. The question about a disposal  
3 home for greater than Class C waste, some of the  
4 concerns around the current construct of our system of  
5 regulating low level waste are the laws that are in  
6 place and is it one that looked at from a risk  
7 conformed perspective.

8 There's a great deal of question as a  
9 result of the current environment. GAO is looking at  
10 some issues in terms of the adequate disposal of \*\*\*  
11 3:08:49 looking at things from a risk perspective.  
12 We've been engaged in a number of those activities.

13 What Jim's discussion will focus on is  
14 talk about some of the current activities that we have  
15 going on. We believe that within the construct of our  
16 statutory requirements and Jim will talk a little bit  
17 about that, we are trying to do as much as we can to  
18 help facilitate low level waste disposal. It's been  
19 our position that we prefer disposal over storage and  
20 to the extent we can within our statutory requirement  
21 we think we're trying to achieve that.

22 We also believe that our activities have  
23 been risk-informed and Jim will talk to you a little  
24 bit about some of the activities. Larry touched on a  
25 few things, the 20.2002 type of disposals that we're

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 looking at that we feel are risk-informed.

2 So I think just in summary right now our  
3 program is fairly small. We anticipate it growing  
4 some. As a part of our efforts, we're trying to plan  
5 for that. We're trying to take actions and that  
6 clearly is to help improve the current situation and  
7 to make sure our activities are risk-informed. So  
8 with that kind of an introduction, I'll let Jim talk  
9 about the state of our current activities.

10 CHAIRMAN RYAN: Great. Just a quick  
11 question or comment there too. I think the Committee  
12 recognizes and it was in response, I believe, to one  
13 of Commissioner McGaffigan's comments to me at the  
14 Commission briefing that a lot of people kind of leap  
15 to the answer "Oh, let's redo the law." I think that  
16 there's a good record of "Well, maybe that's the last  
17 step or option."

18 You can look at license conditions and you  
19 can look at regulatory guidance and you can look at  
20 the regulation language itself and there's four  
21 options in there. I think sometimes the  
22 straightforward fix of a license condition or a  
23 regulatory guidance document that helps folks  
24 understand the intent are very useful tools to  
25 consider along the way. It's in that context we're

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 thinking about this white paper. Hopefully, you guys  
2 will stick around for the next session because we have  
3 a pretty detailed outline and your views of that will  
4 be very helpful too. Jim.

5 MR. KENNEDY: Okay. Well, thank you for  
6 having me here today for the Annual Low Level Waste  
7 Program update. I think it's been a bit more than a  
8 year, but hopefully we can have these more frequently  
9 and maybe annually in the future.

10 These are the topics that I'd like to  
11 cover. The National Low Level Waste Program again  
12 both Larry and Scott talked about your summary of it  
13 at the March meeting, Mike. So I won't dwell on that  
14 too long because you gave a good summary.

15 I also want to give you an overview of the  
16 NRC's Low Level Waste Program and particularly make  
17 the point that our program here at NRC pretty much  
18 tracks the national program and what's happening on  
19 the national scale. You'll see that more vividly  
20 later on. Then I'll talk about some specific  
21 activities in NRC's program, specific things that  
22 we're doing today and then finally, some conclusions  
23 and especially where ACNW might be able to contribute  
24 and make our work better and add value to the work  
25 that we're doing.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1           You'll see after you hear our presentation  
2           today that we're in an anticipatory mode. A couple of  
3           times we've heard about these two big studies that are  
4           going to be completed this year, the GAO study on B/C  
5           waste storage and also the National Academy study. So  
6           we're anticipating and expecting and even planning I  
7           would say for some recommendations that might affect  
8           us from those reports.

9           I will try to be brief since we've talked  
10          about this already. But the future of low level waste  
11          disposal in the U.S. continues to remain uncertain and  
12          it is becoming more uncertain. Barnwell's going to be  
13          closing or expected to close to out-of-compact  
14          generators in 2008. What that means is low level  
15          waste generators in some 30 odd states in the U.S.  
16          will no longer have a place to dispose of their Class  
17          B and C waste. So they'll have to be storing it.

18          At the same time, the Hanford facility,  
19          the U.S. Ecology facility out at Hanford, it's going  
20          to remain open until 2060, I believe, is the plan, but  
21          there's no indication whatsoever that that facility is  
22          ever going to open to low level waste generators out  
23          of the Rocky Mountain and Northwest compacts.

24          I think most everybody knows that  
25          Envirocare is accepting Class A waste today and that

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 they with their change of ownership about six weeks  
2 ago decided that they would not pursue their Class B/C  
3 initiative. They had gotten license for disposal of  
4 Class B and C waste out there, but needed approval  
5 from the governor and the legislature, but have  
6 decided to not pursue that. So they are expected to  
7 be a Class A facility indefinitely as far as I know.

8 Of course, we also know about the license  
9 application down in Texas for the Waste Control  
10 Specialist facility (WCS). That would be a full  
11 service facility except in Class A, B and C waste.  
12 The application was submitted last August and Texas  
13 has to make a decision on it in 2007. So the  
14 application is under review.

15 Another big question with that facility is  
16 whether they would ever accept any out-of-compact  
17 waste. It is a compact facility. Texas compact has  
18 just two states, Texas of course and the State of  
19 Vermont and the compact can approve out-of-compact  
20 waste, but it's not at all clear that they would ever  
21 do that. They have that authority but very much up in  
22 the air whether they would do that if the facility  
23 were to be licensed and to go into operation.

24 Finally, greater than Class C disposal,  
25 I'll talk a little bit more about that later. But DOE

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 is taking some specific steps now. They mentioned it  
2 in their testimony at the Senate September 30th  
3 hearing that Senator Domenici chaired. They mentioned  
4 that they were starting to take action and indeed,  
5 we've had a couple of meetings with them since that  
6 time talking about their EIS process for greater than  
7 Class C disposal. So there is some hope that  
8 something will be happening on that in the near  
9 future, some public documents.

10 Again, some developments later this year  
11 that could impact us in a big way. The General  
12 Accountability Office report on storage of Class B and  
13 C waste, the Congressional interest that might occur  
14 as a result of the hearing last September 30th where  
15 Senator Domenici said he might be holding hearings  
16 this year to look into revisiting the Low Level Waste  
17 Policy Act and finally, the National Academy's study  
18 on Low Activity Waste Disposal.

19 More on the National Program, low activity  
20 waste is receiving increased attention. There is no  
21 definition of low activity waste at this point, but  
22 what we mean by it or what I mean by it today is waste  
23 at the low end of the low level waste spectrum, say,  
24 roughly ten percent of Class A. There are no numbers  
25 associated with it but generally, it's waste that

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 comes from decommissioning, a large scale  
2 decommissioning, like nuclear power plants, rubble,  
3 contaminated building debris and so forth. Low  
4 activity waste also can go beyond low level waste and  
5 it can include things like mill tailing and TENORM and  
6 so forth. And that's a definition that is also used  
7 by certain people.

8 In any case, it's getting increased  
9 attention. The IAEA had a symposium on low activity  
10 disposal back in December over in Cordoba and Margaret  
11 Federline of NMSS participated in that in a big way.  
12 I think you got a copy of the paper that she gave as  
13 part of the background for this meeting today. You  
14 also know, most of you know anyway, that the NCRP in  
15 their annual meeting back on March 30th and 31st had  
16 as the topic low activity waste disposal. So it's  
17 getting a lot of attention

18 And it's also causing some thing that  
19 we're doing on it here on the staff, one of which is  
20 the use of RCRA facilities for disposal of low  
21 activity waste and by that way, I mean primarily  
22 decommissioning waste or the low end of low level  
23 waste. For example, when Commissioner Merrifield was  
24 here back in March, he mentioned the Big Rock Point,  
25 20.2002 authorization whereby that nuclear plant out

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 in Michigan worked with the state and local officials  
2 and got approval under 10 CFR 20.2002 to dispose of  
3 debris and concrete and so forth from the nuclear  
4 plant at a RCRA Subtitle D municipal landfill  
5 facility up in northern Michigan.

6 Also the Army Corps of Engineers for years  
7 beginning back in about 1999 or 2000 has been  
8 disposing of FUSRAP waste. That is a low activity  
9 mill tailings at RCRA facilities. And that whole  
10 topic has just been getting increased attention too  
11 because of the EPA Advanced Notice of Proposed  
12 Rulemaking that was issued in November 2003 where they  
13 proposed and laid out and discussed the national  
14 framework for disposal of these kinds of wastes.

15 Now when they define low activity waste,  
16 they had a boarder definition than I've used today.  
17 They included TENORM in their definition. They  
18 included conventional low level waste. Probably they  
19 also had FUSRAP as well. In any case, they were  
20 looking at and are still looking at a national  
21 framework that would be embodied in the rulemaking  
22 that would describe conditions under which low  
23 activity waste could be disposed of in RCRA Subtitle  
24 C hazardous waste facilities.

25 There's a lot of interest in that.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 They've received some thousand or more comments on it.  
2 There's a lot of controversy about it. They haven't  
3 made a decision as to whether to proceed with that  
4 rulemaking or not, but they are at least on a path  
5 towards developing some guidance and doing some  
6 modeling for that work. I'll talk more about that  
7 later.

8 But coming back to the national low level  
9 waste program, I think it's of interest to take a  
10 quote from a letter that we wrote to GAO last year,  
11 just about a year ago. The General Accountability  
12 Office published a report last June that looked at the  
13 national low level waste disposal situation and in  
14 commenting on a copy of the draft that we saw for that  
15 report, this was signed out by the EDO, we stated the  
16 following: "We also believe that although the current  
17 disposal system in the U.S. is safe, it is not  
18 generally considered to be reliable, that is,  
19 generators don't have good assurance that disposal  
20 will be available to them over the next five or ten  
21 years or cost effective." And we're kind of nudging  
22 folks in the direction of looking at better ways of  
23 having a national disposal system, the Low Level Waste  
24 Policy Act, in particular.

25 GAO had recommended that we go to Congress

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 when we felt the situation was in such a state that  
2 Congress needed to take action to change the  
3 legislation. We disagree with that recommendation  
4 because there's a lot of information that we don't  
5 have as a result of our limited statutory  
6 responsibility. But we did make this statement that  
7 we thought it's probably time to look at the national  
8 system and we also, I believe as I recall, recommended  
9 the GAO look into it because they have the authority  
10 to gather the kind of data and look at the kind of  
11 policy issues that we don't have.

12 Well, I've been working in this division  
13 for 20 years and I've been involved in low level waste  
14 disposal for 15. So I came up with this chart and  
15 it's to explain and show how our NRC low level waste  
16 program has tracked what's going on nationally. What  
17 I've done here is put in some, what I consider to be,  
18 major milestones in the national program over the  
19 last, my goodness, 35 years or so. Long time.

20 The first one is in the late 1960s and  
21 early 1970s. The first commercial low level waste  
22 sites were licensed. There were six altogether that  
23 were licensed, some by agreement states, some by NRC.  
24 In the 70s and late 70s, some of those sites leaked.  
25 Three of those sites leaked rather and as a result,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 NRC began promulgating a rulemaking in the late 1970s,  
2 Part 61, to address some of the performance problems  
3 that we had seen in these sites and we had a big  
4 effort in the late 1970s and early 1980s putting  
5 together Part 61.

6 There was a concern in the late 1970s  
7 about generators having no place to dispose of low  
8 level waste and states at that time pressed for  
9 passage of the Low Level Waste Policy Act of 1980  
10 which eventually was passed. Not much happened in the  
11 first five years after it was passed. In 1985,  
12 Congress amended it to include within it specific  
13 milestones and incentives and penalties for the states  
14 to encourage them to develop new sites around the  
15 country and form regional compacts.

16 After that happened, there was a  
17 tremendous amount of work that happened in the states  
18 in developing new sites. At one point or over the  
19 next ten years, there were 12 siting programs at one  
20 time or another that were existence ranging from site  
21 screening in certain states all the way to the  
22 issuance of a license out at the Ward Valley site in  
23 California. They went through the entire site  
24 screening process and licensing process and so forth,  
25 although that site was eventually abandoned.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1           What all that meant for us in the low  
2 level waste program is in the 1985 Amendments Act, NRC  
3 was given a lot of responsibility to develop an  
4 emergency access rule whereby we define the provisions  
5 under which generators could get access to one of  
6 these compact facilities that they would normally be  
7 closed out it. We were also to develop criteria for  
8 alternative disposal methods, alternatives to shallow  
9 land burial. We did that. We were also to develop  
10 plans and procedures for licensing a low level waste  
11 facility and we did that. So we had a tremendous  
12 amount of work in the late 1980s and early 1990s on  
13 low level waste disposal and in fact, I think you  
14 mentioned us in our talk last March, Mike. We  
15 actually had a branch at that time devoted to low  
16 level waste with some 20 plus staff members involved  
17 in it.

18           Another thing that was going on at that  
19 time was NRC had to budget for, we were expecting that  
20 we might get a license application from one of the  
21 three non-agreement states who were involved in low  
22 level waste siting. They were Michigan, Connecticut  
23 and New Jersey and all of them looked at sites to  
24 varying degrees. Michigan had a fairly extensive site  
25 screening program as did Connecticut and we had to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 budget in case a license application were to come in  
2 for one of those sites.

3 And finally, we had a fair amount of  
4 technical assistance work that we gave to those states  
5 that were very much actively involved in trying to  
6 license the site like Nebraska, like Ward Valley,  
7 North Carolina to a degree and so we provided some  
8 extensive technical assistance to those different  
9 programs. We had a very, very large program at that  
10 time.

11 Now what happened is that the new  
12 development programs for new sites eventually wound  
13 down. A number of sites, their programs were  
14 terminated for various reasons and in 1996/1997 the  
15 Commission in the strategic assessment that it did at  
16 that time decided that it was time to scale back our  
17 program as well. So we went from some 20 FTE down to  
18 three FTE at that time and that's where we remain  
19 today at about three FTE, maybe not even that. I'm  
20 not sure. So we've had a very small low level waste  
21 program for some almost ten years now and we're just  
22 a part of a section actually.

23 I think it's worthwhile to point out too  
24 that at the same time the low level waste program in  
25 the U.S. was winding down, the clean-up programs in

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 the U.S. were gearing up. Of course, there was the  
2 DOE program which started in the late 1980s when they  
3 closed down a lot of their operations for developing  
4 nuclear materials. That's had a big impact and also  
5 NRC in the late 1980s and early 1990s in particular in  
6 response to Congressional concerns established its  
7 Site Decommissioning Management Program. That  
8 continues today, not with that name, but with the new  
9 name and the new program of Complex Site  
10 Decommissioning Program which now contains some 43  
11 material sites and 17 reactor sites that are  
12 undergoing decommissioning and that work has geared  
13 up.

14 The Decommissioning group used to be a  
15 couple of people, kind of like the low level waste  
16 back in the late 1980s. It then became a section.  
17 Then in early 1990s, it became a branch and it  
18 continues to be an entire branch or directorate today.  
19 So the work there has increased a lot.

20 There's one thing particularly worth  
21 mentioning about the increase in the clean-up programs  
22 and that is that the low level waste stream unlike the  
23 time before the clean-up programs when the low level  
24 waste stream was primarily operational waste from our  
25 licensees, the low level waste stream has changed to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 one where not only is it operational waste, but it's  
2 also now the very, very large volumes of low activity  
3 waste from decommissioning and from clean-up of  
4 contaminated sites that really aren't designed for a  
5 place like Barnwell and licensees can't afford to send  
6 them to a place like Barnwell either. So there's been  
7 a demand for a different kind of facility that's able  
8 to accept low activity waste, to dispose of them  
9 safely and to be an economic alternative as well.

10 One last slide before I get into NRC's  
11 specific program. This is a chart that Carl  
12 Papariello presented in testimony to Congress in July  
13 of 2000 before the Senate Environment and Public Works  
14 Committee and it presents the relative specific  
15 activity for the various types of radioactive waste in  
16 comparison with soil. 11e(2) byproduct is up at the  
17 top. Next comes low level waste which has a very,  
18 very wide range of radioactivity. Even after 100  
19 years and a lot of decay has occurred, that bar for  
20 radioactive waste is still going to be about half the  
21 length that it is right now because of the activity of  
22 some of the long-lived radionuclides like carbon 14,  
23 iodine 129 and technetium 99.

24 NARM and TENORM, TENORM in particular, can  
25 also be extremely hot up to 100,000 picocuries for a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 gram or so and most of that, a lot of that, is uranium  
2 thorium and radium, all very long-lived. Then there's  
3 exempt source material which is defined in our  
4 regulations as unimportant quantities of source  
5 material, less than 0.05 percent source material, in  
6 other words. We also included spent reactor fuel just  
7 for comparison and I should note just because we  
8 mention WIR today that this chart does not include  
9 high level waste for reprocessing. If it did, you  
10 would see of course that some of the high level waste  
11 has very low specific activity and goes sufficiently  
12 low that it can be disposed of near the surface as  
13 Congress has said we can do in the legislation that it  
14 passed last fall.

15 CHAIRMAN RYAN: Jim, before you move from  
16 that slide, I think there's a point that sometimes  
17 escapes the discussion. I know you know it well as do  
18 others in the room, but it's interesting when you see  
19 that list and the activity measure that it's clear as  
20 bell that those are all source-based kinds of  
21 definitions and sorting.

22 MR. KENNEDY: Absolutely.

23 CHAIRMAN RYAN: Where it came from and  
24 what its name is is how we sorted them out, not the  
25 radioactive material content and I pick on that a bit

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 just because I think we all agree that the risk is  
2 more related to the radioactivity issues in terms of  
3 how much and what's the half life mix and chemical and  
4 transport properties and so on the environment and has  
5 very little to do with where it came from but by an  
6 origin definition.

7 MR. KENNEDY: Absolutely. Yes. What this  
8 chart suggests is low activity waste particularly down  
9 in this region here, above soil levels ten times, 100  
10 times, I don't know the exact number but there is a  
11 number of materials there, mill tailings, 11e(2)  
12 byproduct material, FUSRAP or so-called pre-78 mill  
13 tailings, low level waste, TENORM. They all have  
14 roughly the same specific activity. They all have  
15 long-lived radionuclides and this chart suggests that  
16 they could all be managed in a similar way and a safe  
17 way.

18 Yet the laws for example pretty much  
19 require that uranium mill tailings go to a mill  
20 tailing site, some exceptions. Low level waste go to  
21 a Part 61 facility, again some exceptions. And  
22 NARM/TENORM or TENORM in particular is regulated by  
23 the states. Some of it goes to RCRA municipal  
24 landfills. Some goes to hazardous waste landfills.  
25 It's managed in different ways.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           So the purpose of this is just to  
2 illustrate that these things are similar. They have  
3 different names and different origins, but this meant  
4 to suggest that they can be managed in similar ways in  
5 some cases. One of our goals frankly has been to, as  
6 best as we can under the existing laws which erect  
7 some of these barriers between these wastes, is to  
8 work around this and to dispose of waste in a more  
9 risk-informed way.

10           CHAIRMAN RYAN: Jim, just as I see this  
11 chart, that would be helpful to us as we think about  
12 our white paper if we could get a hold of the entire  
13 testimony that Dr. Papariello gave at that time.

14           MR. KENNEDY: Sure.

15           CHAIRMAN RYAN: That would be a great  
16 thing to get a hold of for us to read as well. Thank  
17 you.

18           MR. KENNEDY: Just a little more on  
19 history. You're aware of the National Academy study  
20 that's ongoing on low activity waste. Well, about  
21 three days or so after Carl gave his testimony on the  
22 Hill that's when the National Academy's Kevin Crowley  
23 came up with a prospectus for examining low activity  
24 waste that really used this as a point of departure  
25 and said, "Here's a problem and here's how the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 National Academy thinks we can do a study to make  
2 things better."

3 Finally, we'll get to some of our  
4 specifics. In our role in low level waste disposal,  
5 we have two statutes under which we operate, the  
6 Atomic Energy Act of course and dating and safety  
7 responsibilities. We also had some specific  
8 responsibilities that I mentioned earlier under the  
9 Low Level Waste Policy Act developing an  
10 infrastructure basically for licensing of low level  
11 waste sites. We also had responsibility under the Act  
12 for licensing a GTCC disposal facility and finally,  
13 after many years it looks like we're going to be  
14 taking some action on that which I'll discuss further.

15 I think it's also important to point out  
16 that the Commission and the strategic plan that was  
17 issued last year covering the period 2004 through 2009  
18 identified this means to support our safety strategy.  
19 They said we should assess the key issues affecting  
20 safe management of civilian low level waste disposal  
21 to ensure that potential disruption and access to the  
22 three licensed disposal sites does not adversely  
23 affect licensee's ability to operate safely and  
24 decommission their plant safely. So that's a broad  
25 framework under which we're operating here.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 Here are some of the specific things that  
2 we're doing. First, we're beginning a process to  
3 revise our low level waste storage guidance in  
4 anticipation of Barnwell closing in a few years and  
5 most U.S. generators not having access for disposal of  
6 their Class B and C waste. Some of our guidance is  
7 almost 25 years old. Different pieces of it have been  
8 issued at different times, some for reactor licensees,  
9 some for material licensees and so forth. We believe  
10 it would be helpful to consolidate that guidance.

11 There almost may be some new security  
12 issues where it would be helpful to take the new  
13 security guidance and put that into the storage  
14 guidance and finally, we could probably more risk-  
15 inform our storage guidance as well. We know we can  
16 do that with Part 61, but it's, like I said, some of  
17 the storage guidance is 25 years old and I think we've  
18 probably learned a lot since then and there's some  
19 improvements that we can make.

20 Now in 1994, we undertook a similar  
21 effort. We did develop some draft guidance for  
22 storage. We consolidated the reactor guidance and all  
23 the other materials guidance and so forth. We  
24 published a Commission paper, sent it up to the  
25 Commission. The Commission said send it out for

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 public comment and just after that happened, the State  
2 of South Carolina decided that they weren't going to  
3 close. They had plans for closing in 1995 and just  
4 after we published that Commission paper, the State of  
5 South Carolina, I believe they got a new governor, and  
6 he decided to keep the facility open.

7 CHAIRMAN RYAN: Governor Beasley seceded  
8 South Carolina for the second time. He left the  
9 Southeast Compact and developed the Revenue Plan  
10 through the fees to take waste in the nation.

11 MR. KENNEDY: Right. And so we put that  
12 effort on the back burner. That Commission paper is  
13 still out there. It has a draft of the consolidated  
14 guidance that we had proposed at that time and that's  
15 going to be our starting point.

16 CHAIRMAN RYAN: Jim, one additional point  
17 to think about on this area I think is the states of  
18 course as you well know have a big role because they  
19 have many, many licensees and apart from the potential  
20 for a couple of states, all the licensing and siting  
21 activities have been in agreement states.

22 MR. KENNEDY: Yes.

23 CHAIRMAN RYAN: So that's a little bit of  
24 a different twist than for example having the reactor  
25 obligations directly to the NRC in all states all

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 locations. So what's your plan to involve CRCPD or  
2 OAS or states on an individual basis? I'm sure you're  
3 thinking about that. Could you give us your thoughts  
4 there?

5 MR. KENNEDY: Well, we're thinking about  
6 it. I don't have any specific plans yet, but that's  
7 definitely something that we will do because we're  
8 here at headquarters. We're not out there licensing  
9 these facilities like the states are. I, for example,  
10 worked on the CRCPD working group on TENORM and my  
11 goodness, there's just so much to learn from other  
12 folks that we don't know about.

13 CHAIRMAN RYAN: To that end as we think  
14 about our white paper and move it forward, there's a  
15 potential for us to invite states in and maybe hear  
16 some of their views on our working paper and see if  
17 that might be helpful to you all. So we'll coordinate  
18 on that in that regard as well.

19 MR. KENNEDY: Absolutely. Another effort  
20 that we're just beginning given the interest in  
21 20.2002 alternate disposals is coming up an NMSS  
22 process for reviewing 10 CFR 20.2002 disposal  
23 requests. Right now, we do process some occasionally  
24 but what we want to do is write down the process for  
25 our own staff, kind of a standard review plan.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 We also want to make guidance available to  
2 licensees and generators and folks who may be using  
3 20.2002 in the future so they know what the staff  
4 needs and so that we can do these more efficiently and  
5 in a more timely way. On Wednesday of this week at  
6 the Decommissioning workshop, we have a breakout  
7 session whereby we'll be meeting with the stakeholders  
8 and telling them about this and also asking them where  
9 we need to make improvements, how we can do things  
10 better, what issues we need to address regarding these  
11 disposals.

12 Related to that, of course, as I mentioned  
13 earlier is EPA's ANPR on low activity waste although  
14 it's unclear whether they're actually going to go  
15 ahead with a rulemaking on that. They are continuing  
16 to do work on it. We are coordinating with them to a  
17 degree. They are thinking for example of perhaps  
18 developing guidance on disposal of radioactive  
19 materials in RCRA landfills and we are working with  
20 them on that and look forward to whatever they might  
21 come up with.

22 Regarding GTCC disposal, we talked a  
23 little bit about this but we are engaging DOE on their  
24 NEPA process. The first step that they're going to  
25 take is to issue an advanced notice of intent to go

1 through the NEPA process. Right now, we have a  
2 Commission paper on GTCC disposal that talks about  
3 whether we should be a commenting agency or a  
4 cooperating agency and we're expecting that there's  
5 going to be quite a bit more work on that in the  
6 future.

7 Finally, the GAO and National Academy  
8 studies, of course, they're upcoming, but we've also  
9 been working closely with both organizations for the  
10 last year, actually even longer than that in the case  
11 of the National Academy, providing them information  
12 and most recently, we sent a fairly long response to  
13 the National Academy just a week ago today. They were  
14 asking for the most up-to-date information on what  
15 we're doing with respect to low activity waste and so  
16 we sent a long response back to them last Monday  
17 describing that so that they can use that in preparing  
18 their final report. But that's required some effort  
19 to give them the information that they need to do  
20 their work.

21 CHAIRMAN RYAN: Jim, just before you leave  
22 that, I want to just pick your brain a bit on the  
23 connection between the definitions in 10 CFR 61 for  
24 Class C which of course creates the greater than Class  
25 C and then how do you see the relationship between

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 that traditional Class AVC low level waste than  
2 greater than Class C.

3 Let me sharpen the pencil a bit. If you  
4 think about risk-informing low level waste and dealing  
5 with, as you pointed out, the dilute LAW, low activity  
6 waste, and then we gather information on this exempt  
7 small sources that just by concentration are greater  
8 than Class C, where do you see -- I mean I see those  
9 as kind of a continuum and not two distinct issues  
10 even though from a legislative perspective they're  
11 distinct issues. It's interesting to think about  
12 that. Do you have any thoughts along those lines? If  
13 you change one, you could change the other, I guess,  
14 is my main point.

15 MR. KENNEDY: Yes.

16 CHAIRMAN RYAN: And they're not unrelated.

17 MR. KENNEDY: Exactly.

18 CHAIRMAN RYAN: And of course, greater  
19 than Class C shows up in WIR and shows up on its own  
20 in DOE's effort. It shows up as the boundary in low  
21 level waste. It's in a number of places.

22 MR. KENNEDY: Well, I think that's one  
23 area where we can engage you and maybe get some  
24 thoughts from you as well as we get into this GTCC EIS  
25 and also further down the road to licensing criteria

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 once they choose an alternative and so forth. We'd be  
2 interested in talking about that.

3 CHAIRMAN RYAN: It's something I don't  
4 have an answer to but it's, I think, an interesting  
5 exercise to think about it because of the fact that if  
6 you push on one side of that balloon, it will be go  
7 out on the other.

8 MR. KENNEDY: Yes. Maybe we can push on  
9 this side too. We are constrained by the laws and the  
10 regulations, but maybe there is some flexibility  
11 there. We're using as much flexibility as we have  
12 under law and regulation and in accordance with  
13 protecting safety on the low end and conceptually, I  
14 think we'd want to do the same thing on the high end,  
15 too.

16 CHAIRMAN RYAN: And where it kind of comes  
17 to a focus for me, I'll just offer this to think  
18 about, there's nothing we need to decide at the  
19 moment, but if you think about a concentration limit,  
20 high, medium or low, it's not the risk. The  
21 concentration is not the risk.

22 MR. FLANDERS: I think one of the things  
23 -- I'm sorry.

24 CHAIRMAN RYAN: That's all right. I was  
25 going to say the reason it's not is if you have a very

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 high concentration but a very small quantity, that's  
2 a whole lot different than 10,000-curie source of  
3 something else that's the size of a pencil point or  
4 something. So it's the total amount of radioactive  
5 material that's more directly, I think, reflective of  
6 the risks. So I just recognize that the concentration  
7 system, while very practical in terms of what we  
8 measure and can demonstrate for compliance purposes  
9 and shipping and all the rest of the things we need to  
10 do, it's really not as clean a measure of the risk as  
11 the quantity. So just something to think about and I  
12 think as we develop our thinking on this white paper,  
13 that might be a topic we'll try and struggle with a  
14 bit.

15 MR. FLANDERS: If I could just add to  
16 Jim's answer just a little bit, one of the things to  
17 keep in mind is the construct of Part 61 where it has  
18 a provision, 61.58, that allows for alternate  
19 concentration criteria which focuses more on the risk  
20 in terms of satisfying the performance objectives. So  
21 one thing to keep in mind and a part of that thinking  
22 is the current construct which allows for some of a  
23 risk perspective in terms of actually be able to  
24 satisfy the performance objectives.

25 CHAIRMAN RYAN: And that's a good point.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 That's what I'm trying to explore as a fact that even  
2 though the concentration system is pretty clearly  
3 spelled out in the two tables, it's not absolute by  
4 the very provisions you cited.

5 MR. FLANDERS: One of the things I would  
6 also encourage you and you guys may already be very  
7 familiar with it, but it's often sometimes good to go  
8 back and look at the draft generic environmental  
9 impact statement for the Part 61 rulemaking which in  
10 some ways kind of laid out some of the logic behind  
11 the concentrations that were picked as A, B and C and  
12 some of the disposal requirements, the stability  
13 packaging type requirements that allowed one to use  
14 that table more to screen if you will.

15 CHAIRMAN RYAN: It was hard to find, but  
16 I think we, all the members, have copies of that  
17 draft.

18 MR. FLANDERS: It gives a good perspective  
19 on how they came out with those.

20 CHAIRMAN RYAN: You're right. It's  
21 absolutely, there's clarity in that draft EIS.

22 MR. KENNEDY: Okay. Moving on. Some of  
23 the other things that we do to varying degrees is  
24 provide technical assistance to the agreement states  
25 and that's been a large effort over some of the years

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 when low level waste siting was going on and  
2 licensing. Right now, it's a very small part of what  
3 we do. Perhaps Texas will request assistance for  
4 their facility as it's going through review, but we've  
5 had no such request yet.

6 We also do IMPEPs of the states. That is  
7 we participate on the IMPEPs for the states that have  
8 low level waste sites. That is South Carolina, Utah  
9 and Washington. Our staff is a member of the team.

10 We also do international work. There's a  
11 little bit of import/export licensing. We also  
12 participate in international standards, development  
13 and review and on that topic, for example, one thing  
14 we're very interested in is that the IAEA is going  
15 ahead and revising their waste classification standard  
16 to include a new class called low activity waste. So  
17 that's of great interest to us and we'll be following  
18 that and commenting on that.

19 Another thing I'd like to point out in  
20 terms of breaking down walls and going back to that  
21 bar chart is what I've noticed in the years that I  
22 worked in low level waste is that it's seems to me  
23 that we've broken down some of the walls and we just  
24 don't talk about low level waste in Part 61 anymore.  
25 It seems to much more defuse and diverse and although

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 we still have a long way to go, much more risk-  
2 informed. For example, we work with the WIR group and  
3 the low level waste folks, including myself, will be  
4 in the same section as the WIR people. We've worked  
5 on TENORM, the CRCPD standard or suggested state  
6 regulation for TENORM, Part N. We were a member of  
7 the working group for that and brought insights from  
8 what we know about decommissioning and low level waste  
9 disposal to that effort.

10 And finally, of course, there is the  
11 disposition of solid materials rulemaking which is  
12 ongoing and our group, particularly Scott's group, the  
13 environmental group, has been involved in that  
14 preparing the EIS. It's related to low activity  
15 waste. For example, the NCRP Annual Meeting, half of  
16 the presentations down there at that meeting were on  
17 disposition of solid materials and half were on low  
18 level waste disposal. So they're closely related.

19 MR. HAMDAN: Jim, this really brings the  
20 question that it seems to me that every time we hear  
21 talks about low-level waste, this included, you seem  
22 to looking at little threes, three here, three there.  
23 The question I have for since you have all this  
24 experience with low level waste, did anybody do a  
25 study, I'm not looking for an opinion but a real

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 study, as to why for example the compacts did not work  
2 to identify the real reasons why we still have a  
3 problem like 25 years after the legislation has  
4 passed? Then if you had that study, then you know  
5 what needs to be fixed and you go out and try to fix  
6 it as opposed to we have WIR, we have greater than  
7 Class C waste, we have Mr. Papariello's chart and if  
8 everybody talks this up, we could do it. I want to  
9 know if somebody looked at the forest through the  
10 trees and identified what the problem or the problems  
11 are and use that as a road map to what needs to be  
12 done and then go ahead and do it.

13 MR. KENNEDY: The closest that I've seen  
14 to it and, Mike, maybe you can add something here is  
15 the GAO in their June 1999 report which looked into  
16 the failure of the National Program and all the money  
17 that had been spent and so forth and I don't remember  
18 the exact words that they used but they basically said  
19 political factors were probably the biggest reason why  
20 it didn't work. Now that's a general statement.  
21 There are lots of different factors and different  
22 reasons why different sites weren't licensed, but you  
23 need to look at the language in their report.

24 MR. FLACK: Yes, Jim. There's been at  
25 least to my recollection two, possibly three, GAO

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 reports that have looked at issues related to the  
2 implementation of the National Low Level Waste  
3 Program. It's just not one in particular but there  
4 are several reasons. If Latif gets a hold of those  
5 and becomes familiar with them, he may have to scratch  
6 his itch.

7 CHAIRMAN RYAN: I think, Latif, there have  
8 been some credible studies, the GAO reports, and there  
9 are several of them that address it in one form or  
10 fashion and having been a participant at that time  
11 during some of those sitings, it was interest to  
12 recognize a few things. One is there was no, with the  
13 exception of perhaps California, no real vocal  
14 constituency that said "I want one of these" or "I  
15 need one of these." That was one. I mean utilities  
16 were not as vocal as for example the Cal Rad group and  
17 continues to be on low level waste. So the  
18 constituency aspect of it was one.

19 Two, getting back to more things and  
20 perhaps we can address in our activities together on  
21 low level waste with the staff is the siting criteria  
22 if you read them carefully tend to be, some very  
23 clear. If you're in a flood plain, that's no good.  
24 If you're out of the flood plain maps by the Corps of  
25 Engineers, that is good.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 But others tend to be a little vague. The  
2 site must be capable of being monitored, modeled and  
3 analyzed. Okay. What does that mean? I think part  
4 of the licensing juggernaut that happened in the  
5 states that the ball of interpreting what those meant  
6 kept getting bigger and bigger and ended up with  
7 literally \$150 million or \$200 million bill for sites  
8 that that is in license development and so forth to  
9 where you have to say, "What's the economics of this?"  
10 If you have a \$200 million investment you have to  
11 write down, that's a pretty expensive per cubic foot  
12 charge.

13 Then I think, frankly, that the reason  
14 event that dialed the siting back had nothing to do  
15 with GAO studies of these kind of technical issues but  
16 really was the South Carolina decision in Beasley's  
17 administration to reopen Barnwell to the nation with  
18 exception of North Carolina. It basically, and, Jim,  
19 correct me if I'm wrong, but the dial-in from about  
20 nine to one just like that.

21 MEMBER WEINER: Latif, there are also a  
22 number of, in the peer-reviewed literature,  
23 sociological studies. I know some of the authors of  
24 various siting events.

25 CHAIRMAN RYAN: Right, you are. There's

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 a whole of question of the public acceptance aspect of  
2 it as well.

3 MEMBER WEINER: There's a whole  
4 literature.

5 MR. HAMDAN: Can I follow up with this  
6 one? But if this is the case. If we have studies,  
7 the GAO boards and also there's -- Is anyone following  
8 up on any of that or is part of the problem that  
9 there's no one entity who is the switchman. We have  
10 too cooks or too many people responsible. What is it?

11 CHAIRMAN RYAN: Well, we'll get into a  
12 little bit more detail than perhaps we have time for  
13 now. But the other aspect of it that's concurrent  
14 with this whole siting business is the fact that  
15 generators and particularly utilities that were 85  
16 percent of the commercial volume went into a mode  
17 where they were being deregulated and therefore, were  
18 looking at every aspect of their operations and then  
19 themselves looking at risk informing and risk analysis  
20 methods and volumes are dramatically decreased.  
21 Dramatically decreased.

22 Barnwell used to receive 1.2 million cubic  
23 feet per year just like clockwork. That was the  
24 license limit. Now they receive 30,000 cubic feet a  
25 year. That's a big drop. And then Envirocare has the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 low activity waste piece of the -- I don't want to  
2 say, marketplace. That's not quite right. The  
3 characteristics of how the industry is managing these  
4 materials has changed a lot, too. So it's not just  
5 that I mean that Texas sees the marketplace and I'm  
6 sure they wouldn't have invest there. But we'll see  
7 how that one comes out and it may be water seeking its  
8 own level.

9 I guess I would suggest while that's  
10 interesting our focus ought to be on how to have a  
11 better process and a clearer and more risk-informed  
12 and transparent process for users, for generators and  
13 for folks that may want to develop activities in this  
14 arena. But it's a good question.

15 MR. HAMDAN: Okay. Thank you.

16 MR. KENNEDY: Okay. Well, I'm about done  
17 here. Just a couple of conclusions. One, the low  
18 level waste program we believe tracks the national  
19 program. At least, that's historically what's  
20 happened.

21 We have some specific activities underway  
22 to address the issues that we see. They include the  
23 need for storage guidance, the need for better  
24 guidance on 20.2002 disposals for low activity waste.  
25 It includes greater than Class C disposal and the EIS

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 that DOE will be developing in the near future we  
2 expect.

3 We're expecting some perhaps major  
4 developments later this year as a result of the  
5 recommendations and the GAO and NAS reports. We'll be  
6 interested in seeing those and seeing what they have  
7 to say and how they might affect us.

8 Finally, we look forward to your input and  
9 involvement in the future on some of these issues and  
10 we look forward to working with you on that.

11 CHAIRMAN RYAN: Great. Questions?

12 MEMBER WEINER: Just a couple. Since  
13 according to your second slide, NRC is concerned about  
14 access to disposal facilities. What can NRC do about  
15 it and where does NRC fit into the access question?

16 MR. KENNEDY: I guess a couple of things.  
17 First, I would really agree with what Mike had to say  
18 just a few minutes ago and that is about making our  
19 regulatory framework and our processes as risk  
20 informed and processes as transparent and efficient as  
21 we can possibly make them.

22 Beyond that, on some of these other issues  
23 regarding why the national program hasn't worked and  
24 issues that go beyond health and safety and so forth,  
25 we have a role in that and we might, for example, as

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 we did in 1980s provide testimony to Congress for  
2 example on what our view is and some of the things we  
3 know about. But there's at least historically we've  
4 not done a whole lot in terms of getting into some of  
5 these other issues that affect the success of the  
6 national program.

7 MEMBER WEINER: Thanks.

8 DR. LARKINS: There is something in the  
9 regulations that allows for emergency access.

10 MR. KENNEDY: Yes.

11 DR. LARKINS: It has never been exercised  
12 as far as I know.

13 MR. KENNEDY: It's a very high threshold.

14 CHAIRMAN RYAN: Correct me if I'm wrong  
15 because I haven't read it in years, but I think the  
16 provision is the licensee with the material for which  
17 you're seeking disposal has to demonstrate the  
18 emergency access.

19 MEMBER WEINER: Yes.

20 MR. KENNEDY: Mike.

21 CHAIRMAN RYAN: I'm sorry. Forgive me.  
22 The licensee has to demonstrate "I have to get rid of  
23 this now because..."

24 MR. KENNEDY: Right. It has to be now and  
25 it has to be based on the health and safety.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 CHAIRMAN RYAN: That's the burden of the  
2 licensee with this material. That was your question,  
3 Ruth, I think.

4 MEMBER WEINER: Yes.

5 MR. KENNEDY: Oh. Okay. But it's very  
6 high threshold and it has to be an imminent health and  
7 safety issue that would cause us to order a compact  
8 facility to open up to somebody outside of the  
9 compact.

10 CHAIRMAN RYAN: But statutorily, the NRC  
11 has that authority.

12 MR. KENNEDY: Right.

13 MEMBER WEINER: Yes.

14 MEMBER HINZE: A quickie, Jim, if I might.  
15 Who is going to be paying attention or who was  
16 directed to pay attention to the Academy's report and  
17 when can we anticipate the Academy report?

18 MR. KENNEDY: Well, that's our division.  
19 It's Larry, Scott, myself and I can tell you on up the  
20 line Jack Strosnider, Margaret Federline, we're all  
21 very interested and the Commission as well.

22 MR. FLANDERS: And we're not exactly sure  
23 the timeframe. We know that we just recently got a  
24 request as Jim mentioned to respond to some additional  
25 questions on a questionnaire. So it appears as though

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 they're moving forward and finalizing the report, but  
2 we don't have a definite timeframe for when that's  
3 going to be done.

4 MEMBER HINZE: Slow.

5 MR. KENNEDY: We'll really just have to  
6 see what they say about our programs and where we can  
7 improve and what they think we should do and go from  
8 there. But again, we look forward to talking to you  
9 about those.

10 MEMBER HINZE: Thank you.

11 CHAIRMAN RYAN: Any other questions?

12 MR. THADANI: This might be an old issue.  
13 So please tell me. Just tell me to go read A, B, C.  
14 That might be good enough. But the Commission issued  
15 a white paper back in 1999 on reactors initiatives and  
16 it had to do with definitions of what do we mean by  
17 risk-informed and they're performance-based  
18 initiatives. Do we have a definition that you and  
19 other divisions utilize in terms of risk-informing  
20 activities? I'm sort of anxious to ask you this  
21 question by what Mike said on concentrations and is  
22 there some sort of consistency amongst the divisions,  
23 first, in understanding where we want to be and the  
24 role of quantification, if any, in that. They would  
25 useful to get a better understanding of that.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 MR. FLANDERS: Yes. NMSS is as a whole at  
2 one point had a risk task group. It actually went and  
3 looked at risk-informing activities across NMSS and  
4 generated a series of documents which now that the  
5 group is no longer in place, but it's been provided to  
6 each of the divisions as the guidance as to how they  
7 go about doing that to carry out risk-informing  
8 activities. So it has been looked at across NMSS.

9 Whether they go to a quantitative, I guess  
10 the nature of NMSS is slightly different in the  
11 reactor world and the data associated with it in terms  
12 of being able to try to quantify a specific risk value  
13 is a little bit different than in the reactor world  
14 where you could establish  $10^{-6}$ , etc. So it's slightly  
15 different but we do have standard guidance that we use  
16 for risk informing. I don't know if that answers your  
17 question.

18 MR. THADANI: Yes. I'd be interested in  
19 looking at it sometime.

20 MR. FLANDERS: Okay.

21 MR. THADANI: Thank you.

22 CHAIRMAN RYAN: Ashok, I think that's a  
23 focal point for us as well to think about those. I  
24 mean we very much hold the risk white paper in hand  
25 when we think about these things and I think the kind

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 of question that we'll be thinking about too. It is  
2 through making it risk informed that we get the  
3 transparency and clarity and simplicity and conformity  
4 I think. So we'll be thinking some more about that.

5 MR. THADANI: Thank you.

6 MR. FLACK: Excuse me. Mike, just to  
7 follow up on that a little bit and it's a good  
8 question.

9 CHAIRMAN RYAN: Sure. Just tell us who  
10 you are, John.

11 MR. FLACK: Oh, I'm sorry. I'm John  
12 Flack, ACRS staff. What I think we haven't done in  
13 this area which ERACDA (PH) did do earlier was develop  
14 something like a cornerstone approach that when  
15 applied did actually capture public confidence in the  
16 senses that there were various barriers that protected  
17 the public health and safety and folded on top of  
18 that, you do have a risk-informed approach. It  
19 followed very nicely because the way the cornerstones  
20 were set up almost followed what a PRA would do. And  
21 maybe there's something here that could be done or  
22 developed for the non-reactor side of things. But I  
23 had never seen that done before and it may be  
24 something new.

25 CHAIRMAN RYAN: Yes, actually I think it

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 would be helpful to the Committee to get some of that  
2 documentation that could help us understand that and  
3 again I quickly emphasize that I believe that that may  
4 be applicable for one part of what NMSS licenses but  
5 it may not be broadly applicable. So I want you to  
6 understand we're thinking about this as a concept now  
7 and not necessarily something that should be accepted  
8 carte blanche and we do recognize that different areas  
9 within NMSS have different needs.

10 I mean you certainly don't want to spend  
11 as much time and resources on small sealed sources  
12 that may be in a laboratory as compared to a low level  
13 waste site or some low level launch facility. Yes,  
14 that would be helpful. Latif.

15 MR. HAMDAN: Yes. Mike, I just want to  
16 add that the Commission paper which we talked about  
17 this morning that was submitted to the Commission in  
18 September/October timeframe by Dennis Damon includes  
19 a staff guidance on implementation of risk insights  
20 across the NMSS programs and the Commission provided  
21 the staff with an SRM and we have been after Dennis to  
22 do a staff briefing so that we can look at the  
23 guidance but we haven't had much success yet.

24 CHAIRMAN RYAN: Well, hopefully, we'll get  
25 there on that. Is that it? Any other questions?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 Comments? Well, thank you, gentlemen, for a very  
2 informative presentation this afternoon.

3 MR. KENNEDY: Thank you.

4 CHAIRMAN RYAN: We really appreciate it  
5 and we'll look forward to working with you on the  
6 white paper and other things coming down the line.

7 MR. KENNEDY: Yes.

8 CHAIRMAN RYAN: Thank you. We're  
9 scheduled for a short break. I'm going to say why  
10 don't we just cut it to ten minutes and get back about  
11 4:15 p.m. and get rolling on the next topic. Thank  
12 you. Off the record.

13 (Whereupon, the foregoing matter went off  
14 the record at 4:05 p.m. and went back on  
15 the record at 4:19 p.m.)

16 CHAIRMAN RYAN: I think the outline review  
17 can be relatively short and then we'll just move into  
18 the last agenda item for the day which will be the  
19 Center visit and a report from the subcommittee that  
20 went down in that information gathering. So without  
21 further ado, I think what we tried to do, Sharon,  
22 thank you for all your help in getting this done,  
23 we've tried to expand it to the next small step which  
24 is to cover the origins and history of low level waste  
25 topics that we're going to cover in writing, the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 elements and the regulation could be improved perhaps  
2 by a risk-informed approach and those kind of things  
3 and the elements of low level waste practice that  
4 could be improved, again, I think more in terms of  
5 some of the issues we covered in talking with Jim and  
6 Scott today and then the regulatory interfaces,  
7 technical and non-technical issues and it's the  
8 question that I asked Jim about, which is, you know,  
9 how does the low level waste piece touch all these  
10 other pieces and I think I captured all the parts that  
11 I had as input from all the committee discussion we  
12 had last month.

13 I think you all had this in advance of the  
14 meeting and have it now, so speak now or let us begin  
15 writing and developing the written material and we'll  
16 go on.

17 MS. STEELE: Certainly Item 4 was  
18 generated based on the discussion last time.

19 CHAIRMAN RYAN: Yes.

20 MS. STEELE: However, Items 1G and H were  
21 added after the meeting.

22 CHAIRMAN RYAN: Items 1G and H.

23 MS. STEELE: And those have to do with the  
24 Atomic Energy Act and how they influenced the low  
25 level waste.

1 CHAIRMAN RYAN: Yeah, I know, I mean, this  
2 is kind of a composite with a few added things. Thank  
3 you, though. What I think Sharon is saying, simply,  
4 is that you guys gave us some input and I added a  
5 couple more when we got done to make this one up.  
6 Thank you. You know, frankly, G and H are critically  
7 important because it is those fundamental definitions  
8 that were not risk informed in any way, shape or form  
9 that are the basis for what we have today. So it's  
10 important that a lot of folks don't go back that far  
11 in reading the history.

12 MEMBER WEINER: Is there some documented  
13 decision around 1960 that made low level -- commercial  
14 low level waste a commercial enterprise and not a  
15 federal enterprise?

16 MS. STEELE: I think it was the 1954 Act  
17 that --

18 MEMBER WEINER: Oh, okay, thank you.  
19 That's -- I just wondered.

20 MS. STEELE: And as we go through you'll  
21 see I had problems trying to get anything since 1946  
22 that applies to low level waste.

23 CHAIRMAN RYAN: There was no such thing.

24 MS. STEELE: Right, and I forgot how it  
25 was treated.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 CHAIRMAN RYAN: Yeah, it would then be --  
2 you know, what is now the DOE side that would have it  
3 from the old AEC but it would be, you know, archival  
4 and hard to get, I'm sure.

5 MS. STEELE: Right, some of that -- right.

6 CHAIRMAN RYAN: Yeah, Dave did a nice job  
7 on that --

8 MEMBER WEINER: That's a very good paper.

9 CHAIRMAN RYAN: And --

10 MR. THADANI: Does Sam Walker's book on  
11 permissible dose get into that?

12 MS. STEELE: Some of it. I got some of  
13 the stuff --

14 CHAIRMAN RYAN: Yeah, that's a good  
15 resource for a piece of it but again, I think that the  
16 focus is the definitions that carry forward are -- and  
17 the reason for their origins is helpful to understand.  
18 Some of the other issues we can touch on as well.

19 MS. STEELE: Okay, so we're okay with the  
20 outline?

21 CHAIRMAN RYAN: Any other comments?

22 VICE CHAIRMAN CROFF: Before you mentioned  
23 --

24 MS. STEELE: I didn't realize we were  
25 recording.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 CHAIRMAN RYAN: Yeah, Allen has the floor.

2 VICE CHAIRMAN CROFF: Before in the low  
3 level waste session you mentioned the business of  
4 discussing how to implement whichever direction, in  
5 other words, law, regulation, guidance, whatever. And  
6 I don't see that mentioned in here.

7 CHAIRMAN RYAN: You're right. I think  
8 what I had attempted to do here was to get the meat of  
9 the history and the details on paper and then I think  
10 we need to maybe study that piece and deliberate, you  
11 know, as a committee on what do we do with this now.

12 VICE CHAIRMAN CROFF: Okay.

13 CHAIRMAN RYAN: So I think there's a great  
14 big five that says, you know, steps forward or you  
15 know, things of that kind. So --

16 VICE CHAIRMAN CROFF: Okay, with that,  
17 it's fine.

18 CHAIRMAN RYAN: I didn't want to prejudge  
19 it because, you know, we've got the answer until we do  
20 the work.

21 VICE CHAIRMAN CROFF: Right.

22 CHAIRMAN RYAN: Okay, but you're exactly  
23 right.

24 VICE CHAIRMAN CROFF: I was wanting no  
25 more than a reminder saying we need to think about

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 that.

2 CHAIRMAN RYAN: Yeah, put down a five, you  
3 know, the next step.

4 MS. STEELE: The placeholder is Item 5?

5 CHAIRMAN RYAN: Yeah. Any other comments?

6 MEMBER WEINER: Just coming off of Latif's  
7 comment earlier, would we want to put in a small  
8 section on public responses to these things or  
9 reaction or general reaction in the Low Level Waste  
10 Policy Act because that has really driven the  
11 implementation of that Act?

12 MEMBER WEINER: Well, you know, I guess my  
13 own view Ruth, is no for two reasons. One is, I  
14 wouldn't want to dilute that issue. It has its own  
15 legs to stand on, so I would think we would want to  
16 treat that as a serious and separate issue. And  
17 second, that's not why the Act hasn't been  
18 implemented. The real -- as I mentioned in discussing  
19 it with Jim, the real focal point of when siting  
20 efforts dial down very quickly was when South Carolina  
21 became available to the rest of the nation with the  
22 Beasley decision in 1990, I mean, '96. That's when it  
23 changed. It changed just like that. (Snaps fingers).  
24 So I think that's an important topic, and I guess my  
25 own view, you know, and I'll just exempt myself, I

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 don't have the expertise to write that and I don't  
2 know that we do as a committee, so I think that's an  
3 important topic that needs to stand on its own. Fair  
4 enough?

5 MEMBER WEINER: Actually, I agree with  
6 you. I just raised the question because of this part  
7 of this, but I would not put it in there either.

8 CHAIRMAN RYAN: Right, okay, we're in  
9 agreement.

10 MEMBER HINZE: What's going to be done  
11 with this now? Do you want any assistance in any  
12 areas?

13 MS. STEELE: Yes.

14 CHAIRMAN RYAN: I'll tell you what, let me  
15 work with Sharon and come up with a plan because we're  
16 now gathering bibliography and things of that sort and  
17 if we maybe get stated and pass out, you know, a rough  
18 cut, that's in text, you know, we can maybe -- let's  
19 go one more step and then we'll holler for help.  
20 How's that?

21 MEMBER HINZE: Fine.

22 MEMBER WEINER: Great.

23 MS. STEELE: So we're going to -- we're  
24 done with the outline and we're going to move into --

25 DR. LARKINS: Can I make one comment,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1       sorry?

2                   CHAIRMAN RYAN:   Certainly.

3                   DR. LARKINS:   I was looking at if this is  
4       still the same correct outline, we talk about origins  
5       and history and things like that, it seems like you  
6       ought to state something up front what the over-  
7       arching or the objective is and then develop into a  
8       little bit of background.

9                   CHAIRMAN RYAN:   Sure.

10                  DR. LARKINS:   But sort of state what the  
11       problem is up front with -- where you might be going  
12       with this issue and then sort of roll into history,  
13       background.

14                  CHAIRMAN RYAN:   And I think capturing some  
15       of the discussion we had among Scott, Jim and the  
16       committee today will be helpful in that regard.

17                  DR. LARKINS:   Yes.

18                  CHAIRMAN RYAN:   Yeah, I agree.

19                  MEMBER WEINER:   One thing that I found al  
20       little bit confusing is the classification system  
21       itself is not particularly well risk informed. And I  
22       mean you point out the inadvertent intruder scenario  
23       and Class C and greater than Class C but this  
24       actually, isn't there an application to the whole  
25       classification system that it could be better risk

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 informed?

2 CHAIRMAN RYAN: I think the issue isn't  
3 could it be better risk informed. Let me say your  
4 question a different way and maybe we'll agree again.  
5 I think when you think about concentration as a metric  
6 of risk, there is a range of concentration for, you  
7 know, significant quantities and material where it  
8 works fine. If you're dealing with, you know, one-  
9 curie sources that are sealed or you're dealing with  
10 iron exchange resin from a power plant or solidified  
11 stuff and some concrete that has to be stabilized  
12 according to the BTP rules for stabilization, some  
13 hardware over a pretty wide range of materials, you  
14 can say, well, we're managing occupational risk and  
15 we're managing inventory risk that is the spectrum of  
16 radionuclides in low level waste, particularly from  
17 commercial sources, it's fairly constant. Two-thirds  
18 of the inventory is cobalt-60, seven percent cesium,  
19 three percent is nickel-63 and then it trails off from  
20 there. So that's good but at the very low end, there  
21 have been cases where waste has been solidified with  
22 fly ash that has more radioactivity than the waste and  
23 there are cases where sealed sources based on just the  
24 source classify as greater an Class C but have a  
25 trivial quantity less than a millicurie of activity.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1           So my point is, is that as a metric, total  
2 activity is more -- tracks more appropriately with  
3 risk but from an operational standpoint, concentration  
4 is a practically, easily measured thing. That way I  
5 don't have to be calculating, well, I have 38.62 cubic  
6 feet and the density is 2.6 grams per cubic centimeter  
7 and what does that give me for total activity? I  
8 report the concentration, I'm done. So it's a  
9 practical measure that works over a fairly wide range  
10 but at the extremes, which is what we're touching on,  
11 greater than Class C and low activity waste, it breaks  
12 down, and I think it's helpful if we can artfully  
13 point that out in this paper.

14           MEMBER WEINER: Okay, again, we agree. I  
15 just couldn't find that in the outline.

16           CHAIRMAN RYAN: Well, it will be on the  
17 transcripts and I can copy it.

18           MEMBER WEINER: Okay, all right.

19           CHAIRMAN RYAN: So we've got it.

20           DR. LARKINS: And there was a staff paper,  
21 I guess, that they had prepared about the problems  
22 with the compacts, the Low Level Waste Policy Act of  
23 1985 as amended and we should -- Jim, I think you made  
24 reference to that. We should get a copy of that and  
25 have that also as source material.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 CHAIRMAN RYAN: Oh, sure, yeah,  
2 absolutely, yeah. No, that's -- absolutely.

3 MS. STEELE: From Jim Kennedy?

4 DR. LARKINS: From Jim Kennedy.

5 CHAIRMAN RYAN: Okay.

6 MS. STEELE: The only other comment I have  
7 on the outline is that perhaps, Section 1 should be in  
8 chronological order.

9 CHAIRMAN RYAN: We'll fix it.

10 MS. STEELE: Okay.

11 CHAIRMAN RYAN: I mean, that's kind of a  
12 detail. I just want to make sure we cover the bases.  
13 The other -- you know, another thing to think about,  
14 I think is that in the purpose and scope, I agree  
15 that's very important. He's weighing something.

16 DR. LARKINS: You said scope and I just  
17 started weighing the outline. It's about the size of  
18 the paper.

19 CHAIRMAN RYAN: I felt that. Is that I  
20 think it's -- we need to kind of stick to the  
21 technical knitting here. I think a lot of speculation  
22 about compacts and why they did this or why they did  
23 that or did they fail or, you know, even the word  
24 "failure" is not appropriate for this. A technical  
25 review of the basis for regulations earlier on and now

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 later on, and just the history of what the rules were  
2 is important, but speculating about what broke and who  
3 broke it is probably not at all --

4 DR. LARKINS: You would save a lot of  
5 trees that way.

6 CHAIRMAN RYAN: Yeah. So --

7 DR. LARKINS: Sam, do you want to comment?

8 CHAIRMAN RYAN: Would you tell us who you  
9 are, please for the record, Sam?

10 MR. JONES: I'm sorry, I'm Sam Jones. You  
11 might want to add the proposed rule to your list, yah.  
12 You have the final regulations, the final rule.

13 CHAIRMAN RYAN: New initiatives or merging  
14 initiatives, is that --

15 MR. JONES: No, no, no, no, on the origin  
16 and history of low level waste regulations.

17 MS. STEELE: Yeah, on the C.

18 MR. JONES: You should add the proposed  
19 regulations.

20 MS. STEELE: Proposed recommended --

21 MR. JONES: No, proposed rules and  
22 regulations.

23 CHAIRMAN RYAN: What proposed rule?

24 MR. KENNEDY: For Part 61 you mean, I  
25 think, right?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 MR. JONES: Yeah, uh-huh.

2 CHAIRMAN RYAN: I'm sorry, Sam, I'm not  
3 catching what you want us to put in.

4 MR. JONES: On the origin and history of  
5 low level waste regulations you have a list of items.

6 CHAIRMAN RYAN: Right, we have the draft  
7 EIS, the final EAS and the regulations.

8 MR. JONES: Wasn't it proposed  
9 regulations?

10 CHAIRMAN RYAN: What would be the added  
11 part of the proposed versus the final?

12 MR. JONES: Well, there could be comments  
13 in the statements of consideration that were in there.

14 CHAIRMAN RYAN: Okay, yes, statements of  
15 consideration is probably a key. So, yes.

16 MR. JONES: Right, that wouldn't carry  
17 necessarily to the final rule.

18 CHAIRMAN RYAN: Yeah, now, I'm with you.  
19 I guess my thought is the final regulations say,  
20 "Here's what it is, here's how it got there", so  
21 covered in there so we don't miss it.

22 MR. KENNEDY: Mike, another one, do you  
23 have the GTCC rule that was promulgated in 1989 up  
24 there?

25 CHAIRMAN RYAN: We do not and we should.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 MR. KENNEDY: Right, because both the  
2 proposed and final for that, because that's got all  
3 kinds of good discussion on risk informing and  
4 everything.

5 CHAIRMAN RYAN: Right. Jim, maybe you  
6 could help us hunt those up.

7 MR. KENNEDY: Yeah.

8 CHAIRMAN RYAN: Anything else?

9 MR. THADANI: Are you going to go to  
10 Element 2 or --

11 CHAIRMAN RYAN: Oh, we can, sure.

12 MR. THADANI: No, I just have a question  
13 actually on Element 2, which is Item C refers to the  
14 principles of realistic conservatism, those principles  
15 are documented where?

16 CHAIRMAN RYAN: I would say the White  
17 Paper would be a great place to start.

18 MR. THADANI: All right, I was going  
19 there.

20 CHAIRMAN RYAN: That was a little quiz,  
21 wasn't it.

22 MR. THADANI: Yes.

23 CHAIRMAN RYAN: No, I mean, that's where,  
24 you know, the committee has a lot of history, as you  
25 well know and where we are in that and I think those

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 are the guiding principles that will form our  
2 discussion of the topic.

3 MR. THADANI: Thank you.

4 CHAIRMAN RYAN: Anything else, 2, 3, or 4?  
5 Yes, sir. If you would just tell us who you are and  
6 who you are with and --

7 MR. LIEBERMAN: Jim Lieberman, I'm a  
8 former NRC employee retired by now I'm with --  
9 basically a consultant for various people. But the  
10 Commission recently issued a Commission Decision LES  
11 that involved the definition of Classes and the  
12 performance objectives giving some history of Part 61  
13 which is very helpful to this whole subject you might  
14 want to look at.

15 CHAIRMAN RYAN: Okay, thank you. And I  
16 think you have a -- you know, the LES, this document,  
17 which was it? Do you know what that is?

18 DR. LARKINS: He's talking about the  
19 Louisiana Energy Systems --

20 CHAIRMAN RYAN: Oh, okay, all right, thank  
21 you. Okay, thank you. Good.

22 VICE CHAIRMAN CROFF: We're getting a lot  
23 of help.

24 CHAIRMAN RYAN: Well, and I think it will  
25 naturally expand as we, you know, for example, think

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 about what agreement states might have done. I mean,  
2 just one nuance is that South Carolina has in its  
3 state regulations that storage shall be a last resort.  
4 Very clearly, they don't want a licensed storage.  
5 They only want a licensed disposal. So there are a  
6 little tidbits like that, I guess, in state  
7 regulations that will be interesting to see if we  
8 leave those in at all or how we address them. So  
9 there's a broad spectrum of things to think about  
10 which is the whole point of doing it, to pull it all  
11 together.

12 Again, any other questions or comments?

13 MR. HAMDAN: Mike, are you going to say  
14 anything about Barnwell, for example?

15 CHAIRMAN RYAN: You know, how we weave it  
16 in and frankly at this point my thinking is, is that  
17 Barnwell or another site in particular shouldn't be  
18 our focus to get started. Let's get started with  
19 this, and then I think if there is a practical  
20 examples part that we might want to think about, we  
21 would need to, I think get updated information from  
22 all the facilities that are involved and that takes on  
23 a broader scope of site visits and so forth. I'm not  
24 too sure that we want to -- that could be a separate  
25 piece but -- and I recognize there's some information

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 that's of value but, clearly, I think the documents  
2 that could inform us are their current licenses and  
3 those are publicly available for all the facilities,  
4 licenses and permits. So maybe that's the stopping  
5 point is to think about how they're licensed and  
6 permitted at the moment. But we can see if that's an  
7 appendix or, you know, something we want to address or  
8 not.

9 MR. HAMDAN: I was thinking, you may want  
10 to have an appendix to Element -- to Number 3 or  
11 something because you -- maybe you don't like this  
12 closely either.

13 CHAIRMAN RYAN: Let's see.

14 MR. FLACK: Mike, just one question on the  
15 -- you know, we always discuss the issue about concen  
16 -- cumulative dose versus individual dose.

17 CHAIRMAN RYAN: Right.

18 MR. FLACK: Is that something that should  
19 be handled outside this paper or --

20 CHAIRMAN RYAN: Oh, yeah, absolutely.

21 MR. FLACK: Yeah, it's too big, yeah.

22 CHAIRMAN RYAN: Yeah, collective dose is  
23 meaningless at the typical levels associated with the  
24 regulation. That's an independent issue from low  
25 level waste.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 MEMBER WEINER: Do you intend to include  
2 the attempt to regulate or to have a below regulatory  
3 concern regulation in this paper?

4 CHAIRMAN RYAN: No, again, I don't think  
5 the issue is for us to try and set a policy or offer  
6 a policy. Our issue is to explore the facts and  
7 history here so we can maybe tickle out of it ways to  
8 risk inform NMSS activities or, you know, regulatory  
9 work of one kind or another. I don't think that's --

10 VICE CHAIRMAN CROFF: Mike, BRC is in  
11 here.

12 CHAIRMAN RYAN: Huh? It is in there as a  
13 regulatory -- that's fine.

14 MEMBER WEINER: Yeah, that's fine. That  
15 answers my question.

16 VICE CHAIRMAN CROFF: That answers the  
17 question.

18 CHAIRMAN RYAN: That's history. Oh, I  
19 thought you meant in terms of product at the end. I'm  
20 sorry.

21 MEMBER WEINER: No, I couldn't fine it.  
22 That was the only question.

23 CHAIRMAN RYAN: Yes.

24 MR. LIEBERMAN: Jim Lieberman again.  
25 Based on my experience at NRC, some additional

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 thoughts came to mind. One is, the relationships  
2 between Part 61 and the Commission's License  
3 Termination Rule, 25 millirems, 100 millirems, 1,000  
4 for institute controls versus 100 years for  
5 institutional controls. The regulations have  
6 different premises but you might want to look at the  
7 differences and similarities.

8 CHAIRMAN RYAN: Well, again, I think  
9 that's helpful to just document as the fact of what it  
10 is and then I think the focus for us is to take the  
11 risk informing principles and explore it a bit, again  
12 for the purpose of just laying out what the landscape  
13 looks like. I mean, it is striking when you go back  
14 to the early definitions in 46 that the word "safety"  
15 is mentioned in the Atomic Energy Act four times,  
16 four, three with regard to dynamite and once with  
17 regard to, you know, occupational sanitation, you  
18 know, at AEC facilities, sewer treatment plants. So  
19 it's -- you know, again, I think the fact that source  
20 byproduct and special nuclear material have drifted  
21 forward from a safeguard and security and control  
22 standpoint, you know, into this risk-informed  
23 environment is really the focus.

24 The number isn't exactly the focus but  
25 it's interesting that, you know, they end up at

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 different end points for different reasons. Anything  
2 else? Sir?

3 MR. LEE: I see on Items 2D, 2F and 2H,  
4 these are talked, I think in one form or another in  
5 NUREG-1573, so --

6 CHAIRMAN RYAN: Great.

7 MR. LEE: -- you folks might just want to  
8 give some consideration to that.

9 CHAIRMAN RYAN: That's us folks.

10 MR. LEE: Excuse me, us folks, thank you.  
11 We need to give consideration to that because it's a  
12 three-part document that's well written and of course,  
13 Mr. Jim Lieberman, formerly of the Office of General  
14 Counsel, had a lot to do and say about that. So --

15 CHAIRMAN RYAN: Yeah, okay.

16 MEMBER WEINER: 1573?

17 MR. LEE: 1573.

18 CHAIRMAN RYAN: Thank you.

19 MR. LEE: I encourage it.

20 CHAIRMAN RYAN: Say one, say all, anything  
21 else? Well, on we go.

22 MS. STEELE: On we go. I've distributed  
23 some more trees. This document here is Section 1 of  
24 the outline, the origins and history and I took some  
25 freedom to suggest some background information if we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 needed it. And they fall into a couple of areas. One  
2 of them talks about old practices, previous to 1970.  
3 Here's the other thing; the way I laid out my outline,  
4 there are a lot of bullets and I'm hoping that it  
5 would make it easy for you to say -- when you go  
6 through it to say, "This has nothing to do with this,  
7 just take it out", or, "Yes, continue development on  
8 that particular theme".

9 And so we went ahead and had it numbered,  
10 except there's a line number that you see associated  
11 with a bullet that shouldn't be in here. And we'll  
12 try to get through as much as we can until 5:00.

13 CHAIRMAN RYAN: I'm going to make a  
14 suggestion.

15 MS. STEELE: Sure.

16 CHAIRMAN RYAN: I mean, this is the first  
17 time all the members have seen it, right?

18 MS. STEELE: The notebook, okay.

19 CHAIRMAN RYAN: The notebook. Have you  
20 all been through this or not?

21 VICE CHAIRMAN CROFF: Scanned it.

22 MEMBER HINZE: Scanned it.

23 CHAIRMAN RYAN: Scanned it. So, you know,  
24 let's let everybody digest it overnight perhaps and  
25 bring you a mark-up tomorrow.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MS. STEELE: Oh, great, that sounds good.

2 CHAIRMAN RYAN: You know, rather than sit  
3 here and let everybody read through it, that will be  
4 a little bit more efficient and we can press ahead.

5 MS. STEELE: That's true, okay.

6 VICE CHAIRMAN CROFF: And the question on  
7 the table on this --

8 CHAIRMAN RYAN: The question on the table  
9 is --

10 VICE CHAIRMAN CROFF: -- are these the  
11 right topics and things to discuss?

12 MS. STEELE: Right.

13 CHAIRMAN RYAN: And of course the two are,  
14 this is a key point, make a star. This is not  
15 important, cross it out and we'll press on.

16 MS. STEELE: Okay.

17 MEMBER WEINER: I have one comment if we  
18 can go back briefly to the outline. The Nuclear Waste  
19 Policy Act was 1982, not 1980, the first page, 1S.

20 MS. STEELE: Yes.

21 CHAIRMAN RYAN: The Low Level Waste Policy  
22 Act was --

23 MEMBER WEINER: The Low Level Waste Policy  
24 Act was 1980, Nuclear Waste Policy Act was 1982.

25 CHAIRMAN RYAN: Gotcha, thanks.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MS. STEELE: Yes, it's correct in my  
2 outline.

3 MEMBER WEINER: Okay, good.

4 MS. STEELE: So that makes it right.  
5 Okay.

6 CHAIRMAN RYAN: All right, so on we go.  
7 I guess the goal is to have --

8 MEMBER WEINER: Okay, we take this home.

9 CHAIRMAN RYAN: Okay, a fairly well  
10 developed text by say June, you know, with something  
11 in May for committee members to perhaps just comment  
12 on an early draft and then we'll explore it in our  
13 June meeting.

14 MS. STEELE: What about -- you're  
15 referring to just the first section? What about the  
16 other sections?

17 CHAIRMAN RYAN: I'm thinking the whole  
18 thing.

19 MS. STEELE: Okay. All right.

20 CHAIRMAN RYAN: It's not -- I don't think  
21 it will be that hard to pull it together but we can  
22 just start writing seriously on it and get rolling.

23 MS. STEELE: Okay, so a good first draft  
24 you're saying for the entire document --

25 CHAIRMAN RYAN: Yes.

1 MS. STEELE: -- okay, before the June  
2 meeting.

3 CHAIRMAN RYAN: On we go.

4 MS. STEELE: Okay.

5 CHAIRMAN RYAN: Next is Ruth, your report  
6 on your subcommittee on discussion on the April 14th  
7 and 15th visit to the Center for Nuclear Waste  
8 Regulatory Analysis.

9 MEMBER WEINER: Jim, very kindly printed  
10 out the -- it's on the --

11 CHAIRMAN RYAN: Can we have these to hand  
12 out to everybody or --

13 MEMBER WEINER: It's on the D drive under  
14 Weiner and it's a PowerPoint presentation. Yeah. And  
15 it's not very long. In fact, you can see how long it  
16 is here. I can't -- with the light shining on it, I  
17 can't see it.

18 CHAIRMAN RYAN: Actually, can we just kill  
19 the lights up there?

20 MEMBER WEINER: Yeah, can we kill the  
21 lights and I can maybe help you -- I can't see it all.  
22 All right, please excuse the primitive PowerPoint, it  
23 was mine. I briefly summarized the points from our  
24 visit to the Center that did not deal with  
25 predecisional work and I believe everything that's on

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 these slides refers to something that is -- has been  
2 published or is public information.

3 May I have the next one? And please other  
4 people chime in, feel free, Bill, Jim, to chime in  
5 when I get something wrong. Okay, the attendees were  
6 myself, Bill Hinze and Jim Clarke and the two  
7 consultants, Bruce Marsh and Paul Shewmon. ACNW staff  
8 was Richard Savio, Sharon Steele and Jenny Gallo and  
9 we had a number of NMSS staff and people present on  
10 video conference and I didn't list all the names  
11 because there were quite a few and they were in and  
12 out.

13 Neil was extremely helpful. He was  
14 present on the video con and I have to say that Tim  
15 McCartin who was present for most of it, was also  
16 extremely helpful. Next slide, please.

17 Okay, this was our agenda. I can ask Jim  
18 to comment on the lab tour. I did not go on that and  
19 he went on the lab tour and discussed the  
20 decommissioning work with Dick Savio and then there  
21 was a GoldSim demonstration that Jim and I and Dick  
22 attended. Do you want to say anything about the  
23 decommissioning at this point?

24 MEMBER CLARKE: Just that it was a very  
25 informative discussion concerning the models, the

1 codes that they're looking at, at this time, the pros  
2 and cons of each and we had on video, I think we had  
3 John Russell and we had Bobby Eid.

4 MEMBER WEINER: Uh-huh.

5 DR. LARKINS: Which codes are they using  
6 for decommissioning?

7 MEMBER WEINER: Oh, for decommissioning?

8 MEMBER CLARKE: Yeah, the ones that we  
9 heard the most about were MEPAS, GENII, RESRAD 5 and  
10 GoldSim.

11 MEMBER WEINER: They also showed us  
12 briefly how GoldSim was being used for the Yucca  
13 Mountain Performance Assessment and I thought the  
14 GoldSim demonstration was excellent and was -- it's a  
15 very useful tool.

16 MEMBER CLARKE: The RESRAD model was the  
17 most recent. I think it's called RESRAD-OFFSITE, the  
18 one that has probabilistic capabilities. I may have  
19 gotten the number wrong but it's the RESRAD-OFFSITE.

20 MEMBER WEINER: April 14th was devoted  
21 entirely to a discussion of igneous activity and at  
22 that we didn't get through it. The only break in that  
23 agenda was that at lunch -- they had lunch brought in  
24 -- the ACNW members and consultants met with Budhi  
25 Sagar and Wes Patrick to discuss Commissioner

1 Merrifield's request. Wes, at that point, gave us --  
2 since I'm not going to say any more about it after  
3 this, Wes shared with us a slide presentation that he  
4 had of the Center's capabilities and essentially,  
5 they -- what the Center itself doesn't have in the way  
6 of expertise or feel they can add in the way of  
7 expertise, they use Southwest Research Institute and  
8 that is mostly for the engineering aspect, mechanical  
9 engineering, electrical engineering and so on.

10 They have either on staff or as  
11 consultants, they cover virtually all of the areas  
12 that deal with high level waste and with radioactive  
13 waste period, and with decommissioning. Basically,  
14 they try to cover the waterfront. Their contract is  
15 -- the conditions under which the Center operates are  
16 very closely constrained at the present time by their  
17 contract with NRC.

18 MEMBER CLARKE: Charter.

19 MEMBER WEINER: Yeah, their charter and  
20 they also made the point that it has been -- when it  
21 has been suggested that the charter be amended in some  
22 way, there has also been a discussion at that time of  
23 amending the charter and putting it up for bid again.

24 CHAIRMAN RYAN: That's perhaps a little  
25 out of our areas.

1 MEMBER WEINER: Yeah, that's way out of  
2 our area. They wanted us to know. This was mostly a  
3 luncheon where Wes primarily told us about the Center.  
4 We contributed very little.

5 April 15th we finished up with igneous  
6 activity but we took the corrosion chemistry and waste  
7 package issues first in order to accommodate Dr.  
8 Schewmon who had an early flight out. We also heard  
9 about their work in near-field chemistry retardation  
10 and radionuclide mobility. We wrapped up the igneous  
11 activity discussion probabilities of igneous activity  
12 and spent a short time on spent fuel dissolution.

13 At the end of the meeting Wes and Budhi  
14 requested our feedback. I did not make a slide of  
15 that but we essentially thanked them for -- thanked  
16 them for the presentations and gave them our  
17 impression which will come up on the next slide. Can  
18 I have the next slide, please? Next one. Okay.

19 I wrote down a number of points that had  
20 occurred to me, circulated these to the ACNW members  
21 and consultants, asked for their input. This morning  
22 I checked it out with Neil Coleman who gave me some  
23 additional insights and corrections and we also  
24 subsequent to this morning's discussion in the P&P, I  
25 also made some changes. I'd just like to go through



1 and again, please other people who were there add --  
2 jump in.

3 First of all, they were very forthcoming  
4 and responsive to our questions and concerns.

5 MEMBER HINZE: Well, that's the first  
6 place I'd disagree.

7 MEMBER WEINER: Bill, I was being nice.

8 MEMBER HINZE: I know you were.

9 CHAIRMAN RYAN: We need a clear picture.

10 MEMBER HINZE: I think it was uneven. I  
11 think that's a fair statement to make. There were  
12 some areas where there was a clear responsive concern  
13 with the questions. There were other areas where this  
14 was not evident.

15 MEMBER CLARKE: I have to agree.

16 MEMBER WEINER: Yeah, I would agree also  
17 with one caveat. I think they thought that -- they  
18 thought they were being forthcoming but the actual  
19 responses were, of course, uneven. We still have the  
20 -- that gets me to the second bullet. Although there  
21 was extensive discussion and I'd rather say that than  
22 full of the Center's modeling of an igneous event and  
23 its consequences, we still have a number of questions  
24 about it. However, I think the presentations were,  
25 indeed, a marked improvement over what we heard at the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 working group session in Las Vegas.

2 MEMBER HINZE: That's I'd agree with,  
3 right.

4 MEMBER WEINER: Okay, I was going to say  
5 you disagree with that one, too? The Center --

6 DR. LARKINS: But you did hear all of the  
7 work that they're doing, right?

8 MEMBER WEINER: We heard a great deal of  
9 work and we heard a lot of --

10 MEMBER HINZE: How can we evaluate that?  
11 I mean, you know, we don't know all that they're  
12 doing, but they told us that they were -- that we were  
13 hearing all that they were doing.

14 CHAIRMAN RYAN: One thing that would help  
15 and we don't have to do it at this session but we had  
16 a list of questions going in.

17 MEMBER WEINER: Yes, and you have those  
18 questions. We did go --

19 CHAIRMAN RYAN: Let me finish.

20 MEMBER WEINER: I'm sorry.

21 CHAIRMAN RYAN: And seeing whether those  
22 questions were answered or not and for the ones that  
23 were answered, what the answer was would be helpful.

24 MEMBER WEINER: Yeah, we can do that.  
25 Actually we started to do that but sort of ran out of

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 time and I would be happy to do a crosswalk with this  
2 and the questions and ask Bill and Jim for their  
3 input.

4 CHAIRMAN RYAN: I wouldn't just ask Jim  
5 and Bill. I'd ask the folks that participated, the  
6 consultants and so forth.

7 MEMBER WEINER: And the consultants as  
8 well.

9 CHAIRMAN RYAN: But to me, a lot of work  
10 went into that question set and that's where -- you  
11 know, the kind of summary stuff here is fine but did  
12 we get a specific answer to this question and that  
13 question is really where the rubber meets the road.

14 MR. HAMDAN: Actually, if I may, when we  
15 say we still have some questions, it's not clear as to  
16 whether you asked the questions and you get answers or  
17 they --

18 MEMBER WEINER: They did not answer our  
19 questions fully. I cannot say beyond that at this  
20 point.

21 CHAIRMAN RYAN: Again, we asked --

22 MEMBER WEINER: Well, get into that.

23 CHAIRMAN RYAN: -- specific questions.  
24 Did we get an answer or not. It's a real clear way to  
25 lay it out and, you know, if there's some remaining

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 those are the ones you'll say didn't get an answer.

2 MEMBER WEINER: Okay.

3 CHAIRMAN RYAN: So I'm really interested  
4 in the fact that we produced this question set and if  
5 they were answered or not.

6 MEMBER WEINER: Yeah. The Center -- Bill  
7 referred this morning at the P&P to the first slide  
8 they showed. They appeared to use a risk insights  
9 approach to rank the potential impact of the different  
10 processes in an igneous event as high risk, moderate  
11 risk and low risk but their criteria didn't appear to  
12 be either internally consistent or consistent with  
13 past approaches. And I thank Jim very kindly for  
14 pointing out that they didn't seem to use risk  
15 insights to evaluate the contribution of risk to  
16 various transport processes in the geosphere.

17 We suggested at the time and this is part  
18 of our suggestion, that consistent criteria be  
19 developed that they use the risk insights baseline  
20 report and that they then use their consistent  
21 criteria to rank the contribution of different  
22 processes associated with an igneous event and I think  
23 they should go that throughout their work.

24 I mean, we happen to do this in  
25 association with the igneous event.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 MR. TRAPP: Ruth?

2 MEMBER WEINER: Yes.

3 MR. TRAPP: John Trapp. I would like very  
4 much to know where this is coming from, because what  
5 we are doing and what we did all the way through is  
6 completely follow the risk insight report.

7 MEMBER WEINER: I'm going to bounce that  
8 one to Dr. Hinze. He knows more about this than I do.

9 MEMBER HINZE: Well, I think that an  
10 example of this -- of the concern of us that attended  
11 this was as an example, would be the interaction of  
12 the magma with the waste. The -- that appeared as a  
13 high risk item. That was mentioned to us as a high  
14 risk item because there is a difference between the --  
15 there might be a difference between the Center and the  
16 staff and the DOE. And apparently, you know, there is  
17 a connect between -- if there's a difference between  
18 DOE and the NRC, then there is uncertainty in there  
19 but that doesn't seem like a consistent way to apply  
20 the risk insight. That was one of our concerns.

21 MEMBER WEINER: Yeah, without the chart  
22 here, I can point to other things that we pointed to  
23 at the time and I don't say that -- I don't know  
24 whether -- how or whether the risk insights based on  
25 the report was used. It was just that the rankings

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       seemed to be inconsistent and those rankings are  
2       critical to license review.

3               Welcome Bruce Marsh. I'm going through  
4       the -- a summary of what we learned at the Center and  
5       please feel free to jump in with comments any time.

6               MR. MARSH: Yeah, the way I understood  
7       these rankings is that they had -- for most of the  
8       processes, they had some dispersion of understanding  
9       of their own right, which they took as an uncertainty  
10      and then they actually compared it to the DOE, which  
11      they took as another sort of extreme, perhaps, or  
12      difference and so they based it on that.

13              However, the overall uncertainty, I  
14      thought was -- that Ruth was talking about was  
15      evaluated in another way or a little less certain way.

16              MR. TRAPP: All I would suggest is that  
17      you go back to the risk insight baseline report and if  
18      you can find anything in that risk insight baseline  
19      report than is different than what we presented please  
20      let me know because it is not.

21              MEMBER WEINER: Sure.

22              CHAIRMAN RYAN: John, that's -- I'm glad  
23      you said that because I was going to maybe put a  
24      little bit more meat on it than we can have in a  
25      bullet or two on the slide to get ahold of that, so I

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 appreciate that, thank you.

2 MR. TRAPP: Well, the same thing and Bruce  
3 already mentioned the questions that weren't answered,  
4 I really would like to know what they are.

5 MEMBER WEINER: Yes.

6 CHAIRMAN RYAN: I mean, because we did a  
7 lot of work with the Center and the staff to present  
8 those in advance. I think in fairness, we need to be  
9 diligent about going through what we thought we heard  
10 and what we thought was answered and what might be  
11 remaining. So that seems like the fair way to do it.

12 MEMBER WEINER: I do -- in fairness to the  
13 group that went, we left there -- some of us left  
14 there Friday evening, some of left there Saturday.

15 CHAIRMAN RYAN: I'm not complaining about  
16 the timing. But we do need to bring it to closure and  
17 that's the way to do it.

18 MEMBER WEINER: Okay. Can I have the next  
19 slide, please? These are some of the points that were  
20 made. Not all of the points. We were very careful to  
21 stay in these bullets with public information. The  
22 model for the interaction between the magma and the  
23 waste package is extremely conservative. No credit is  
24 taken for the waste package or cladding and the model  
25 is that all spent fuel contents are released.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1           The method by which the package  
2 disintegrates is not clear. The model is accepted by  
3 NRC and the Center because -- largely because of the  
4 conservatism. Our recommendation is that NRC modeling  
5 be consistent in approach to accepting or rejecting  
6 the model and be based on sound science rather than  
7 primarily on conservatism. And again, I want to give  
8 credit where credit is due to Dr. Clarke unconditional  
9 acceptance of an extremely conservative model may have  
10 unforeseen ramifications.

11           The Center approach to modeling an igneous  
12 event overall should be consistent in accepting or  
13 rejecting a model and I would ask particularly Bruce  
14 and Bill to comment on anything I haven't included in  
15 that, that I should have included.

16           CHAIRMAN RYAN: Bruce, go ahead.

17           MR. MARSH: Yes. Ruth has pretty much  
18 summed it up. However, the incorporation of this  
19 material in magma and the dispersal downstream, et  
20 cetera, therefore, follows on this conservative  
21 approach and so that also then turns out to be a  
22 conservative process and we also learned, for example,  
23 that the -- there are more than just pellets in these  
24 high density pellets. There's a lot of glass in these  
25 containers. Fifty percent of it more or less, which

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



1 has the same kind of consistency and density overall  
2 is the magma itself and so when we include this later  
3 on in the ash dispersal and we take into account the  
4 detailed density variations, especially using  
5 particles -- pellets that are very dense, latching on  
6 to pieces of magma and then if they're disbursed in a  
7 plume, instead of treating it all as pellets, we have  
8 this glass material and this actually then is another  
9 conservatism that's based -- built into this.

10 One of the concerns we have is that  
11 somewhere along the lines when this becomes all open  
12 and public that there are people who are going to look  
13 at this, for example, then talk about the canisters in  
14 detail and they're going to say, "What, you look at  
15 this and couldn't you have done a little better than  
16 this on things". So in other words, when it becomes  
17 a public document, more or less, it -- this could be  
18 an embarrassing situation if DOE, for example is  
19 forced to consider a more realistic model and the NRC  
20 was forced to do it also and so it would be nice to be  
21 a little bit ahead of the curve on this and have it  
22 based on sound science as Jim says.

23 VICE CHAIRMAN CROFF: In listening to  
24 this, I'm not coming away with a clear picture. Are  
25 they modeling the magma package interaction and it's

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 just very conservative or is there simply no model?

2 MR. MARSH: This is equivalent to having  
3 a dump truck dump the pellets as a load just into the  
4 shaft.

5 VICE CHAIRMAN CROFF: Basically, the  
6 package does not exist basically.

7 MR. MARSH: Basically.

8 MEMBER WEINER: Yeah, they take no credit  
9 for a package, right.

10 MEMBER HINZE: Apparently what has  
11 happened, Allen, is that the DOE has assumed that this  
12 problem is intractable and as a result, they have  
13 taken the approach that everything will be available  
14 and the canister has no impact upon it and the waste  
15 characteristics, either glass or the spent nuclear  
16 fuel has no characteristics on it. And the NRC has  
17 said, "All right, this is a conservative approach.  
18 We're going to accept this because we have a lot of  
19 problems on our plate and we don't want to put our  
20 resources, the NRC's resources, into a problem in  
21 which there is -- which the DOE has accepted the  
22 conservatism and which there is also a very difficult  
23 problem, a thermo-mechanical problem.

24 VICE CHAIRMAN CROFF: And let me go just  
25 a bit further. In the third bullet, the method by

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 which the package disintegrates, does that mean you  
2 ask the question of the staff down there, do you have  
3 any understanding how such -- how it might really  
4 interact with the package and they said, no, or  
5 something like that?

6 MR. MARSH: Well, actually, we talked to  
7 basically as part material science, we had a  
8 presentation, very good, very excellent, coherent  
9 presentations and it appears that everyone knows a lot  
10 about these containers in detail; melting point,  
11 material, corrosive abilities, what the stresses are,  
12 the pedestal it's on, et cetera, however that really  
13 isn't being considered in terms of the magma  
14 interaction.

15 CHAIRMAN RYAN: From an assessment point  
16 of view, you know, I sure can appreciate the problem  
17 of trying to -- what fraction of the radioactive  
18 material becomes involved in the consequence scenario.  
19 That's the hard question to answer, is it one percent,  
20 half a percent, or 100 percent? The bounding  
21 analysis, okay, says it's 100 percent, it can't be  
22 more than 100 percent. So but that's fraught, to my  
23 way of thinking with difficulty. So I guess when I  
24 think about it, I come back to, you know, the idea of  
25 well, okay, let's, you know, look at some kind of a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealgross.com](http://www.nealgross.com)

1 mean or an average or a median or a mode or whatever  
2 you want to look at, but some assessment of  
3 distributions around it.

4 MEMBER HINZE: Well, it may even be right,  
5 you know. I mean, it may be 100 percent. We don't  
6 know that.

7 CHAIRMAN RYAN: Well, we don't know it is  
8 or it isn't. That's really -- and I guess I just --  
9 I mean, that's where the root of my question comes in  
10 is, if, for example, it's not 100 percent, it's lower,  
11 do you get the same ranking?

12 MR. MARSH: The Center really has the  
13 ability -- they really understand these containers  
14 very well, and it was our understanding that if you  
15 don't consider something like this, there may be  
16 actually other ramifications that if you follow  
17 through the model in detail, that a partial digestion  
18 or the failure, how it fails, you actually may come  
19 across other subsidiary processes that have never been  
20 considered that actually may be possible regardless of  
21 how it's incorporated. For example, the container  
22 bursting just due to heating up the air inside or  
23 things like this and you come across other processes  
24 that by just saying, "Okay, we assume it's all  
25 incorporated", there actually may be subsidiary things

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 that we haven't even thought of that may be involved  
2 regardless of how much or how it's incorporated.

3 So it was our feeling that it would be  
4 useful, perhaps, at least to know what's involved in  
5 terms of the basic science so that there are no  
6 surprises down the road.

7 MEMBER WEINER: Can I have the next one,  
8 the next slide, please?

9 VICE CHAIRMAN CROFF: Let me ask, let me  
10 follow this on. EPRI and where was it, we were in Las  
11 Vegas, made a presentation and their contention was  
12 the release fraction from the package was zero.

13 MEMBER WEINER: Yeah.

14 VICE CHAIRMAN CROFF: Has CNWRA looked at  
15 the EPRI analysis? Do they have an opinion on that?

16 MEMBER WEINER: I can only relate to sort  
17 of off-line conversation I had in Las Vegas. And  
18 they're --

19 CHAIRMAN RYAN: They only heard it for the  
20 first time.

21 MEMBER WEINER: They only heard it for the  
22 first time there so they really hadn't looked at it  
23 and we did not raise the question, that's very true.

24 MR. TRAPP: If I may make one comment on  
25 that, please, the EPRI assumption is very similar to

1 the original DOE assumption which we challenged them  
2 on. DOE then came back and said, "We can't support  
3 this assumption", which is when they went to the  
4 complete package failure. So --

5 CHAIRMAN RYAN: You're saying the EPRI  
6 assumption is what DOE later abandoned.

7 MR. TRAPP: Yes.

8 CHAIRMAN RYAN: Okay, thank you.

9 MEMBER WEINER: Can I have the next slide?  
10 Okay, this is Bruce's point. The Center's approach  
11 doesn't include solidification of magma. They just  
12 assumed magma behaves like a liquid. Thermal  
13 calculations of magma in drifts and canisters and heat  
14 transfer from magma to canisters should be revisited  
15 to improve realism. Apparently the decay heat from  
16 fuel is not a significant heat source in this. Bruce,  
17 do you want to comment any further on that?

18 MR. MARSH: Yes, they've actually  
19 undergone some modeling with the people in Bristol and  
20 they're very interesting illustrative models for fluid  
21 that bubbles in moving around and going into the  
22 drifts and coming back out and things, but these  
23 actually give an impression, an experience that you  
24 can base further thinking on and that's what these  
25 models are. They're basically illustrative as Hill

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 told us all about and that's good on that point of  
2 view.

3           However, summification is perhaps the  
4 major factor in magma transfer, so if we're looking  
5 for experiences and some insight into how magma will  
6 behave in a drift, it's absolutely the most essential  
7 thing to include and it bears on this whole canister  
8 problem, too, and how they'll interact with the  
9 canisters. So you can start out with simple modeling.  
10 And I think the Center is able to do this probably  
11 themselves and there's some interaction with other  
12 folks and it covers another base area that is  
13 basically murky and left sort of undecided and  
14 unexplored and this could have other ramifications  
15 also in this area. It's good to be, I think, the head  
16 of the curve on this and be pre-emptive in terms of  
17 experience and understanding, insight into what's  
18 coming on down the line.

19           MEMBER WEINER: The next two bullets deal  
20 with the remobilization model which was presented but  
21 at this point, there were -- although we were given  
22 some information, it's at this point, pre-decisional  
23 information and the model has not yet been released.  
24 So all I wanted to say about it was that we heard  
25 about it. It's certainly a major improvement over the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealgross.com](http://www.nealgross.com)

1 considerations that were presented in Las Vegas.

2 CHAIRMAN RYAN: Is that in the  
3 documentation that's coming out shortly or --

4 MR. TRAPP: The remobilization, there  
5 should be a second report on that some time, I believe  
6 it's late July the report will be coming is. So then  
7 it will be available probably a month from then.

8 CHAIRMAN RYAN: Great, okay, that would be  
9 helpful.

10 MEMBER HINZE: We saw nothing in this that  
11 would lead us to any conclusion that anything is wrong  
12 with it. It looks quite appropriate.

13 CHAIRMAN RYAN: Well, again, I think when  
14 we get the document and study it --

15 MR. TRAPP: It's definitely this fiscal  
16 year.

17 CHAIRMAN RYAN: Yeah.

18 MEMBER WEINER: Next slide, please. Okay,  
19 this -- this is really part of the remobilization  
20 model. The consequence modeling is much improved  
21 compared to the presentations at the working group  
22 meeting in Las Vegas. We discussed the particle size  
23 question and the Center does consider a median  
24 respirable diameter of 10 microns, but some studies  
25 indicate that there is a range -- and again, the rest

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)



1 of this has not yet been released and I think we need  
2 to revisit it when it is released.

3 The presentation on corrosion chemistry,  
4 on radionuclide mobility and on spent fuel dissolution  
5 were absolutely outstanding. They were clearly  
6 presented. This was a case, I think Bill you will  
7 agree, that our questions were answered right spot on  
8 and the Center does its own laboratory work in these  
9 areas. And what they do is they abstract the  
10 experimental results into the performance assessment  
11 codes in a timely and efficient fashion and we will  
12 know more about this when TPA 5.0.1 is released.  
13 Right now they're still working on abstracting these  
14 codes and the last bullet is --

15 CHAIRMAN RYAN: Before you leave this,  
16 I've got a question up on the top and maybe it's to  
17 John or the staff here, on the 10 micron question,  
18 that's a pretty particle size for an average. Is  
19 that age over time in modeling or will that be  
20 addressed in the report?

21 MR. TRAPP: Is this 10 micron the  
22 discussion of dose or is this a discussion of waste?

23 CHAIRMAN RYAN: No, just behavior and  
24 practice.

25 MR. TRAPP: No, I just want to make sure

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 which question it is.

2 MEMBER WEINER: Yeah, that was that  
3 discussion.

4 CHAIRMAN RYAN: Yeah, it' the Center --

5 MR. TRAPP: It's dose?

6 CHAIRMAN RYAN: No, as you make material  
7 airborne --

8 MR. TRAPP: Is this a discussion dealing  
9 with a dose --

10 CHAIRMAN RYAN: No.

11 MR. TRAPP: -- calculation or is this --

12 MEMBER WEINER: Well, it was at the  
13 Center.

14 CHAIRMAN RYAN: Well, I mean, what I'm  
15 asking you is may be a little different question is --

16 MR. TRAPP: If you're talking the waste,  
17 it's basically -- that goes into this, it's basically  
18 10 microns, plus or minus one log unit.

19 MEMBER WEINER: Yeah.

20 CHAIRMAN RYAN: I'm sorry.

21 MR. TRAPP: It's 10 microns, plus or minus  
22 one log unit for the waste, that's what you're talking  
23 about.

24 CHAIRMAN RYAN: Right, but I'm asking a  
25 slightly different question. And I'm trying to see if

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 it's in the report or not. If you create an airborne  
2 aerosol, over time it ages and some material will  
3 settle out or move on or disburse by whatever driver  
4 is there and typically what happens, unless there's a  
5 new continuing contribution to source, that tendency  
6 of the particle size distribution is to drift  
7 downward. Is that kind of modeling included in the  
8 change of particle size distribution is a function of  
9 time and driver?

10 MR. TRAPP: That change as least as far as  
11 igneous activity is recognized but no, it is not  
12 brought it. It is strictly based on the measurements  
13 which have been made at active volcanos.

14 CHAIRMAN RYAN: So it's a fixed value for  
15 the average; is that -- do I understand right?

16 MR. TRAPP: Yes.

17 CHAIRMAN RYAN: Okay, so aging of the  
18 distribution isn't taken in all the time. Okay.

19 MEMBER WEINER: I think again, we should  
20 revisit some of --

21 CHAIRMAN RYAN: No, if that's in the  
22 documentation, I'll wait to get it but I just wanted  
23 to pose the question.

24 MEMBER CLARKE: Ten microns is plus or  
25 minus one log unit.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 CHAIRMAN RYAN: Yeah, I got it, okay,  
2 thanks.

3 MEMBER WEINER: Okay, that's -- I believe  
4 that's my last slide, isn't it?

5 MEMBER CLARKE: In very general terms what  
6 are they doing in spent fuel dissolution?

7 MEMBER WEINER: Take that one off. Go  
8 back. Yeah, go back. Okay, that's it. I didn't want  
9 to -- I wanted to take that last slide off. Okay.  
10 This is our report. I don't think at this point, that  
11 we -- unless we want to write a very general letter,  
12 I'm not sure that we have enough -- certainly, without  
13 going through the questions, we don't have enough for  
14 a letter.

15 CHAIRMAN RYAN: Well, I think, you know,  
16 frankly the Center put a lot of work and the staff did  
17 here. I think we owe it to that effort to document  
18 that answers to the questions and our satisfaction  
19 with them and whether that's a letter or a report or  
20 what we need to do that. This isn't going to cover it  
21 for me.

22 MEMBER WEINER: Okay, yeah, that would --

23 DR. LARKINS: Yeah, I agree. You know, in  
24 the Commission meeting when you said you were going to  
25 the Center and visit and see what they were doing in

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 this area so at some point --

2 CHAIRMAN RYAN: Yeah, we owe the  
3 Commission a letter because we said we would, you  
4 know, inform them of the visit and these folks put in  
5 an awful lot of work and we need to be diligent in  
6 responding to their effort.

7 MEMBER WEINER: Okay, I will take it on  
8 myself to coordinate going through the questions and  
9 finding which ones were answered and which ones were  
10 not. I would ask for some guidance on -- since we did  
11 hear per-decisional information, I would ask for --  
12 since this was not just a small group of the  
13 Committee, I would ask for some guidance, a lot of  
14 guidance as to what to put in a draft letter, what we  
15 should put in at this point.

16 CHAIRMAN RYAN: Well, you know, you could  
17 certainly, I think, as you prepare the responses,  
18 discuss with staff what they feel is pre-decisional  
19 and they can help you identify things that are pre-  
20 decisional and we can just say pre-decisional answers.  
21 So, you know, everybody understands we've heard it but  
22 it will come out when it's after that pre-decision  
23 step.

24 MEMBER WEINER: Is that acceptable to  
25 everybody else?

1 CHAIRMAN RYAN: I'm just trying to throw  
2 out ideas. I mean, you know --

3 MEMBER HINZE: I don't think we should  
4 start writing a letter at this point. What we ought  
5 to do is make certain that we are -- the consultants  
6 and the members that were there, are in agreement or  
7 if not, state it explicitly why we are not in  
8 agreement on the answers to these questions and then  
9 when we have those answers, we should run through  
10 them, we run them through the staff to make certain  
11 that we are not stepping on pre-decisional toes and  
12 then we can move on from there.

13 MEMBER WEINER: Yeah, that's exactly what  
14 I want to do.

15 CHAIRMAN RYAN: That's good.

16 MEMBER WEINER: That says it all. Okay.

17 MR. SAVIO: Excuse me. One approach to it  
18 is that we could create our own pre-decisional  
19 document. We just can't discuss it with --

20 CHAIRMAN RYAN: I'll defer to however the  
21 mechanism needs to be done but you know, I think --

22 DR. LARKINS: I don't think that's a good  
23 idea.

24 MEMBER WEINER: Well, I don't agree with  
25 that.

1 DR. LARKINS: A draft of what you think  
2 should be in there and have the staff take a look at  
3 it. It may be by the time the committee gets back to  
4 act on this, some of these documents will be released  
5 and therefore, can be discussed and it will be far  
6 better than trying to create a pre-decisional document  
7 that doesn't, to me, do any good in this area.

8 MEMBER WEINER: Well, I think Mike is  
9 right. Given the amount of work the Center put in and  
10 the amount of time we spent there, I do think we need  
11 to get together and formulate a document to the  
12 Commission.

13 DR. LARKINS: Well, John mentioned some of  
14 these things will be available June/July time frame,  
15 so if that's the case we should be able to make  
16 reference to it.

17 MR. TRAPP: They will be, part of them  
18 available in the July time frame. It's going to take  
19 about a month for us to get through. There's one  
20 report which is some place in our mail room which I  
21 should be able to get ro in about a month. Some of  
22 them will be September, so I mean, there's going to be  
23 things coming through.

24 CHAIRMAN RYAN: And again, I think, I mean  
25 to me if this pre-decisional stuff that they've

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 documented in an answer we can identify it and do it  
2 when it comes along, but my emphasis is, you know,  
3 these folks put in tremendous effort to answer  
4 specific questions. We need to document the specific  
5 answers we got and what we feel about them very  
6 clearly so that, you know, that work is recognized and  
7 appreciated.

8 MEMBER WEINER: Yeah, and by the way, we  
9 communicated that.

10 CHAIRMAN RYAN: Okay, and again, you know,  
11 I think, you just got done last Friday and this is a  
12 preliminary view of what you thought and there are  
13 some areas where you feel comfortable and some areas  
14 where you perhaps have additional questions and we  
15 need to go through the rigorous, you know, process of  
16 getting that done on paper.

17 MR. SCOTT: Mike Scott, ACR staff. I just  
18 wanted to ask, so are we looking at a trip report now  
19 and a letter later? Is that what's on the menu?

20 CHAIRMAN RYAN: Something like that, yeah.  
21 And again, the trip report is the answer to the  
22 questions we asked.

23 MEMBER WEINER: Yes.

24 MEMBER HINZE: Well, I think what we  
25 should do is we should -- in the trip report, go the



1 one step further and come up with the implications,  
2 try to summarize what those implications are in terms  
3 of the concerns that we expressed to the Commission in  
4 our March meeting with them.

5 MEMBER WEINER: I think that's a good  
6 idea. To the extent that we can do this without  
7 stepping on pre-decisional toes.

8 MEMBER CLARKE: And I think we should say  
9 now as Mike said, they did put in a tremendous effort  
10 and they had a major commitment of time and staff and  
11 --

12 CHAIRMAN RYAN: And it's not just the  
13 Center. Folks here at NRC, you know, are trying to be  
14 responsive and helpful and we appreciate and recognize  
15 that as well.

16 MEMBER WEINER: And by the way, I want to  
17 thank all the people who were here and sat through  
18 this on the TV and on the tele-con because they were  
19 extremely helpful.

20 CHAIRMAN RYAN: Are we done?

21 MEMBER WEINER: As far as I know.

22 CHAIRMAN RYAN: Anything else?

23 MS. STEELE: Yes, I would like to have 15  
24 minutes back from my time. On the low level waste  
25 issue, given that we have to come up with a draft in

1 May, I think it would be useful to develop a scope  
2 statement to help us -- to insure that we stay within  
3 the lines.

4 CHAIRMAN RYAN: If you will indulge me, I  
5 will write one tonight --

6 MS. STEELE: Okay.

7 CHAIRMAN RYAN: -- and provide it tomorrow  
8 but having us all sit here and write a paragraph, it's  
9 not an effective use of everybody's time.

10 MS. STEELE: Okay, no, that's fine.

11 CHAIRMAN RYAN: So, you know, I hear you  
12 but it's late and you know, lots of folks have stuff  
13 to do and I just don't think that's really an  
14 efficient way to make that paragraph. I can probably  
15 get it done pretty quick, but you're right, it does  
16 need to be done and we need some concurrence on that  
17 before we depart for the week. So, all right. Well,  
18 I don't want you to go away mad.

19 MS. STEELE: No, that's fine.

20 DR. LARKINS: Now, we've heard the thought  
21 on the igneous thing. It may be well to put out a  
22 short trip report just to sort of document that you  
23 went there and what things were discussed and then to  
24 have a draft of what comment, issues were there and  
25 then have a chance to air it with the staff and public

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 maybe in July.

2 CHAIRMAN RYAN: Sure.

3 DR. LARKINS: If that's the right time.  
4 I don't see the urgency to push something out if there  
5 are still issues that haven't been reconciled.

6 CHAIRMAN RYAN: Well, and the other aspect  
7 of it is, maybe that's what we put out, you know, is  
8 John's left, I guess but the schedule of, you know,  
9 what documents are coming forth, when and how we're  
10 going to inform ourselves with those documents and so  
11 forth, that's a good schedule to have.

12 MR. RUBENSTONE: Mike, Jim Rubenstone,  
13 NRC. We had the discussion and we did identify  
14 specific documents that relate to what you heard last  
15 week and we're going to get you that list of documents  
16 hopefully tomorrow.

17 CHAIRMAN RYAN: So maybe we just integrate  
18 that in a little trip report and then, you know, it  
19 puts something on the record of what happened and give  
20 us a map forward.

21 DR. LARKINS: Yeah, I think my point is,  
22 it's better to put out something which is more  
23 complete even if you have to do it, July, September  
24 time frame, which sort of covers the whole gambit of  
25 issues related to consequence analysis rather than

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

[www.nealrgross.com](http://www.nealrgross.com)

1 trying to get something out which will still have some  
2 holes or questions in it.

3 CHAIRMAN RYAN: Okay. Good plan. Is  
4 there anything else for the record, for the meeting?  
5 Motion to adjourn.

6 DR. LARKINS: So moved.

7 CHAIRMAN RYAN: So moved, thank you.

8 (Whereupon, at 5:24 p.m. the above  
9 entitled matter concluded.)  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CERTIFICATE

This is to certify that the attached proceedings  
before the United States Nuclear Regulatory Commission  
in the matter of:

Name of Proceeding: Advisory Committee on

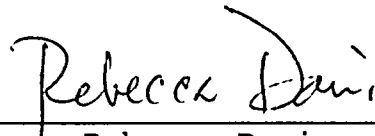
Nuclear Waste

159<sup>TH</sup> Meeting

Docket Number: n/a

Location: Rockville, MD

were held as herein appears, and that this is the  
original transcript thereof for the file of the United  
States Nuclear Regulatory Commission taken by me and,  
thereafter reduced to typewriting by me or under the  
direction of the court reporting company, and that the  
transcript is a true and accurate record of the  
foregoing proceedings.



Rebecca Davis  
Official Reporter  
Neal R. Gross & Co., Inc.