

NUCLEAR REGULATORY COMMISSION

ORIGINAL

Title: Advisory Committee on Nuclear Waste
146th Meeting

Docket Number: (not applicable)

PROCESS USING ADAMS
TEMPLATE: ACRS/ACNW-005

Location: Rockville, Maryland

Date: Thursday, October 23, 2003

Work Order No.: NRC-1140

Pages 1-48

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON NUCLEAR WASTE

146TH MEETING

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THURSDAY

OCTOBER 23, 2003

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ROCKVILLE, MARYLAND

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

COMMITTEE MEMBERS PRESENT:

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

1	ACNW STAFF PRESENT:	
2	JOHN T. LARKINS	Executive Director, ACNW
3	SHER BAHADUR	Associate Director, ACNW
4	NEIL M. COLEMAN,	ACNW
5	HOWARD J. LARSON	Special Assistant, ACNW
6		Designated Federal Official
7	MICHAEL LEE	ACNW
8	RICHARD K. MAJOR	ACNW
9		
10	ALSO PRESENT:	
11	KRISTINA BANOVA	NRC/NMSS
12	R.M. BERNERO	SELF
13	TAMARA BLOOM	NMSS/DWM
14	CLAUDIA CRAIG	NMSS/DWM
15	DAVID ESH	NMSS/DWM
16	JOHN GREEVES	DIRECTOR, DWN
17	CAROL HANLON	DOE
18	NORMAN HENDERSON	Bechtel, SAIC Co.
19	TIM KOBERTZ	NMSS/DWN
20	LAWRENCE KOKAJKO	NMSS/DWN
21	TIM MCCARTIN	NMSS/DWN
22	ROD MCCULLEN	NEI
23	JEFF MEREDITH	Exchange Monitor
24	STEVE PETREAU	Las Vegas Journal
25	BILL REAMER	DWM, Deputy Director

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ALSO PRESENT: (CONT.)

BILL REDMEN	NMSS/DWN
JIM SHAFFINE	MTS
SUZANNE STRYZLINSKI	Las Vegas, Nevada
E.V. TIESENHAUSEN	CCCP

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AGENDA ITEM

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

(8:32 a.m.)

1
2
3 CHAIRMAN GARRICK: Good morning. Our
4 meeting will come to order. This is the third day of
5 the 146th meeting of the Advisory Committee on Nuclear
6 Waste. My name is John Garrick, Chairman of the ACNW.

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

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

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

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1 to one of the Committee staff.

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

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

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

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

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

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

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

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

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

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

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

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

8 CHAIRMAN GARRICK: Thank you.

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

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

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

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

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

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

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

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

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

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

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

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

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

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1 to Lawrence.

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

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

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

17 CHAIRMAN GARRICK: Any questions?

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

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1 some impact.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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1 believe, of this year on that.

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

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

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

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

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1 the Commission.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

25 We also have some individual improvement

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

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

8 MR. GREEVES: Yes, it is.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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1 insights.

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

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

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

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

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

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

1 drastically?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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1 he can give a little more information on that.

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

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

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

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

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

1 to impact us.

2 CHAIRMAN GARRICK: Okay.

3 MR. GREEVES: All right.

4 CHAIRMAN GARRICK: Go ahead.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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1 things like that as an example.

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

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

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

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

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

25 The French have a facility there that

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

25 DR. RYAN: It is a legislative step as

1 well.

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

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

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

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

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1 radioactive waste has dropped dramatically.

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

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

7 MR. GREEVES: Correct.

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

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

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

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

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1 Barnwell, and Envirocare, and Texas.

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

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

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

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

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

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

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

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

13 CHAIRMAN GARRICK: Ruth.

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

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

23

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

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

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

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

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

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

25 So I expect that we will talk more about

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

5 CHAIRMAN GARRICK: Any questions? George?

6 DR. HORNBERGER: No.

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

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

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

21 CHAIRMAN GARRICK: Yes.

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

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1 CHAIRMAN GARRICK: I see.

2 MR. GREEVES: It is more complicated, and
3 we have looked at the tanks at Idaho and Valley River,
4 but we only looked at them in a kind of small way. We
5 are responsible for looking at the whole site here,
6 and responsible for participating in the EIS. So it
7 is probably the biggest decommissioning project that
8 I have faced as a regulator. So I enjoy the
9 interaction with you, and we will think about it and
10 ways to engage on that.

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

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

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

1 this for the environmental impact statement.

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

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

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

13 MR. GREEVES: Yes, we are cooperating.

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

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

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

25 MR. GREEVES: Well, the regulatory

1 performance assessment.

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

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

6 DR. HORNBERGER: Okay.

7 MR. GREEVES: It is a substantive effort.

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

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

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

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

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

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1 evolution. It is a pretty interesting site.

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

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

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

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

25 MR. GREEVES: Thank you for the time.

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

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

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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

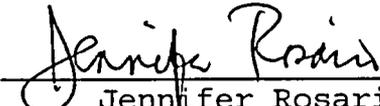
Nuclear Waste

146th 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.



Jennifer Rosario
Official Reporter
Neal R. Gross & Co., Inc.

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