

**Official Transcript of Proceedings**  
**NUCLEAR REGULATORY COMMISSION**

Title:                   10 CFR Part 61 Rulemaking and  
                              Implementation of the Concentration  
                              Averaging and Encapsulation BTP  
                              Public Meeting

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## UNITED STATES OF AMERICA

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## NUCLEAR REGULATORY COMMISSION

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## OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

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10 CFR PART 61 RULEMAKING AND IMPLEMENTATION OF THE  
CONCENTRATION AVERAGING AND ENCAPSULATION BTP

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FRIDAY,

MARCH 20, 2015

+ + + + +

The public meeting convened in the Renaissance Phoenix Downtown Hotel, 50 East Adams Street, Phoenix, Arizona, at 8:00 a.m., Chip Cameron, Facilitator, presiding.

PRESENT:

CHIP CAMERON, Facilitator

LARRY CAMPER, NMSS

STEPHEN DEMBEK, NMSS

DAVID ESH, NMSS

GREGORY SUBER, NMSS

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Adjourn	

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

(8:35 a.m.)

MR. CAMERON: Good morning, everyone.  
And good morning to all of you out there on the phones  
and on the web also.

My name is Chip Cameron and I'd like to  
welcome you to today's public meeting. And our topic  
today is a couple of things on low-level waste. There  
is a proposed rule. I mean it's rumored that there's  
a proposed rule from the NRC amending Part 61. And  
that's going to be our main topic, but we're also going  
to talk about the Branch Technical position also. And  
it's a pleasure for me to see all of you and to serve  
as your facilitator for the meeting today and in that  
role I just want to try to help all of you have a  
productive meeting.

And I'd like to just cover some meeting  
process issues with you so that you know what to expect  
today. And I'd like to talk about the objectives of  
the meeting, the format for the meeting, some simple  
ground rules to follow and just briefly go over the  
agenda and introduce the NRC speakers.

In terms of objectives, the first  
objective is for the NRC to provide you with clear  
information about what's in the proposed rule and

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1 what's in the Branch Technical Position and I think that  
2 in going over the proposed rule, if there's any gloss,  
3 so to speak, that's in the Reg. Guide, Regulatory Guide,  
4 on the proposed rule we will also go into that. And  
5 the second objective is to give you an opportunity to  
6 ask questions and make comments.

7 In terms of format, we're going to have  
8 some NRC presentations and then we're going to go out  
9 to all of you for questions and comment and we'll also  
10 be going to people on the phone and maybe getting  
11 questions over the web that we'll talk about.

12 Now I should emphasize that the meeting is  
13 being transcribed. We have Peggy Schuerger right here  
14 who is our court reporter. She's making a transcript  
15 of the meeting and that's going to be the NRC's record  
16 of the meeting and your record of the meeting. But I  
17 want to emphasize that any comments you make today,  
18 they're not going to be considered as formal comments  
19 on the proposed rule. You'll have to submit written  
20 comments on that and I think that Steve Dembek from the  
21 NRC staff is probably going to talk about how that  
22 works.

23 One good thing about not having formal  
24 comments today is that it might give us a chance to have  
25 a dialogue on the issues. For example, if Tom

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1 Magette says something very provocative, we might want  
2 to get other people's reactions to that. So we'll do  
3 that today.

4 Ground rules, I would just ask you to wait  
5 until the particular presentation is complete before  
6 asking questions or making comments. And when we get  
7 to the discussion periods, if you could just signal me  
8 and I'll bring you this cordless mic, or if you want  
9 you can come up here to this microphone also. Then  
10 we'll see if we can answer your questions. I would just  
11 ask that only one person speak at a time for two very  
12 important reasons. One, so that we can give our full  
13 attention to whomever has the floor, but also so that  
14 we can get what I call a clean transcript so that Peggy  
15 will know who is speaking. And I would ask you to every  
16 time you talk, if you could just introduce yourself.  
17 And that goes for people on the phone, too. I would  
18 ask you to try to be brief. I think we have plenty of  
19 time today, but I want to make sure that we can get to  
20 everyone.

21 And what I thought we'd do is I like to give  
22 everybody one chance to make a comment and ask a  
23 question and then we'll circle back if anybody has other  
24 things to say. And we will go to the people on the  
25 phone. Our operator is Yomi and she is going to

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1 establish the queue, so to speak, for people on the  
2 phone to ask their questions. So we'll be going back  
3 and forth.

4 In terms of the agenda, we're going to have  
5 a welcome from Larry Camper, who is the Director of the  
6 Division of Decommissioning, Uranium Recovery, and  
7 Waste Programs. And then we're going to hear from  
8 Steve Dembek, NRC staff, who is going to talk about the  
9 rulemaking process. And then we're going to go to  
10 David Esh who is going to talk about the substantive  
11 aspects of the proposed rule. We'll take a break at  
12 9:45. We'll come back for discussion. And then we'll  
13 spend a short amount of time, shorter, I should say,  
14 on the implementation plan for the Branch Technical  
15 position, and hopefully, we'll be done at 12:30. And  
16 Larry is the senior NRC official here today and I'll  
17 ask him to close the meeting out for us at the end.

18 So with that, Larry, do you want to make  
19 some comments? All right.

20 MR. CAMPER: Good morning. Welcome. It  
21 is very enjoyable to see such a great turnout and to  
22 see a lot of colleagues and friends and appreciate your  
23 staying around following the Symposium. We've done  
24 this now for the last four or five years and most of  
25 you turn out. It's very important and primarily we had

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1 industry practitioners. It's a good opportunity to  
2 get that perspective in particular, as well as the  
3 public views that will come along today.

4 We have a proposed rule. Pardon me if I  
5 wax about this for a minute. And when I think about  
6 this rulemaking, I must thank the staff, Mr. Suber, and  
7 his staff in particular. Others are here somewhere.  
8 But I also must thank many of you. Along the way, we  
9 use a stronger process. When I say stronger, I mean  
10 beyond the requirements of the rulemaking process in  
11 terms of getting information out. We provided the  
12 staff's language a couple of times. We had several  
13 meetings. We got three rounds of direction from the  
14 Commission along the way. So it's really been quite  
15 a process.

16 I think back to the fact that this all  
17 started, seriously, in 2005 as a result of the  
18 adjudicatory proceedings associated with the LES  
19 application and the subsequent direction through our  
20 staff to outside of the adjudicatory process to  
21 determine if our regulation needed to be modified to  
22 address the disposal of large quantities of depleted  
23 uranium. And so in 2008, the staff developed a SECY  
24 08-0147 and in that we did an analysis and we  
25 recommended to the Commission that yes, we did need to

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1 modify our regulations. And we proposed that that  
2 modification would be to require in Part 61 a site  
3 specific performance assessment that would address the  
4 disposal of large quantities of depleted uranium and  
5 other long-lived isotopes that weren't directly  
6 analyzed at the time Part 61 went into effect some 30  
7 years.

8 Well, along the way, we got a lot of very  
9 good input. I look around the room, I see friends and  
10 colleagues who were at a number of these meetings and  
11 provided very, very good input. And you helped the  
12 process immensely. You aided the staff in developing  
13 what we believe is a good regulation. And today, when  
14 Dr. Esh goes through and shows you the most important  
15 contents of the rule, you'll see that I think we've done  
16 a very good job of addressing the disposal of depleted  
17 uranium. We've enhanced the use of the waste  
18 acceptance criteria. And when you see what the  
19 Commission directed us to do, you didn't think about  
20 protection component holistically. There are three  
21 phases to it as you will see, three major parts to it.  
22 But think of it holistically. And as you read the rule  
23 in the weeks to come and you provide us comments, we  
24 would greatly appreciate your thoughts on the approach.  
25 There's a few items in there like the level of

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1 compatibility that's been assigned, Compatibility B  
2 that you'll hear about. So we're looking for some good  
3 feedback on the proposed rule.

4 I wish that we had it in the FRN, as Chip  
5 pointed out in this comments. Today, this is for  
6 discussion. It is in the ADAMS. Steve will give you  
7 the citation for the ADAMS. It will be in an FRN on  
8 Monday, the 23rd. That's when the formal comment  
9 period actually begins, so we encourage you to provide  
10 your written comments. But I think the value of today,  
11 even though the formal comment period starts on Monday,  
12 I think the value today is we're going to have a  
13 discussion. You're going to see the essence of the key  
14 changes in the rule. And your comments today and the  
15 discussion that we have will be of great value to the  
16 staff when we go back because we're going to have more  
17 public meetings about this rulemaking.

18 So we'll hear things today that we can then  
19 factor into considerations of our discussions in future  
20 meetings. There will one or more public meetings. In  
21 fact, there will probably -- I think Greg, you'll talk  
22 more about that. There will be several public  
23 meetings. And so today does form an opportunity to  
24 help us congeal and form the kinds of dialogue that will  
25 take place in these upcoming public meetings.

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1                   So with that, again, I thank you for being  
2                   here. It's a great turnout and I appreciate your  
3                   staying around to help us out today and we do look  
4                   forward to your comments and having a very useful  
5                   discussion. Thank you for being here.

6                   MR. CAMERON: Thank you, Larry. And  
7                   we're going to have Steve Dembek talk about the  
8                   rulemaking process. But I neglected to introduce  
9                   Gregory Suber who is going to talk about the Branch  
10                  Technical Position. He's the Chief of the Low-Level  
11                  Waste Branch in Larry's division. Here's Steve  
12                  Dembek.

13                 MR. DEMBEK: Thank you, Chip. Can  
14                 everyone hear me okay? Yes, thank you. Okay. Yes,  
15                 as Chip mentioned, my name is Steve Dembek. I am in  
16                 the Low-Level Waste Branch. I work for Gregory Suber  
17                 and you can see the rest of my -- where I work here.  
18                 I'm part of NMSS. Let's see.

19                 Go on to the next slide. All right. It's  
20                 working.

21                 This morning I plan to go over the key  
22                 aspects of the rulemaking process for the Part 61  
23                 proposed rule. Later on, as Chip mentioned, Dave Esh  
24                 will provide specifics about the technical content of  
25                 the proposed rule itself.

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1 I plan to explain why we do rulemakings,  
2 what the objective is for this particular proposed  
3 rulemaking that we have worked on, the status and time  
4 line which you all are probably interested in for the  
5 rule and how to submit comments on the proposed rule.

6 I also will cover the time line and comment  
7 on the process for the regulatory guidance that comes  
8 with the rule, that is actually a slightly different  
9 process than the comment process for the proposed rule  
10 itself. So I'll get into all the differences there.

11 Now getting into the why, why do we do  
12 rulemaking, this is a pretty general discussion, but  
13 it won't take that long. Rulemaking is one way in which  
14 the Commission's policy is implemented. Long term, it  
15 is Commission policy to regulate through the  
16 development of rules and not to regulate by using orders  
17 or license conditions. Rulemaking makes requirements  
18 generally applicable to everyone, whereas an order or  
19 license condition only applies to the entity getting  
20 the order or licensee condition.

21 Rulemaking, this is an important  
22 distinction, rulemaking is also a very public process.  
23 Rulemaking provides opportunity for stakeholders, like  
24 you, to get involved and we provide you a period of time  
25 to comment on the proposed wording in the rule and you

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1 can certainly submit any comments you like. And it is  
2 through a public process. You have to keep in mind all  
3 the comments you submit and all the comments we receive  
4 will be made publicly available so that everyone can  
5 look at those comments.

6 In developing a proposed rule, we consider  
7 recent research, lessons learned from implementation  
8 of the existing rules, issues identified during  
9 inspections, existing facilities, a recommendation  
10 from advisory bodies, information included in any  
11 petitions for rulemaking. We also consider  
12 stakeholder comments that we receive throughout the  
13 rulemaking process and we also consider comments we  
14 receive after we issue a proposed rule for comment which  
15 is basically the step we're in now. We're going to be  
16 issuing a proposed rule for your comment and you're  
17 welcome to comment on it. And all of these aspects are  
18 considered in the development of the proposed rule  
19 language.

20 As far as the objective for this particular  
21 rule, why do we do this particular rulemaking? Larry,  
22 of course, touched on it a bit, but the objective of  
23 the proposed 10 CFR Part 61 revisions is to require  
24 low-level waste disposal licensees or license  
25 applicants to ensure the safe disposal of any low-level

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1 waste streams that are significantly different from the  
2 low-level waste streams that were considered in the  
3 current 10 CFR Part 61 regulations.

4 And as I stated before, Dave will be  
5 getting into some of these, the details of what are  
6 these different technical differences between the  
7 current rule and the proposed rule.

8 Now here's the time line. This is what a  
9 lot of you are interested in, I'm sure. I just had to  
10 change this slide today because some of this  
11 information we just got a few hours ago. The rule  
12 that's going to be published, Larry mentioned March  
13 23rd. The latest information I heard was March 26th.  
14 March 26th, the rule is supposed to be published in the  
15 Federal Register and that ML number, the ADAMS  
16 accession number written at the top of the page there  
17 is the number of the draft proposed rule. The Federal  
18 Register people made a few minor editorial changes to  
19 our rule so it's not going to look exactly the same as  
20 the one the Federal Register notice is issued, but the  
21 content of it, the technical aspects of it, it's going  
22 to be -- you'll find it right there in the draft proposed  
23 rule.

24 And so in order to support today's meeting,  
25 the draft was issued on Wednesday. I don't know if some

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1 of you had a chance to look at that yet or not. It was  
2 announced in the meeting announcement -- it was added  
3 to the meeting announcement, but a lot of this stuff  
4 was happening at the last minute due to the issues I  
5 just explained about working with the Federal Register  
6 people.

7 And we're going to accept comments 120 days  
8 from the date of publication. According to the Federal  
9 Register people, this is another one of the slides that  
10 just changed, that close date is July 24, 2015. So  
11 that's the 120-day period. You have got to have your  
12 comments into us by then.

13 Going on from there, the final rule is  
14 expected to be sent to the Commission for review and  
15 approval approximately 12 months after the comment  
16 period closes. But the exact timing will, of course,  
17 be based on the number and the complexity of the  
18 comments we receive and may also change to reflect an  
19 extension of the public comment period if one is  
20 necessary.

21 If you do comment, the more clearly you  
22 state your concern and any supporting information you  
23 can provide with your comment will make the whole  
24 process a lot more efficient, so we can get things done  
25 quickly. Now presuming the process stays on schedule,

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1 we would expect a final rule to be sent to the Commission  
2 in the July time frame of 2016. And the final rule  
3 would likely be published in the Federal Register in  
4 the late summer or fall of 2016. Remember, that's  
5 assuming everything goes as scheduled. This is just  
6 to give you a rough idea of the process going forward.

7 And the final rule will be effective one  
8 year after it is published in the Federal Register.  
9 And it will apply to any licensee or applicant in a  
10 non-agreement state. If you are licensed by an  
11 agreement state, the agreement states will have three  
12 years to develop compatible regulations. So for many  
13 of you, it may be close to the year 2020 before you  
14 actually have to go by the new provisions listed in the  
15 proposed rulemaking.

16 Now I'm going to go into the submittal  
17 process. This came right from the Federal Register  
18 notice. I'm not going to go through all the methods  
19 in detail. You can get those in the Federal Register  
20 notice and in the draft Federal Register notice which  
21 again was issued on Wednesday and is available through  
22 our website. But I do want to point out some specific  
23 facts that are very important. The first is that the  
24 top bullet there, the docket number is very important.  
25 Obviously, each proposed rulemaking has its own docket

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1 number. You've got to put the correct docket number  
2 on and then I'm not going to go in detail on these, but  
3 I just want to mention there are five different ways  
4 you can give us your comments. The Federal Government  
5 has a rulemaking website at [www.regulations.gov](http://www.regulations.gov). As  
6 long as you put in that correct docket number, you can  
7 submit a comment there. You can mail comments to us.

8 You can email comments to us. If you're  
9 on the Rockville Pike, you can hand deliver comments  
10 to us between 7:30 and 4:15 on federal work days. And  
11 also you can fax your comments to us. So we have quite  
12 a few ways. We try to be as flexible as possible, quite  
13 a few ways for you to get comments to us on the proposed  
14 rule wording. Remember, I'm talking now about the  
15 proposed rule wording. I'll talk later about how to  
16 comment on the guidance document.

17 You are encouraged to submit formal  
18 comments for the record, using the methods discussed  
19 on this slide. As a reminder, since the rulemaking  
20 process is a public process, the comments we receive  
21 will be made publicly available. Again, if you choose  
22 to provide comments, it is more helpful if you explain  
23 why a provision is a problem, rather than if you just  
24 note you are opposed to something in the proposed rule.

25 Okay, now I'll shift and talk about the

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1 guidance document. You see it's called Draft  
2 NUREG-2175. It is titled "Guidance for Conducting  
3 Technical Analyses for 10 CFR Part 61." And this has  
4 also been issued for public comment. This is also  
5 available on the website. It was available at that  
6 accession number there. It was available late in the  
7 day on Wednesday also. This is a very large document.

8 Dave, could you hold up the -- so that's  
9 the draft NUREG for your comment. It's a very large  
10 document. Obviously, we're not going to pass them out  
11 today, but it is available for downloading on the  
12 website.

13 And the Federal Register notice formally  
14 requesting comments on the guidance document will be  
15 issued the same day on March 26th and it will have the  
16 same end period, July 24, 2015. Same 120-day period.

17 I encourage you to look at the guidance  
18 document and provide comments on it. We expect to  
19 finalize the guidance document and publish it when the  
20 final rule is published which again, we're shooting for  
21 with the current schedule late summer of 2016 or maybe  
22 the fall of 2016, around that time frame.

23 So I mentioned previously that the comment  
24 submittal process for the guidance is different than  
25 the comment submittal for the proposed rule. Here is

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1 an outline of what's different.

2 First of all, you see the first bullet, the  
3 docket number is different. We have a different docket  
4 number, but you can go to the federal rulemaking website  
5 at [www.regulations.gov](http://www.regulations.gov) and as long as you put this  
6 docket number in, you can comment on the guidance. And  
7 you can mail comments in. So we don't have as many  
8 options for the guidance document. You can mail  
9 comments in and it's a different mail address. This  
10 goes to our Office of Administration. The rule  
11 comments go into our Office of the Secretary at the NRC.

12 Comments on the guidance are very  
13 important to us. It tells us where we need to provide  
14 additional information or clarify the information that  
15 we have provided. Comments on the guidance can also  
16 result in clarifying of the rule language itself.  
17 Again, I encourage you to submit written comments using  
18 either of the two methods show on this slide. And the  
19 formal period for submitting comments will start on  
20 March 26th when the Federal Register notice is issued.  
21 But you're welcome to look at this ahead of time.

22 And last, I have my contact information up  
23 on the slide. I also have Gary Comfort's contact  
24 information on this slide. I'm a project manager with  
25 overall Part 61 responsibilities, but Gary Comfort,

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1 he's got more rulemaking experience. If I can't answer  
2 a question or if you think of a question later, you could  
3 either send it to me, Gary, or both of us and ask  
4 questions. But for right now, I'll stop and if you have  
5 any specific questions on the rulemaking process or the  
6 comment process, let me know.

7 MR. CAMERON: Thank you very much, Steve.  
8 Any questions on process before we get into the  
9 substance of the rule? Does anybody have a process  
10 question?

11 And Dan, please introduce yourself so that  
12 Peggy can get that on the transcript here.

13 MR. SHRUM: Thanks, Steve, for your  
14 presentation. My name is Dan Shrum with Energy  
15 Solutions. I may have missed it and I don't think Chip  
16 said it either, but when will be the public meetings  
17 be held? Are you scheduling those? Do you have  
18 approximate dates and approximate locations?

19 MR. DEMBEK: We don't have those dates  
20 yet. We will have some public meetings, but we don't  
21 have the dates yet. This was -- it took us time to get  
22 the rule out and now that we've got the rule out now  
23 we can decide on when we're going to have those  
24 meetings.

25 MR. SUBER: I can add a little bit more

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1 information. This is Gregory Suber. Now we're going  
2 to have regional meetings when we do Part 61 and so we  
3 don't have the dates and we haven't solidified them yet,  
4 but we'll do something probably in the Salt Lake City  
5 area, likely go to Region IV or the Texas area and also  
6 South Carolina.

7 MR. CAMERON: And just one clarification,  
8 too, for Steve or for Gregory. Will the public  
9 meetings be done after the rule comment period closes  
10 or during the period? If you could give people just  
11 an idea of when that might occur.

12 MR. SUBER: The public meetings will  
13 probably be during the public --

14 MR. CAMERON: During the comment. Okay.  
15 So some time before July 24th, I guess.

16 Dan, do you have a follow up on this?

17 MR. DEMBEK: I think it will be --

18 MR. CAMERON: Okay, that's fine. But we  
19 need to get everybody on the mic.

20 MR. SHRUM: Dan Shrum again with Energy  
21 Solutions. You've separated the rule from the  
22 guidance document. Will these public meetings be the  
23 same meeting or are you going to have rules for Part  
24 61, the rule and the guidance?

25 MR. DEMBEK: They'll be the same meeting.

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1 The only reason it's separated is because two different  
2 offices at the NRC control the two different documents.  
3 The rules are all controlled by our Office of the  
4 Secretary. And this guidance document is controlled  
5 by our Office of Administration. That's the only  
6 reason why they are separate. Otherwise, we would have  
7 them the same. So when we have the meetings, they're  
8 all going to be -- we'll talk about it all together.  
9 They're intended to go together. The guidance is  
10 intended to go with the rule so it wouldn't make sense  
11 to have to separate that out just because of two  
12 different offices that the NRC are controlling who gets  
13 the comments.

14 MR. CAMERON: Okay, let's go to the phones  
15 and then we'll come back here in the room.

16 Yomi, does anybody -- is there anybody on  
17 the phone who has a question about rulemaking process?

18 OPERATOR: I'm showing no questions.  
19 Thank you.

20 MR. CAMERON: Okay, thanks, Yomi. John.

21 MR. GREEVES: John Greeves. Steve, the  
22 last time we went through this, the staff provided a  
23 redline strikeout of -- I don't know what you called  
24 it, but the draft at the time. So I know the record  
25 is not open, but I want to request -- is this mic on?

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1 I'll get closer.

2 So I'll request now and I'll do it again  
3 when the record opens, but the staff helped us a lot  
4 by giving us a redline strikeout version of the rule.  
5 So I'm requesting that you provide a redline strikeout  
6 version of the rule so we can see. The version of the  
7 rule we've been working with for decades, what did you  
8 do with it in terms of what was struck out and what are  
9 the new inserts? It really helps us focus our  
10 comments. So thank you for doing it the last time and  
11 I request it now and I'll do it again when the record  
12 opens us. Do you understand?

13 MR. DEMBEK: I understand that. And the  
14 comment requesting redline strikeout version, we'll do  
15 that. I'm not sure exactly how that's going to get  
16 done, whether the staff has to do that ourselves and  
17 put it in ADAMS as a separate document, or how that  
18 exactly works. But I'm sure we'll be able to do it.

19 MR. GREEVES: You did it last time, so I  
20 thank you for that. Just ask you to repeat it so we  
21 can be very clear on what the changes were. Thank you  
22 so much.

23 MR. CAMERON: Thank you, John. And  
24 everybody will just have to speak into the mic so that  
25 we can get it.

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1 MR. CURILLI: John Curilli. The question  
2 I have, if comments on the rule are going to one place  
3 and comments on the guidance are going to another, how  
4 are you going to ensure that those two documents match  
5 up and agree with one another?

6 MR. DEMBEK: The comments on the rule and  
7 the comments on the -- and the guidance, they go to  
8 administrative organizations, basically, at the NRC.  
9 Those administrative organizations at the NRC, the  
10 Office of the Secretary and the Office of  
11 Administration, will give those comments all to us. So  
12 the technical people are going to get all those comments  
13 and we'll make sure that they are considered  
14 appropriately and we'll make sure that they are  
15 coordinated. Does that answer your question?

16 MR. CURILLI: Yes, it does.

17 MR. DEMBEK: Okay.

18 MR. CAMERON: Okay, let's go to the  
19 substance of the soon to be issued proposed rule and  
20 thank you very much, Steve. Now we have Dr. Dave Esh.

21 MR. ESH: Thank you. I'm going to give  
22 you an overview of maybe the substance of the rule and  
23 the guidance document. And as we talked about or was  
24 talked about, these two things go together. The rule,  
25 of course, supplies the requirements that you must meet

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1 and the guidance supplies the staff -- methods that the  
2 staff would find acceptable for meeting those  
3 requirements.

4 So an integration of the two, but the  
5 guidance -- you can take different approaches to  
6 guidance than what the staff proposes. So if you're  
7 in an agreement state, the agreement state regulators  
8 may find other methods acceptable within their  
9 agreement state to satisfy the regulatory  
10 requirements. So keep that in mind as I go through  
11 this.

12 I realize this meeting overlaps with  
13 National Collegiate Association events, so if any of  
14 you yell out yes when I put a flow sheet up, I'll know  
15 you're probably busted.

16 So the topic I'm going to cover, as Larry  
17 had said in his introduction, these are kind of the key  
18 topics that I'm going to cover, analysis, time frames,  
19 the performance assessment, the intruder assessment,  
20 the safety case/defense-in-depth and waste acceptance  
21 criteria.

22 And then I'm going to through the guidance  
23 document giving you just a brief overview of it because  
24 it is a pretty large document and then some select  
25 examples for what is in it. I'm not going to cover all

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1 topics. There's no rule text in here, so you're going  
2 to have to go to the links that Stephen provided to see  
3 that information. But this is intended to give you the  
4 context of what we're trying to do so that you can see  
5 the forest and then you might have a lot of comments  
6 on the trees, but you can kind of see how everything  
7 fits together, what we were trying to do.

8 So first topic, analysis time frames. On  
9 the right here, your left, my right, is the proposed  
10 approach that we initially sent to the Commission and  
11 then on the other side is what you will see now in the  
12 packages that you review. So initially, we had a  
13 two-tiered approach with a 10,000 year compliance  
14 period followed by a performance period. The hashed  
15 area at the top for the performance period, that was  
16 only applicable if you have sufficient amounts of  
17 long-lived waste. So basically you only had a  
18 one-tiered analysis if you didn't have long-lived  
19 waste. If you had a lot of long-lived waste, you were  
20 going to be doing this two-tiered approach.

21 And down at the bottom it shows the  
22 different performance objectives, the protection of  
23 the general population and then the protection of the  
24 inadvertent intruder.

25 What you will find now is we have a

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1 three-tiered approach based on the Commission  
2 direction where that initial period that was a 10,000  
3 year compliance period is broken into two tiers. So  
4 we have a 1,000 year compliance period, followed by this  
5 protective assurance period. And they have different  
6 objectives, but they both fit together. And then you  
7 have the same performance period at the long term if  
8 you have sufficient quantities of long-lived waste.

9 And down on the far side there, you'll see  
10 it says increasing uncertainty, flexibility to  
11 licensees and decision makers. So what we were trying  
12 to achieve is during the process, we got a lot of  
13 comments about uncertainty and how you do this and what  
14 does the information mean and how you should use it.  
15 And so we wanted to try to have something that afforded  
16 some flexibilities for people to represent or to  
17 consider those different opinions.

18 And so this approach, I think, does that  
19 because of especially the second two tiers. They are  
20 more of a minimization or optimization process and less  
21 of a strict here's a number that you must meet process.  
22 So it affords some flexibility to kind of go about why  
23 you think your facility can meet the criteria or how  
24 you're going to meet the criteria.  
25 Anyway, that's the context for the analysis time

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1 frames. I know it was a topic that had a lot of  
2 discussion.

3 So then one of the key elements is the  
4 performance assessment. The performance assessment  
5 is not necessarily a new thing. It's a new  
6 terminology, more so in our minds. So an original Part  
7 61, you had to do technical analyses and that technical  
8 analyses we think is very comparable to a performance  
9 assessment with some differences. Around the outside  
10 of this diagram, we provide the different rule areas  
11 that we've modified related to performance assessment,  
12 so you can see you have to update the performance  
13 assessment at closure. That's more of a bookkeeping  
14 thing.

15 We have the new WAC approach which I'm  
16 going to talk about, waste acceptance criteria, which  
17 allows you to develop waste acceptance criteria. And  
18 then either use the Part 61 waste classification tables  
19 or the results of your analysis basically.

20 We added something in 61.13 regarding  
21 features, events, and processes. That's important to  
22 get the scope right for your analysis, especially when  
23 you're disposing of long-lived waste. So can you sit  
24 down with a few people and get the scope right when  
25 you're disposing of traditional low-level waste that

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1 has very short-lived activity and all decays away  
2 fairly rapidly. That's a lot easier. When you have  
3 long-lived waste and you have to worry about some other  
4 processes, it's harder to get the scope right. So  
5 there's a requirement in there now about features,  
6 events, and processes.

7 And then in the guidance document, there's  
8 an awful lot of information about the FEP process only  
9 because the features, events, and process is kind of  
10 cumbersome. There's not an easy way to do it, but you  
11 can either do it top down or bottom up approach and  
12 either one, you have to do quite a bit of evaluation  
13 to ensure you get the scope right for your analysis.

14 We added something in 61.13 also about the  
15 explicit consideration of uncertainty and variability  
16 that wasn't really mentioned -- or isn't mentioned in  
17 the existing -- the previous version of Part 61, but  
18 it is now. And then over on the side here also on 61.13,  
19 something that's very important is to provide model  
20 support and consideration of alternative conceptual  
21 models. So this isn't -- granted, you can't do  
22 modeling as a traditional model because you can't do  
23 validation over these time frames. You don't know what  
24 the result is going to be in the future. You're doing  
25 a projection. But that's why we call it model support,

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1 not model validation. You do have to provide support  
2 for your calculations, why they're reasonable, why you  
3 think they're a good representation of the future and  
4 that projection is relatively correct. So that was  
5 added in 61.13.

6 These are all just enhancements to the  
7 technical analysis and to the performance assessment.  
8 I'll talk about defense-in-depth in another slide.  
9 And then we also had to modify 61.50 as a result of the  
10 long-lived waste requirements and I'll talk a little  
11 bit about that, too.

12 So intruder assessment. There's a flow  
13 sheet on the side here and I see that this -- because  
14 we had a problem with the slides when we started here  
15 and we copied this over, there's an error in that bottom  
16 bubble there. It should say "complies with 61.42."  
17 It's correct in the guidance document. This is a flow  
18 sheet from the guidance document. It was corrected on  
19 the slides, but then we changed the slides out at the  
20 last minute.

21 Anyway, the intruder assessment is  
22 probably the only thing that really absolutely needed  
23 to be changed in response to SECY 08-147. In the  
24 current regulation, not the proposed one, the current  
25 regulation, the protection of the intruder was based

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1 on basically NRC's analysis that was used to develop  
2 the waste classification tables. Sure you had to  
3 provide information about intruder barriers and  
4 segregating different type of waste or meet a minimum  
5 depth requirement for -- but that was the extent. You  
6 didn't have to do any sort of dose analysis for  
7 intruders. But when you disposed of or wanted to  
8 dispose of large quantities of depleted uranium,  
9 uranium is not in the waste classification table, so  
10 what amount of uranium can you safely dispose of?  
11 Well, it's not part of the waste classification table,  
12 so therefore somebody needed to do an analysis to say  
13 what's appropriate.

14 NRC, one of the options we considered was  
15 we'd just revise the waste classification tables and  
16 put uranium numbers in there. The problem with that  
17 and the problem with the waste classification tables  
18 in general is it's done for one particular site with  
19 particular environmental conditions that has embedded  
20 assumptions in it, that may not be appropriate for your  
21 site and they may even be widely in error for your site  
22 in both a conservative and a non-conservative  
23 direction. So allowing licensees to do an analysis for  
24 the intruders or requiring them to do an analysis for  
25 the intruders is a smarter process because you can

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1 better reflect what's going on at your site.

2 So what this looks like is it's going to  
3 be very similar to what was done by the NRC to develop  
4 Part 61 in the early 1980s. You are required to do an  
5 intruder analysis. You're going to use intrusion  
6 scenarios, language is here, that are realistic and  
7 consistent with expected activities and in and around  
8 the disposal site at the time of site closure and apply  
9 a dose limit of 500 millirem for that analysis.

10 So now we'll move on to safety case and  
11 defense-in-depth. The proposed rule includes a  
12 discussion of safety case and defense-in-depth  
13 protections. The diagram there on the side kind of  
14 gives you the context for how it fits together, so in  
15 existing Part 61, not the proposed, we kind of felt like  
16 safety case was all about what Part 61 was doing. It's  
17 your whole licensing process was your safety case. It  
18 wasn't explicit in calling that out and saying safety  
19 case like it's done in the international vernacular  
20 now. But it was part of it. So we added a little bit  
21 to explicitly state safety case in the regulation, but  
22 we're not defining safety case sufficiently different  
23 than the licensing basis that you may have used for  
24 those that are either licensees or agreement state  
25 regulators for your existing facilities. But we do

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1 explain how the combination of defense-in-depth and  
2 performance assessment should be used to support the  
3 licensing decision.

4 The addition here is the defense-in-depth  
5 process that I'll talk about and we have some things  
6 on the side, site ownership and stability in the natural  
7 characteristics, imposing concentration limits, which  
8 are based on how you estimate your system is going to  
9 behave. The use of barriers and the waste acceptance  
10 criteria should really be on the other side. This is  
11 another issue in changing these slides out. But on the  
12 other side we have the performance assessment and  
13 intruder assessment and long term analyses,  
14 defense-in-depth and the stability analyses. So they  
15 all kind of are different technical analyses.

16 So the combination of the technical  
17 analyses and these defense-in-depth components mesh  
18 together to give you your safety case. And the only  
19 really, I'd say, new things are the intruder analyses  
20 or the intruder assessment and the defense-in-depth  
21 which might be depending on the approach you take, it  
22 could be a different type of analyses or it could just  
23 be kind of a qualitative argument as to how your  
24 elements in your system provide defense-in-depth.

25 Defense-in-depth though could be an

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1 additional challenge and that's one thing we'd like to  
2 hear your comments on in this proposed rule because we  
3 looked at this very carefully and NRC has some language  
4 that defines defense-in-depth that's basically you  
5 can't really -- you need independent and redundant  
6 barriers and you can't exclusively rely on any one  
7 barrier. It's used to account for uncertainty in your  
8 systems so that redundancy and independence might be  
9 a challenge, not, I think, for the short term because  
10 you can easily make an argument of all the things that  
11 the regulation requires of you, provides  
12 defense-in-depth and your analysis for the short term.  
13 But for the longer term, you start facing challenges  
14 with arguing for the longevity of some of those  
15 protections. So that may be a bit of a challenge and  
16 that's an area we want to definitely get your comments  
17 on.

18 So waste acceptance criteria, on Slide 7  
19 here, you have a new approach now. The waste  
20 acceptance criteria, which is used by the Department  
21 of Energy and internationally, is basically developing  
22 the characteristics and criteria for your waste that  
23 are going to allow your system to meet the requirements.  
24 And it's primarily an analysis-based approach,  
25 although a lot of it might be more qualitative, you

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1 don't want to put -- without even an analysis, you can  
2 say well, I don't want to put material in a system that's  
3 flammable or pyrophoric. There's various things you  
4 can come up with. You don't have to do an analysis to  
5 know that's a bad idea. But there are many other  
6 characteristics that you may use your analysis to  
7 define well, what is it can I accept? What specific  
8 concentrations of various isotopes are appropriate for  
9 my system?

10 So the analysis helps define the waste  
11 acceptance criteria and in what we've proposed it's an  
12 "or" approach. So you can still use the 61.55 waste  
13 classification system if you don't want to worry with  
14 the concentrations of the waste or base it on your own  
15 analyses. Or you can use your own analyses to define  
16 the appropriate concentrations for your system that you  
17 think are acceptable. So you have an "or" approach  
18 now. It's more flexibility. But there is potentially  
19 a downside with the site specific waste acceptance  
20 criteria. And that is you're basing it on analyses.  
21 You have to be confident in that analyses. That  
22 requires that 61.13 support area to be fairly robust  
23 and you have to afford sufficient margin in what you  
24 do because the world is complicated, things change,  
25 information may change and if you haven't afforded

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1 effective margin, then you could get yourself in a  
2 difficult position when new information comes in and  
3 maybe it's different than the information that you used  
4 to develop your waste acceptance criteria.

5 So if you're relying on somebody else to  
6 do your analysis and you're the person that receives  
7 it and then makes a decision, these are things I would  
8 be asking them, you know, how robust is this? What are  
9 my sensitivities? What are the things that could  
10 change that I need to be aware of and all that should  
11 go into how you develop your site specific waste  
12 acceptance criteria.

13 The guidance document, as I held up over  
14 there, is a fairly decent-size document. I don't know  
15 if it's changed since these slides were put together.  
16 I know the ML number on the bottom here is wrong. Use  
17 the one in Steve Dembek's presentation.

18 The guidance document, one of the things  
19 you want to spend some time on before digging into the  
20 weeds and potentially getting lost is Chapter 1 because  
21 that will help you not get lost in the rest of the  
22 document. It provides the overview and context for the  
23 whole document, what are all its pieces and how do they  
24 fit together?

25 We tried to provide a lot of examples,

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1 tables, and figures so that it's not just all words that  
2 you sit there and pull your hair out and say what are  
3 these guys getting at?

4 It does have a chapter, Chapter 11, that  
5 provides the use of other NRC guidance documents, so  
6 this document is intended to in some cases supersede  
7 information in older guidance documents, but then also  
8 to supplement them. There's a lot of guidance out  
9 there. We couldn't possibly revise all of that in one  
10 document. It is a future activity that we'd  
11 potentially consider, but it would be a large activity  
12 similar to what the NRC did for those of you are familiar  
13 with decommissioning to revise NUREG -- or to produce  
14 NUREG 1757 which kind of became a big volume of a  
15 stand-alone document for how to go about  
16 decommissioning.

17 As it stands now, it's 434 pages, has 18  
18 pages of references. It has a glossary and a variety  
19 of appendices on things like hazard maps and features,  
20 events, and processes which I'll talk about in a little  
21 more detail.

22 So this is Figure 1-1 from that Chapter 1  
23 of this document. And I think it's a pretty important  
24 figure and helps you get an understanding of what's  
25 going on. Basically, on the one side here it's the time

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1 frames, the compliance period, the protective  
2 assurance period, and the performance period. And  
3 then coming down from the top are the three of the four  
4 performance objectives. We don't have the protection  
5 of the public during operations in there as it falls  
6 prior to this diagram basically.

7 At the top is the assessment context and  
8 scenario developments, so that's the whole features,  
9 events, and processes analyses and now you come up with  
10 the context. That feeds into the performance  
11 objectives and how you evaluate those performance  
12 objectives over all the time frames. And the  
13 defense-in-depth arguments as the rule is written now  
14 applies across all of these time frames and kind of  
15 comes into the side. So you have these overlapping  
16 features that kind of fit together and like a 3-D puzzle  
17 let's say. And ultimately, you're trying to  
18 demonstrate the subpart C performance objectives are  
19 met down at the bottom. It might take a little bit --  
20 I'll let that sink in when you go through the document.

21 So here's some example figures from the  
22 guidance document that we have in the area of  
23 performance assessment. And this is basically showing  
24 you start with some information and data. You're going  
25 to develop a conceptual model and then that feeds into

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1 maybe abstractive models to estimate system  
2 performance. And then even in the area of a particular  
3 area or in the area of the abstracted hydrological model  
4 you can go into more depth on the other side which is  
5 you have a hydrologic conceptual model. You develop  
6 that into some computation model which is based on  
7 equations and data and so forth.

8 The performance assessment process starts  
9 from the beginning here and goes to the end where you  
10 produce a number and all of these things fit together.  
11 Our guidance document is intended to cover all of these  
12 components of say the analysis process or the  
13 performance assessment.

14 We have included, and I don't intend for  
15 you to read these, we have included the flow charts in  
16 the document for those of you who like to step through  
17 things. I want to know well, what do I do in Step A,  
18 Step B, Step C. There's different types of people and  
19 different types of brains, so we have information that  
20 hopefully works with both types of people or different  
21 types of people.

22 We have flow charts in there if you want  
23 to step through the process and make sure you've done  
24 all the steps. Of course, as I noted earlier, it is  
25 a guidance document so you can propose other ways to

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1 go about meeting the requirements. You don't have to  
2 do exactly what the staff has in the guidance document.  
3 But if you're going to deviate significantly, you  
4 should probably make an argument for why you've  
5 deviated and why it's okay. At least if we were  
6 reviewing it, we would end up asking questions along  
7 those lines. If an agreement state is reviewing it,  
8 they could choose how they handle that sort of  
9 information.

10 Site-stability. This is a diagram from  
11 Chapter 5 of the guidance document. It has some  
12 different components to it. The site characteristics,  
13 of course, which are part of existing Part 61 and/or  
14 proposed. We had to modify them in the proposed 61.50  
15 based on the long time frames involved. So the existing  
16 Part 61, 61.50, it has some exclusionary criteria that  
17 you cannot have at your site in order to dispose of  
18 low-level waste like water can't -- or waste can't be  
19 disposed of in the water table. You can't be in a 100  
20 year flood plain. There are some other things like  
21 that. But when we went to then modify in the regulation  
22 to especially go to the longer time frames, we started  
23 discussing well how would somebody demonstrate they  
24 aren't going to be in a 100 year flood plain for 10,000  
25 years or potentially longer? That seems like an

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1       intractable problem to me. So we had to modify some  
2       of that and be clear.

3               Some of the hydrologic aspects of the  
4       system which were the reasons for many of the initial  
5       failures of older low-level waste facilities prior to  
6       Part 61, those are exclusionary for the 500 year time  
7       frame, so if you're in a 100 year flood plain today or  
8       expected to be in the next 500 years, that's not a good  
9       site. You should probably choose a different site.

10              But when you move out in time, then we wrote  
11       these -- rewrote the 61.50 to allow you to make kind  
12       of performance-based arguments as to why the criteria  
13       or characteristics are acceptable or unacceptable for  
14       your particular site. So you'll see that. Look at  
15       61.50 and how we rewrote that and how we packaged it.

16              Ultimately, 61.50 though meshes with the  
17       performance objective 61.44, the stability performance  
18       objective. And this is important. I think maybe if  
19       there's one area that popped out to me and deserves some  
20       attention, initially we didn't think deserves some  
21       attention, it was in the stability. There was a lot  
22       of discussion about -- or a lot of debate about the  
23       long-term stability. And NRC, when they developed the  
24       regulations, the idea was you're disposing of mainly  
25       short-lived waste, but you're going to ensure it's

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1       stable while that waste is there. It wasn't that well,  
2       we're going to dispose of any waste and you only have  
3       to ensure it's stable while that waste is there.  
4       There's a difference between those two things. And so  
5       conceptually, we had to reflect that or we did reflect  
6       that in the new package is that the stability is an  
7       important part of the evaluation.

8               Okay, so this protective insurance  
9       example. It's Figure 6-1 in the guidance. This is an  
10      area which we're sure we'll get your comments on and  
11      we definitely want your comments on. The Commission  
12      directed us to provide this tier, the protective  
13      assurance period. And based on the language, the way  
14      we did that is it's a minimization process or an  
15      optimization process. So you don't have a strict dose  
16      limit for this tier, but you're trying to minimize your  
17      impact. So it's similar to ALARA, but for reasons we  
18      couldn't just use the ALARA language that's in the  
19      existing Part 61.

20             But what we did is develop kind of these  
21      different levels of impacts that you may generate and  
22      depending what level you're in that defines kind of how  
23      much resources would be practical for you to try to  
24      apply to reduce those impacts. And we avoided the  
25      issue of the time-based discounting which seems like

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1 a real red herring and nobody is ever going to agree  
2 and there isn't an appropriate answer to that I don't  
3 think, based on what we know today. But what we did  
4 do was is we did a risk-based discounting or I would  
5 call it the inverse of risk-based discounting. So if  
6 your risk is low, then you're done. So if you're in  
7 Level 0, you don't have to do anything more to show that  
8 you've met the performance or the protective assurance  
9 period performance objective.

10 As you move up the scale and your  
11 protective doses are larger, then in a nonlinear  
12 fashion you need to show that you spent appropriate  
13 resources to try to mitigate those impacts, including  
14 a challenging point up in Level 3 up here, is what if  
15 you're above the 500 millirem, then what do you do?

16 What we have now in our guidance document  
17 is you may want to consider if you're an agreement state  
18 regulator, is this the right site for that waste or is  
19 there another site that could take that waste and do  
20 it with much lower impacts. That seems something  
21 reasonable that we, NRC, from like a national  
22 perspective would want to do. You don't have to force  
23 it into a particular site if you have a better site that  
24 can take it. So that's part of this process in the  
25 protective assurance analyses. I'm sure we'll get a

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1 lot of comments. It's kind of a new idea. It's not  
2 in Part 61 at all, aside from maybe the analogy in the  
3 ALARA process.

4 And in the performance period, we have  
5 examples like this table here which I also don't expect  
6 for you to read, but basically, the performance period  
7 is based on the analysis when you have sufficient  
8 quantities of long-lived waste. So long-lived waste  
9 is based on the Class A values on a facility-average  
10 basis. So you take your whole volume or mass of your  
11 facility and average all your activity over it and see  
12 if you're above or below Class A. If you're above Class  
13 A, then you need to consider these values, not on a  
14 package basis, on a facility basis. There's a  
15 significant difference between those two things. So  
16 that will allow you to dispose of a fair amount of  
17 long-lived waste in concentrated amounts or dilute  
18 long-lived waste in a large volume amount. It's only  
19 when you have concentrated long-lived waste in a large  
20 amount that it's going to kick you in to need to do this  
21 analysis which is similar to the protective assurance  
22 period. It's kind of a just show me what the impacts  
23 are. Tell me why you've minimized them or reduced them  
24 as much as you can. I think that's all I need to say  
25 on that.

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1           Okay, in the appendices to the guidance  
2 document, we have a variety of hazard maps and those  
3 are to be used in the features, events, and process  
4 area. This is an example of areas of potential  
5 flooding. We have a GIS person, Allen Gross, who is  
6 very skilled in this area and he developed these maps  
7 for us that we thought would be helpful in developing  
8 the scope of the analysis and in looking at the 61.50  
9 site characteristics.

10           There are caveats with this though as you  
11 probably can recognize. There's issues of resolution  
12 and how interpreting this image and applying it a  
13 particular site. It is just made to be a tool to  
14 enhance that process of trying to evaluate what's  
15 important -- what would I expect would be important for  
16 a site at any location in the U.S. here for a variety  
17 of the processes. So it has flooding. It has volcanic  
18 activity and has seismic. It has all of the different  
19 characteristics that you might feel would potentially  
20 impact a facility some time in the future. So that's  
21 an example of a hopefully useful tool that we put in  
22 there to help people to do this features, events, and  
23 processes evaluation.

24           That's all I had. As Stephen indicated,  
25 you're free to contact us if you have questions in the

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1 process of developing your questions. We do have --  
2 we do record any email exchanges we have with you, our  
3 phone conversations, and they become part of the  
4 record, so keep that in mind. We don't take anything  
5 off the record. No off the record comments in the  
6 rulemaking process.

7 Do you want to do questions now, Chip, or  
8 take a break and then do it after.

9 MR. CAMERON: I'm asking Larry. We're a  
10 little bit ahead of schedule, but we were going to take  
11 a break in ten minutes from now and I'm not sure that  
12 it makes sense to jump into this. Why don't we take  
13 a 15-minute break now and then we'll come back and go  
14 for questions. How about 10 minutes to 10 we'll start  
15 off. Thank you.

16 (Whereupon, the above-entitled matter  
17 went off the record at 9:35 a.m. and resumed at 9:55  
18 a.m.)

19 MR. CAMERON: Okay, if we can get  
20 everybody into their seats, we'll go to commentary.

21 I think Dave did an amazing job of  
22 distilling the proposed rule and the Reg. Guide for you.  
23 And you can tell from the slides that it's just a simple  
24 and straightforward proposed rule. A lot of people I  
25 saw making the sign of the cross out there during your

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1 presentation, but we are going to start out in the room  
2 with comments or questions for Dave.

3 We'll go to people on the phone. And after  
4 everybody gets a shot at commenting, then we'll see if  
5 there's a chance to have a dialogue on some of the major  
6 issues. Who would like to start out for us on the  
7 proposed rule. And again, these won't be considered  
8 on the record comments, even though Peggy is taking a  
9 transcript.

10 Just please introduce yourself to us.

11 MR. KALINOWSKI: Tom Kalinowski with D.W.  
12 James Consulting.

13 David, I really appreciated your  
14 presentation. I liked the direction that you're going  
15 with the performance assessments. One of the  
16 questions I have and maybe this is going to be addressed  
17 in the guidance documents, but as we move into some of  
18 the more less prescriptive categories or limits that  
19 come out of a performance assessment like this, is there  
20 going to be guidance in the NUREG that kind of discusses  
21 to the agreement states regulators how to apply them  
22 so that they're not just looking for a number like the  
23 500 years you mentioned at the end of the assessment  
24 and maybe they want to consider looking at a different  
25 site. But that easily becomes a hard limit where

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1       somebody makes that decision. But I don't think that's  
2       necessarily your intention. So is that going to be  
3       addressed in the NUREG?

4               MR. ESH: Yes. In the -- you're right.  
5       Most of that information I would say is in the guidance  
6       or we attempted to put it in the guidance. We tried  
7       to put in a fair amount of examples on areas where we  
8       thought people might have a particular question or want  
9       to analyze a particular site or condition. So we made  
10      a hypothetical example and said this site has this  
11      characteristic. This is a decision they're trying to  
12      make. This is some of the information associated with  
13      it. And then here's the decision that you would make  
14      based on that information. So it kind of steps through  
15      in some examples.

16             But in terms of some of the -- I'd say  
17      aspects of the rule that don't have say a number  
18      assigned to them and are more subjective or  
19      interpretive part, there's a lot of information in the  
20      guidance document that should allow somebody to go  
21      through and evaluate one of those, but we didn't put  
22      numbers in the guidance document that aren't in the  
23      regulation per se. It's not completely true. You'll  
24      see there are some areas where we put in some examples  
25      of maybe thresholds or numbers of how to consider

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1 things, and one I'll give you is in the area of  
2 disruptive events and when you need to include  
3 disruptive events in your assessment or not.

4 What's been done in some other areas like  
5 say in Part 63 is to have a frequency cutoff of if there  
6 are less than 1 in 10,000 likelihood in 10,000 years,  
7 then they don't need to be included as part of the scope  
8 of the performance assessment. If they are a larger  
9 frequency than that, they do.

10 We have a number in the guidance document.  
11 It's not that number. It's a bigger number as to if  
12 you're below that frequency, then it doesn't need to  
13 be in the guidance document. If you're above that  
14 frequency, it does. And there is some explanation for  
15 why we think that number is a reasonable one to use.  
16 So that's an example of where we provided a number in  
17 the guidance document that isn't in the regulation, but  
18 that was because there are some areas where we felt it  
19 was going to be kind of difficult to just come up with  
20 a subjective answer to that problem for the different  
21 agreement state regulator without having something to  
22 look at or consider. Certainly, they can then come up  
23 with something different if they don't agree with that  
24 or they have a reason to do something different. But  
25 at least we wanted to give a starting point.

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1           So I may have given you a wishy-washy  
2           answer in a couple of different directions, but look  
3           at the guidance document and you'll see we have examples  
4           in there. We did provide a few numbers as kind of  
5           guideposts, but we don't -- you can't put requirements  
6           in the guidance document that aren't in the regulation  
7           to be concise.

8           MR. CAMERON: Okay, thank you. We're  
9           going to go to Lisa and please introduce yourself.

10          MS. EDWARDS: Morning, Dave. Thanks for  
11          the presentation. This is Lisa Edwards. So I haven't  
12          read the draft Part 61 yet. I know. But so it's  
13          difficult for me to come up with any coherent questions  
14          related to the specific guidance. But I am interested  
15          in your perspective of how a site-specific WAC, if it  
16          coexisted with the classification tables as is or  
17          future updated classification tables, how the two would  
18          relate or not relate or supersede each other.

19          MR. ESH: Right. So in 61.58, waste  
20          acceptance criteria approach as I indicated earlier,  
21          that's basically an "or" approach now so you can use  
22          the waste classification tables or you can come up with  
23          site-specific tables basically. That's essentially  
24          what you're talking about whether you're going to use  
25          the generic ones NRC developed or whether you're going

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1 to come up with your own.

2 Those two things will coexist, but the way  
3 the regulation is written at a particular site for the  
4 disposal part of the problem, if you come up with site  
5 specific waste acceptance criteria and those are what  
6 you want to use to base your disposal decisions on, you  
7 can use those irrespective of the fact that you have  
8 these other waste classification tables. So you may  
9 have disposal concentrations that are above or below  
10 those other -- the table values that would define what  
11 you can take at your site.

12 MR. CAMERON: Do you want to follow up on  
13 that?

14 MS. EDWARDS: Yes.

15 MR. CAMERON: All right.

16 MS. EDWARDS: This is Lisa Edwards again.  
17 So could you envision a scenario where some portion of  
18 the waste that is accepted at the site is governed under  
19 the waste classification tables and a different set of  
20 material or waste is governed under a site-specific  
21 waste acceptance criteria?

22 MR. ESH: Well, conceivably, yes, because  
23 there are some isotopes that aren't in the waste  
24 classification tables, so I could envision a situation  
25 where -- and this is just me thinking out loud here,

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1 but you could develop a site-specific WAC for those  
2 isotopes that aren't in the tables and use the table  
3 values for the other isotopes. That would be I think  
4 a reasonable approach. We generally -- in all things  
5 regulatory though we never like cherry picking, and we  
6 never like cherry picking in the non-conservative  
7 direction as regulators. That's the way we're wired.  
8 So if it was a situation where you're going to take the  
9 maximum of either, you'd have to have a good argument  
10 for why that's an appropriate approach. But if it has  
11 a more practical reason like the example I gave, yes,  
12 I think that would be fair game.

13 MR. CAMERON: This is Larry Camper.

14 MR. CAMPER: I wanted to add to that, Lisa.  
15 Thank you. That's a very astute question. And I  
16 wanted to add to it specifically because your question  
17 reminds me of a conversation that I had with  
18 Commissioner Magwood in particular, and other  
19 commissioners as well, but Commissioner Magwood was the  
20 Commission champion, if you will, behind the role of  
21 the WAC.

22 Now, in the conversation that I had with  
23 the commissioner and other commissioners I pointed out  
24 that the use of a waste acceptance criteria is currently  
25 a reality. All of these sites have a waste acceptance

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1 criteria. What the Commission did in this rulemaking  
2 is to elevate the role of the waste acceptance criteria,  
3 which has heretofore been an operational parameter, as  
4 you all know. But in doing this it elevated it with  
5 an "or" pathway.

6 Now, Dave answered your question, and he  
7 gave you an absolutely accurate scientific operational  
8 answer. The problem is; and this is what I shared with  
9 the commissioners, I see a political implication. As  
10 you all know, the waste classification system that  
11 we've been using for the last 30 years is certainly well  
12 embodied in our process. If you go look at the various  
13 licenses that are in existence today, you'll see that  
14 these sites are authorized for the disposal of class  
15 A, class B, class C waste, except in the case of Utah  
16 of course, Rusty, where it's class A.

17 And so the challenge is going to be when  
18 the industry for particularly well-performing sites  
19 wants to rely upon disposal at those sites based upon  
20 the characteristics of that site, it's going to involve  
21 conversations with the regulators and perhaps with the  
22 state legislatures. Because envision if you will a  
23 situation where you're able to dispose of waste at a  
24 particular site because of its performance that is well  
25 in excess of the existing concentration limits in some

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1 part of the table.

2 So the Commission was well aware of that.  
3 And I told them that that issue would come up. And I  
4 think that comments about that along the way would be  
5 helpful as the Commission visits the final rule. That  
6 all make's sense?

7 MS. EDWARDS: Yes. Thank you.

8 MR. ESH: And I would add to that that I  
9 think there is maybe a false sense of security  
10 associated with using the waste classification tables,  
11 so if people haven't gone through and see what was done  
12 to develop those tables, they may think like, okay, this  
13 is absolutely protective under all conditions no matter  
14 what, but the reality is, as I stated earlier, those  
15 tables were developed with a certain set of assumptions  
16 and the assumption is that another location may or may  
17 not align with those assumptions.

18 And the example I'll give is with respect  
19 to say -- I think it was plutonium. Plutonium at a  
20 humid site, the doses are lower because you get less  
21 re-suspension in the air. Plutonium at an arid site,  
22 the doses are higher for a given concentration of  
23 plutonium. So the fact that the humid site conditions  
24 were used to develop the waste classification tables  
25 because they were more conservative for certain

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1 isotopes and certain pathways doesn't necessarily  
2 translate into that that's conservative for all  
3 isotopes and all pathways.

4           So if you had a particular waste stream  
5 that had a lot of plutonium and you were putting it in  
6 an arid site and you used the waste classification  
7 tables, the future potential impact if the intrusion  
8 occurred and all the things aligned might be different  
9 than what you would think would be the result. So you  
10 would just need to understand that. And the  
11 site-specific analysis approach is definitely a better  
12 way to do it because you can reflect the actual  
13 conditions and hopefully you're more risk-aligned.

14           The challenge is mainly in the area of the  
15 scenarios. What are appropriate scenarios to use?  
16 This gets into speculating about future human behavior.  
17 If you open that up, you have stakeholders that will  
18 have very creative scenarios that they want you to  
19 evaluate, and the likelihood of those may or may not  
20 be reasonable, but it can be a very time-consuming and  
21 difficult process. That's why in our guidance we have  
22 a lot of information on scenarios and what scenarios  
23 you can use and how you develop them. The smart  
24 approach many times is to just be conservative and use  
25 kind of the traditional scenarios and see where you are.

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1 And then if you aren't in a good place, well then, see,  
2 you can sharpen your pencil and make a good argument  
3 for some alternative scenarios.

4 MR. CAMERON: Thank you. Thank you,  
5 Dave. Thank you, Larry. This is John Greeves.

6 MR. GREEVES: Yes, Dave and Larry, I'm  
7 glad Lisa and others have asked this question because  
8 it was on my list, too. I'm going to strip the politics  
9 out of it and I'm going to posit a question, and the  
10 question is if an applicant comes forward with a greater  
11 than class C disposal request to site, etcetera, that  
12 comes to you. Does the either/or mean they get to pick?  
13 And I see no reason that applicant wouldn't come forward  
14 with we're going to pick the -- we're going to do all  
15 that work for site-specific analysis and we're going  
16 to pick the -- do basically a waste acceptance criteria  
17 either now or later. Can you answer the question?  
18 What would the NRC do with an applicant -- and the  
19 question, who chooses? And I think the applicants are  
20 going to say they want to choose because they're  
21 spending a lot of money on these site-specific analyses  
22 and work and site selection, etcetera, and they  
23 don't -- if it's either/or, I think they're going to  
24 pick waste acceptance criteria. So in that case you  
25 would get the question, either now or later. I mean,

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1       this is early days, so I don't think we need to force  
2       an answer, but that's an obvious question.  So did I  
3       frame it correctly?

4               MR. ESH:  Right.  Yes, and I understand  
5       your question.  I don't think I have an answer.  As  
6       Larry indicated, I think there will be a political  
7       component to that sort of question.  There will be a  
8       substantial legal component to that sort of question,  
9       neither of which I'm qualified to answer.

10              In the technical area I even would have  
11       some reservations because we have the waste  
12       classification system in low-level waste, and then we  
13       have high-level waste that's defined not I'd say in a  
14       technical way, but in a verbiage or language way.  And  
15       to what extent can you rely on site-specific analysis  
16       to solve your problems?  Because basically when Part  
17       61 initially was developed it was focused on large  
18       amounts of short-lived waste, a little bit of  
19       long-lived waste.  Now in this rulemaking we tried to  
20       make it accommodate something that may contain more  
21       long-lived waste.

22              When you move to then GTCC, GTCC in many  
23       cases -- some of it may be similar to low-level waste  
24       radiologically.  Some of it may be similar to  
25       high-level waste.  So at what point do you draw that

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1 line of -- from a national perspective or U.S.  
2 Government perspective? Up to this point the  
3 objective for high-level waste in the U.S. and most  
4 countries is some sort of deep disposal. The disposal  
5 depth is a key thing that you can use to mitigate risk,  
6 especially for material that might have a lot of  
7 activity, high-specific activity or long-lived  
8 activity.

9 So you have to kind of step back and say  
10 when is the GTCC or what material is pushing the limits  
11 to what I should be doing and trying to rely on with  
12 analysis? That's the best answer I can give you at this  
13 point in time. I can tell you that we have a SECY paper  
14 on GTCC and that issue is being worked right now in  
15 parallel with this rulemaking. I can't answer how  
16 that's going to turn out.

17 MR. CAMERON: And I think John might have  
18 a follow-up, but let me get Larry Camper and Chris  
19 McKenney on before we go back to him. Larry?

20 MR. CAMPER: Yes, thank you, Chip. Thank  
21 you, Dave. Once again Dave I think gave an excellent  
22 technical answer to John's great question. And as you  
23 know, we would not say today or preordain how that might  
24 be handled, obviously. You'd have to look at it on a  
25 case-by-case basis, review the licensing application,

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1 and so forth. So we can't answer that question  
2 specifically. But I can raise a couple of things. And  
3 I don't want to spend too much time talking about GTCC,  
4 but we're here and it's a good opportunity to share  
5 information.

6 As you all know -- in listening to John's  
7 question, as you know you won't find any technical  
8 criteria in Part 61 around GTCC. You won't see any  
9 concentration values addressed in a table, for example.  
10 And there's different kinds of GTCC, as you all know.  
11 Some of it's pretty radiologically strong and some of  
12 it's not as strong. But it's all GTCC waste. So  
13 there's no technical criteria. So we would have to  
14 address that issue. And then we'd have to address the  
15 application itself.

16 John pointed out that the GTCC application  
17 would come to us, and the reason that he does that is  
18 because the Low-Level Waste Policy Act states the fact  
19 that if the material GTCC was licensed by the Nuclear  
20 Regulatory Commission; we refer to that as commercial,  
21 then it shall be disposed of in a facility licensed by  
22 the Nuclear Regulatory Commission.

23 And in an effort to have truth in lending,  
24 it is important to point out that WCC -- or WCS has  
25 petitioned the State of Texas about wanting to dispose

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1 of GTCC at that WCS site. And we have been having  
2 extensive discussions with the State of Texas about  
3 this, this jurisdictional issue that John points out  
4 in his question, and we have gotten a letter from the  
5 State of Texas. It's in ADAMS. And Texas has asked  
6 us some very pointed jurisdictional questions. And we  
7 asked them to do that in our discussions.

8 So we are as a staff currently looking at  
9 that issue. It was raised by the petition from WCS to  
10 the State of Texas, then in turn from Texas to us. And  
11 as Dave pointed out, we do plan to communicate with our  
12 Commission in May around GTCC waste. That  
13 communication will include for the current Commission  
14 a historical overview of what the Commission has done  
15 about GTCC in the past, positions that have been taken.  
16 It will include information that clearly describes just  
17 what GTCC waste is, how much of it there is and so forth.  
18 And Terrence Brimfield gave a talk during the symposia  
19 that just concluded about that. And there will also  
20 be some legal context added for Commission awareness.

21 So do continue to pay attention to that  
22 communication to the staff. We'll provide it to the  
23 Commission. Currently scheduled for May. It could  
24 slip a little bit, but it's in the May-June time frame.  
25 But, John, great question.

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1                   MR. CAMERON:       Chris?       And please  
2       introduce yourself.

3                   MR. McKENNEY:       Thank you.       Chris  
4       McKenney, branch chief for the Performance Assessment  
5       Branch.    The one predicator for John's comment was  
6       about either/or and who chooses.   There are several  
7       places in the regulations where we have "or"  
8       situations; in Part 20 and such like that, that the  
9       licensee is the one who gets to choose which method they  
10      are proposing to use.   And I don't see any reason why  
11      this would not be in normal practice, barring of course  
12      other larger laws that might predicate something that  
13      that would not be the practice in this.   So it would  
14      be default to the licensee being able to choose.

15                  MR. CAMERON:       Okay.       Thanks, Chris.  
16      John, do you have anything that you want to add at this  
17      point?   And then we'll go on.

18                  MR. GREEVES:    I don't want to belabor the  
19      point because we're going to go over this again in  
20      future meetings, but the regulatory process -- I  
21      subscribe to clear, safe and implementable.   And this  
22      question that Lisa and others raised is going to be an  
23      implementation question.   So I'd urge you to consider  
24      this in future meetings and find a way that an applicant  
25      and the NRC can implement this that's straightforward.

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1 Thank you.

2 MR. CAMERON: Okay. Let's go to Tom  
3 Magette.

4 MR. MAGETTE: Thanks, Chip. My name is  
5 Tom Magette. I'm with Price Waterhouse Coopers. I  
6 have a question for you, David. First of all, thank  
7 you for your presentation. Look forward to reading the  
8 details of the rule. I haven't read them all either.  
9 But as Larry went through the history this morning, I  
10 think it's safe to say we started in a place where we  
11 had more of a waste stream-focused concern and we were  
12 looking at a way to change the regulations potentially  
13 around how to ensure that certain waste streams got  
14 disposed of safely that were not specifically  
15 articulated in the waste classification tables.

16 In my view it seems that we have evolved.  
17 And we've seen this. We all have been involved and we  
18 see this coming. But we've now evolved to a place where  
19 it's more about everything at every site and that we  
20 are, or you are about to create essentially a brand new  
21 regulatory regime for the disposal of all low-level  
22 waste anywhere, which means that every site, whether  
23 they were initially involved in looking at taking a new  
24 and different waste stream or doing something that  
25 could have been viewed as falling outside the existing

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1 regulatory regime is now going to have to go look at  
2 defense-in-depth in a new way. They're going to have  
3 to look at this protective assurance period. They're  
4 going to have to do a PA. We're going to have to start  
5 over at every site. Is that your view? Is that what  
6 the Commission intends?

7 MR. ESH: Right. I don't think that's  
8 what the Commission intends, nor do I think that's what  
9 we did. So in the proposed materials it has new  
10 elements to it, but the meat of it is still the same.  
11 And you're right though, in this process everybody  
12 wanted to put their stamp on it. So it's become kind  
13 of a well-traveled passport.

14 But the reality is, like I indicated in one  
15 of my slides, there was one area that needed to be  
16 changed. The rest of it kind of grew off of that. And  
17 some of it I think is very logical and straightforward.  
18 Like for instance when we talked about the depleted  
19 uranium issue and we said, well, the waste  
20 classification tables have this issue because they  
21 don't include the uranium isotopes because a waste  
22 stream of large amounts of depleted uranium was not  
23 included in the final tables when they were developed.  
24 So if we have this generic issue with this part of the  
25 regulation, then why do we not think we could

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1 potentially have it again in the future with some new  
2 waste stream?

3 So that led to making it more generic and  
4 just saying here's a depleted uranium-centric criteria  
5 in a certain part of the rule. If you want to dispose  
6 of depleted uranium, you meet this. Everybody else  
7 just keep it the way it is. So we added the ability  
8 to include other waste streams. And then all the other  
9 things kind of just propagated off of that, I would say.

10 But if you feel there are things that are  
11 added that -- that's a good comment to make. Do you  
12 really need this? Based on the problem you were trying  
13 to solve and what you're trying to accomplish do you  
14 really need to have these changes in this particular  
15 area? That's something we would want to hear, because  
16 we don't want -- even though it may be and it may seem  
17 fairly complicated now, we -- I think it was something  
18 maybe John Greeves said, we want plain and simple,  
19 implementable, easy to understand. That's what we  
20 want. So if there are ways that we can do that and  
21 change what we've proposed, we would want to hear that.

22 MR. CAMERON: Okay. Thanks, Tom. This  
23 is Rusty Lundberg.

24 MR. LUNDBERG: Thank you, Chip. Rusty  
25 Lundberg with Utah DEQ. Dave, also to echo what others

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1 have said, appreciate not only your presentation, but  
2 all of the effort that went into developing a lot of  
3 this. Lot of comments that you had to consider, a lot  
4 of complexities, and I think that this final  
5 culmination I think at least marks a good milestone for  
6 all of us to work from.

7 I wanted to go to your defense-in-depth  
8 aspect. You mentioned that this is a little bit newer  
9 view for us as we look at performance assessments. One  
10 of the aspects of that was to be looking at  
11 concentration limits potentially. What I was  
12 wondering is as you look at some of the long-lived  
13 isotopes can you provide just a little bit of a glimpse  
14 as to what you see, how that may integrate with  
15 long-lived isotopes in terms of -- in other words are  
16 you looking at limits at time of disposal or do you count  
17 for in growth of the progeny in some of this as you look  
18 at how do you ensure that you're meeting a  
19 defense-in-depth-kind of view with concentration  
20 limits?

21 MR. ESH: Right, in the analysis we  
22 envision that people would include parents and progeny.  
23 That's reflected in our proposed definition for what  
24 is long-lived and also in the analysis, or in the  
25 guidance document. The imposed and concentration

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1 limits is one of the main ways that people can attempt  
2 to provide a limit or restriction in the system to  
3 prevent dose or risk. And that is based on analyses,  
4 but we feel it combines with say -- you're going to put  
5 engineered barriers into the system and your analysis  
6 is going to try to assess how those barriers are going  
7 to perform. Hopefully those barriers in some cases  
8 will perform better than you anticipate. Engineers  
9 are good at analyzing what they've seen and maybe not  
10 so good at analyzing what they haven't seen, is my kind  
11 of way I understand things.

12 So but the concentration limits themselves  
13 is one of those key mechanisms you can use to mitigate  
14 or manage uncertainties. And so, I can envision a  
15 scenario where that's definitely part of the  
16 defense-in-depth argument. You say, look, I'm putting  
17 all these barriers in place, I'm going to have long-term  
18 controls, I've analyzed my site characteristics and my  
19 site doesn't have all these things that I expect is  
20 going to disrupt it in the future. But then in addition  
21 to that I'm going to develop these waste concentrations  
22 that in the event of I'm not right about all these other  
23 layers of things that I've put in the system, that  
24 provides a check or a balance to mitigate what could  
25 happen in the future. That's the smart way to do it.

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1           One of the issues with that, as I mentioned  
2 earlier, is the receptor scenario. So if you're not  
3 very conservative with how you define your receptors,  
4 that can get you into trouble in a hurry because there  
5 can be many, many order of magnitude difference between  
6 certain receptors and scenarios in certain other ones.

7           But, yes, that's kind of how I see the  
8 concentration limits would be part of the argument. It  
9 is one of the key checks and balances, not just for  
10 61.42, but can also be used or should be used for 61.41.  
11 And the existing regulation indicates that, especially  
12 for long-lived mobile isotopes that you should be  
13 developing inventory limits. It's the same sort of  
14 thing. Inventory limits is the product of  
15 concentration in the volume or mass.

16           MR. CAMERON: Okay. Good. Larry, do you  
17 want to add something? Larry Camper.

18           MR. CAMPER: Thank you. That's a great  
19 question, Rusty. Thank you. I would take this  
20 opportunity to point out that the Commission in the SRM  
21 specifically directed the staff to address the issue  
22 of defense-in-depth, DID. Now, we all know that  
23 defense-in-depth has been an operational reality for  
24 all sites for all these years. But again, the  
25 Commission put emphasis upon defense-in-depth. And at

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1 the same time the Commission put emphasis upon the term  
2 "safety case."

3 Now, most of you know that the term "safety  
4 case" is a well-established term and concept in the  
5 International Atomic Energy Agency vernacular.  
6 However, the Commission specifically said that  
7 defense-in-depth plus performance assessment equals  
8 safety case. And so the staff as part of this  
9 rulemaking process did go about defining "safety case,"  
10 and we did specifically bring to bear certain  
11 information around DID as specifically directed.

12 I will tell you that there is certainly a  
13 lot of interest in one of the Commission offices in  
14 particular about this concept of defense-in-depth.  
15 And so, as you read the rule and you look at what we  
16 have done as a staff to address the Commission direction  
17 around defense-in-depth plus PA equals safety case, any  
18 comments would be welcomed by the staff, specifically  
19 around that particular subject matter.

20 MR. CAMERON: Okay. Let's go to the  
21 phones and then we'll see if there's anybody who has  
22 a comment on the Webinar, although I'm not sure where  
23 those Webinar comments are going to come in. Okay?

24 So there's no on there?

25 OPERATOR: We have one question in queue.

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1 MR. CAMERON: Okay.

2 OPERATOR: Our first question comes from  
3 Roger Seitz. You may begin.

4 MR. SEITZ: Hello, this is Roger Seitz  
5 from Savannah River National Laboratory. Hello, Dave.

6 MR. ESH: Hi, Roger.

7 MR. SEITZ: I'd like to echo some of the  
8 previous statements. I'd like to commend the NRC staff  
9 on the efforts to address input that's been received  
10 today. And there's a lot of information to digest and  
11 I look forward to the opportunity to review it.

12 I do have one question based on your  
13 initial presentation. You used the terms minimize and  
14 optimize in the context of impact during the  
15 performance assurance period. And I would suggest  
16 focusing more on the idea of optimization rather than  
17 minimization, because minimize can be a difficult  
18 standard to modify and it's difficult to know when it  
19 is met in a regulatory context.

20 MR. CAMERON: David, comment?

21 MR. ESH: Right. Thank you, Roger. Yes,  
22 I understand your comment. And that process for the  
23 protective assurance period, I would call it an  
24 optimization process with the target being a minimum.  
25 So you're trying to get things as low as achievable

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1 given technical and economic considerations.

2 So, and look at Chapter 6 there and tell  
3 us what you think - in the guidance document. It was  
4 a challenging area to write and develop. So it is an  
5 area that we definitely want a lot of feedback on and  
6 see whether we've hit the target or not, or if other  
7 people have some suggestions about how it could be done  
8 differently.

9 MR. CAMERON: And we have something from  
10 Chris McKenney on this same subject.

11 MR. MCKENNEY: Somebody asked why we  
12 didn't use ALARA since ALARA is a standardized  
13 optimization phrase used in the NRC for this one. And  
14 that is because the actual definition of ALARA is  
15 optimization under a dose limit. So to have ALARA in  
16 place, we would have to have a dose limit in place. And  
17 the second tier does not technically have a dose -- it  
18 does not have a dose limit. It is a point around which  
19 you are trying to optimize in the decision space. It  
20 is not a dose limit within the regulation space. So  
21 that is why we had to come up with a little bit more  
22 creative language around explaining it. It's similar  
23 to ALARA, but it can't be exactly as ALARA because ALARA  
24 as defined in Part 20 is based on reduction below the  
25 actual dose limit.

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1 MR. CAMERON: Thank you, Chris. Thanks,  
2 Roger. Yomi, is there anybody else on the line?

3 OPERATOR: I'm showing no other questions  
4 in queue. As a reminder, participants, please press  
5 star one and record your name if you'd like to ask a  
6 question.

7 MR. CAMERON: Okay. We'll go back here in  
8 the room. And we'll be back to Yomi to check.

9 MR. ROBERTSON: Hello. My name is Gary  
10 Robertson and I'm representing myself today. And  
11 Gregory, I want to give you two thumbs up. You guys  
12 have done a great job. I've got one question related  
13 to defense-in-depth and the use of engineered barrier  
14 terminology.

15 I'm wondering if your primary example of  
16 engineered barriers and defense-in-depth would be  
17 something like a Hanford barrier, which has multi  
18 layers, but if you do have problems, then you have major  
19 in repairing it. And I'm wondering if somebody chose  
20 a thick homogenous cover with probably all the elements  
21 of the Hanford barrier blended in it would you give  
22 credit -- for example, the gravel, the sand, the  
23 vegetative portion. How would it play out with  
24 defense-in-depth being a homogenous thick layer?

25 MR. ESH: Right. So the use of -- I should

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1 say maybe if you look at the slide where it says "Use  
2 of Barriers" -- "barrier" would probably be a better  
3 term, more general, because you want to analyze all the  
4 components of the system that are helping you mitigate  
5 the impacts. And that could be engineered barriers,  
6 say a concrete structure, a vault, an engineered waste  
7 form, whether it's concrete, glass, anything else that  
8 you might come up with, as well as the surface covers  
9 or surface caps that may have two functions, or at least  
10 two functions, maybe three or four. But they're going  
11 to try to minimize water contact with the waste and  
12 they're going to try to minimize erosion so you don't  
13 result in future release.

14 And whether it's a Hanford-type barrier or  
15 maybe a different type of design, some sort of  
16 evapotranspiration type cover or the kind of common  
17 resistive-type covers you might find in a RCRA facility  
18 or something else. Any of those can be a barrier that's  
19 used in low-level waste. And we don't prescribe  
20 certain types of barriers or even different  
21 combinations of barriers. A licensee is free to use  
22 whatever barriers they think can achieve their  
23 objectives and then provide -- basically this is  
24 looking for analysis of how those barriers function in  
25 the system and how they're helping you achieve your

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1 objectives.

2 And for a low-risk site, as with anything  
3 in Part 61, because it's supposed to be implemented in  
4 a risk-informed performance-based way, you would  
5 generally be able to provide less information and maybe  
6 even in some cases a qualitative description of say your  
7 barriers and how they're mitigating your impact,  
8 especially when your risks are projected to be very low.  
9 If your risks are projected to be higher, and especially  
10 if they're near any sort of regulatory limits when they  
11 apply, well, then you probably want to provide more  
12 detail and maybe technical analysis of how the  
13 different components work. And we had that in the  
14 original guidance document. We still have it in the  
15 current one, some examples of barrier analysis. And  
16 there's different ways that people go about that.

17 But your question about whether you could use the  
18 Hanford barrier or some other type of barrier, you could  
19 use either. You would definitely want to address the  
20 resiliency of that barrier and also then the redundancy  
21 of the barriers in the system, because the problem with  
22 the defense-in-depth area applied to waste disposal is  
23 normally defense-in-depth is applied to active  
24 systems. So you have a reactor system and you have a  
25 pump and then you have a backup pump And then you maybe

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1 have monitoring of a control system by operators of  
2 those two pumps. So you have multiple layers and  
3 redundancy and resiliency in your system.

4 A passive waste disposal system, it's a  
5 different kind of beast that you're talking about  
6 evaluating. And the Commission gave us that direction  
7 to apply the defense-in-depth to the system, which we  
8 did, but we also recognized that it may need to be  
9 applied a little differently in some cases than what  
10 you would to a traditional engineering system.

11 MR. CAMERON: Okay. We're going to go to  
12 Linda. And if you could just --

13 MS. LINDA SUTORA: Linda Sutora at the  
14 Department of Energy. So just for maybe another view,  
15 we actually would view all of that whole thing as a  
16 defense-in-depth. And when we do the use of the  
17 barriers analysis, we actually do the natural barriers  
18 and the manmade barriers as kind of like one view as  
19 the system. So it's just different views of the same  
20 thing, but I mean this captures everything that we  
21 would --

22 MR. CAMERON: Okay. Thank you, Linda.

23 Yomi, is there anybody on the line who  
24 wants to talk to us?

25 OPERATOR: I'm showing no other questions

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1 in queue.

2 MR. CAMERON: Okay. Anybody else in the  
3 room who wants to comment? Okay. Let's go to Dan and  
4 then we'll go to the gentleman in the back. And if you  
5 could just --

6 MR. SCHRUM: Dan Schrum with Energy  
7 Solutions again. Again, thanks to the team for pulling  
8 this together. It's going to be a fun few months as  
9 we get to go through this with you. So the questions  
10 I'm going to ask, I apologize, I haven't gone through  
11 it. Had other things on my mind, I guess. But just  
12 generally speaking, we had a little discussion after  
13 you introduced this concept in 61.28, the updated PA  
14 at closure. Could you elaborate on that a little bit?  
15 I'm envisioning it's closed. You update the PA. Oh,  
16 we've got a problem. Because that's real life. And  
17 engineers don't typically do that at the end of a design  
18 or the end of a build. We do as-builts. I can see  
19 that. But what are you envisioning on that? Then I've  
20 actually got two more questions.

21 MR. ESH: Right. So, in that case it's  
22 basically you have this period of time where after  
23 you've done your initial assessment and started  
24 operating and disposed of waste and then eventually you  
25 get to closure. You get information along the way of

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1       how things may be working. Or say for instance you put  
2       your final closure cover in and maybe you're worried  
3       about radon and you get some measurements of what your  
4       radon fluxes are or your moisture contents of your cover  
5       system may be. That sort of information then gets  
6       reflected in your final assessment at the end.  
7       Basically it's a verification step. Because when you  
8       initially do your licensing, you're doing a forecast  
9       or projection the best you can based on the information  
10      you have. There's no reason not to update that when  
11      you get to the closure step and verify that at least  
12      at that point in time that additional information that  
13      may have supports your case as you initially made it.

14               MR. HUNTER: From your two approaches that  
15      you -- this is Zach Hunter. For the two approaches that  
16      you suggested it's more of an as-built. By the time  
17      of closure you'll have your final inventory, you'll  
18      have your actual finals on your cover, you'll be able  
19      to incorporate any other information, as Dave says,  
20      that has been gathered over time of science,  
21      monitoring, if you had any updates on how the  
22      groundwater flow works in the system, the climate  
23      works, other things like that. And you would have  
24      basically more of a final PA that would be able to go  
25      into long-term understanding.

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1 MR. CAMERON: And a follow-up, Dan?

2 MR. SCHRUM: Okay. I'll accept that for  
3 now. I'm more envisioning an ongoing process as  
4 opposed to the thing at the end, because it's hard to  
5 put a radon barrier in after it's done. So anyway,  
6 that's where my mind went.

7 On the same slide actually the 61.58 WAC  
8 "or" approach; again, I haven't read it, are these all  
9 going to be category -- I think it's category B? So  
10 a WAC is a B also?

11 MR. ESH: Right.

12 MR. SCHRUM: So that's all B?

13 MR. ESH: Right.

14 MR. SCHRUM: Everything that --

15 MR. ESH: Isn't it?

16 PARTICIPANT: We got to get you on --

17 PARTICIPANT: All the essential  
18 components are supposed to be B, so --

19 MCKENNEY: Dave is correct. This is  
20 Chris McKenney. That's more correct. All the  
21 essential components, there are a number of Bs in the  
22 thing, but I don't believe that every sub-component of  
23 61.58 is actually all Bs down. But to verify that, I  
24 think that is in the actual rule language as the  
25 declaration. So that was a lot of back and forth

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1 through this process.

2 MR. ESH: The compatibility categories is  
3 something I wish I never learned.

4 (Laughter)

5 MR. SCHRUM: And who's got the  
6 presentation? Would you mind putting it to 13, slide  
7 13, please?

8 So you made an interesting comment here;  
9 and again, it's early in this part of what we're going  
10 through, but you said that this would be good for a  
11 decision tree, decision process. If you have one site  
12 that's starting to get into the level 3s above 500  
13 millirem at a certain time frame, then a decision ought  
14 to be made, that maybe that's not the best place for  
15 the disposal of whatever the radionuclide is, whatever  
16 the waste type is. That would also imply though that  
17 the other facility has gone through the exact same  
18 protocol, everything is exactly the same. And that I  
19 don't believe your guidance will lead one facility to  
20 do a PA exactly the same as the other facility.

21 And the defense-in-depth of course won't  
22 be the same because they're in different locations.  
23 That I appreciate, but it concerns me that a decision  
24 would be made unless both facilities or both operations  
25 are compared side-by-side. And all you're looking at

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1 is the result. And maybe the analysis is flawed or  
2 maybe the analysis didn't look at the same thing.  
3 Could you clarify that a little bit for me?

4 MR. ESH: Right.

5 MR. SCHRUM: And then I'm --

6 MR. ESH: Yes, I understand your comment.  
7 And the flexibility goes both ways, so if you afford  
8 flexibility, then you don't necessarily ensure that  
9 things are done identically from A to B. On the other  
10 hand, even though you have flexibility, a lot of the  
11 key elements we believe will put people in the same  
12 playing field at least. One might be in right field  
13 and one might in left field, but you're still on the  
14 same baseball diamond.

15 So the challenge though as you indicated  
16 would be say you're in that situation and you've wanted  
17 to dispose of a certain type of waste and you're way  
18 up there at level 3 or beyond and you're the only site  
19 that analyzed it. Well, then that's the information  
20 you have at the time to make the decision. If you don't  
21 have the analysis of another site that shows they can  
22 take that material, then of course you couldn't  
23 necessarily factor that into the decision.

24 But in general the issue is this: Even if you're  
25 moving to the WAC approach and this analysis-based

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1 approach, you can always set concentration limits that  
2 let you achieve a certain value. It might mean that  
3 a certain waste stream you couldn't take if you set  
4 those limits, but you can always set concentration  
5 limits to manage what material goes where. So that  
6 will factor into this whole protective assurance  
7 analysis period and optimization/minimization  
8 approach or optimization with a minimum target. That  
9 would come into play.

10 But I understand your comment and make it  
11 again formally and we'll work on it.

12 MR. CAMERON: Okay. Thank you. Yes,  
13 sir?

14 MR. ZHU: Ming Zhu, DOE. I have question  
15 about performance period, in the three-tier approach  
16 you want to ensure protection for the long-term in the  
17 performance period. In that period for certain waste  
18 streams or waste types I can see that performance  
19 calculations need to run for 10,000 years. For that  
20 long period does the guidance provide specific  
21 information about how to treat climate conditions? Do  
22 you require consider of climate change quantitatively?

23 MR. ESH: Right. And in the guidance we  
24 do talk about climate change. And what we basically  
25 say for the long time frames is consider the climate

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1 cycling in terms of the natural climate cycling, so the  
2 big Milankovitch cycle and those that you expect that  
3 increases say in precipitation or changes in  
4 temperature, those sorts of things. But at this point  
5 in time we don't tell people to speculate or try to  
6 estimate the anthropogenic effects on climate because  
7 especially -- basically for a lot of these waste  
8 problems it boils down if you're reflecting the big  
9 natural cycles, then the idea is that you're going to  
10 capture the manmade cycles probably, because I think  
11 the motion of the planets is probably a bigger effect  
12 than what we're able to do to the system.

13 Sure there's a difference in timing of  
14 those two things, but those longer time frames, it's  
15 a softer calculation, or it should be. You're trying  
16 to assess the best you can as engineers and scientists  
17 what you think is going to happen, but anybody that  
18 assigns more than an order of magnitude precision to  
19 those results is fooling themselves. So you're just  
20 kind of trying to see where you are and whether the  
21 impacts you think are potentially problematic or not.  
22 So, yes, the guidance document talks about the climate  
23 cycling.

24 MR. CAMERON: Okay. Thank you. And,  
25 yes, sir?

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1 MR. HARRINGTON: Chris Harrington from  
2 Kurion. For the proposed rulemaking does it address  
3 anything about transportation requirements if the  
4 generator is one state and the disposal facility is  
5 another?

6 MR. ESH: No.

7 MR. CAMERON: Okay. Yomi, is anybody on  
8 the phone?

9 OPERATOR: I'm showing no questions at  
10 this time.

11 MR. CAMERON: Okay. Let's go to John  
12 Greeves.

13 MR. GREEVES: Several times when we've  
14 talked about the earlier drafts the question of  
15 grandfathering has come up. And at least one of the  
16 sited states has been in business three going on four  
17 decades. They've got 90 percent of their inventory in  
18 place and they express concern about changes in this  
19 rule which will become a burden on them. And they've  
20 repeatedly asked the question is there a grandfather  
21 provision? It was a big deal. You must have talked  
22 about it. Will we find anything about grandfathering  
23 in the rule or the guidance, and can you give us a little  
24 entrée as to where that came out, either now or in future  
25 meetings?

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1                   MR. ESH:    Right.    We did not add any  
2                   provisions for grandfathering in the rule, in the  
3                   proposed rule that you'll see, because the idea was  
4                   there's at least one avenue that somebody could pursue  
5                   in that area where they could seek an exemption from  
6                   the provisions of the new regulation if they felt like  
7                   making some sort of argument like you just stated.   So  
8                   I think there was another one, too, but I don't remember  
9                   it.

10                   Chris, do you remember?

11                   (No audible response)

12                   MR. ESH:    That was the main argument as to  
13                   why you didn't need to do it.

14                   MR. CAMERON:    Okay.    Do you want to  
15                   comment on that?

16                   MR. GREEVES:    My memory was there was  
17                   strong indication they wanted some clarity on that, so  
18                   future meetings I'm predicting you're going to get that  
19                   question.

20                   MR. ESH:    Well, there was a concern  
21                   expressed, but when we analyzed it and discussed it we  
22                   didn't agree with the concern, so --

23                   MR. GREEVES:    Well, that doesn't mean  
24                   you're not going to hear it again, and --

25                   MR. ESH:    Right.

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1 MR. GREEVES: -- I'm not speaking for  
2 myself.

3 MR. ESH: Right, but now you're in the  
4 proposed rule stage --

5 MR. GREEVES: Yes.

6 MR. ESH: -- where if you felt like you  
7 voiced an opinion on something and we ignored you, voice  
8 it again and you'll get a response to it --

9 MR. GREEVES: Well, I'm going to --

10 MR. ESH: -- because --

11 MR. GREEVES: -- voice the --

12 MR. ESH: -- anything that we got  
13 information on, we feel like we have a good answer for,  
14 so go ahead and make it again and we'll give you the  
15 answer. You can see what our thought process was.

16 MR. GREEVES: Just as a place holder --

17 MR. ESH: Right.

18 MR. GREEVES: -- there's a concern about  
19 people who have 90 percent of their inventory in place  
20 and now they're going to be forced to do a site-specific  
21 performance assessment, which is going to -- and you  
22 have some numbers in here, millions of dollars.

23 MR. ESH: Right. But the issue partly is  
24 this: Just because a site has 90 percent of its  
25 inventory in place doesn't mean that they can't change

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1       their mind and expand their facility, take more  
2       inventory.

3                   MR. GREEVES: Right.

4                   MR. ESH: And if they were under the  
5       previous provisions, then they would not be meeting the  
6       same criteria as anybody else would. So I mean, I  
7       understand the concern. And like I say, that's an area  
8       where anything that people felt like we didn't do a good  
9       job addressing previous information, make your  
10      comments and you'll get a response to it. And then you  
11      can decide.

12                  MR. GREEVES: I won't belabor the point.  
13      I look forward to further discussion. Thank you.

14                  MR. CAMERON: Larry, do you want to add  
15      something?

16                  MR. CAMPER: I do. I do. You're right,  
17      John, the State of South Carolina specifically  
18      expressed that concern, for the record, and we did  
19      discuss it with the State of South Carolina during the  
20      course of developing this language. And we also  
21      discussed this issue during different Commission  
22      briefings, specific briefings that I held with each of  
23      the commissioners in fact. And so the staff and the  
24      Commission was aware of this.

25                  We did discuss this grandfathering concept

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1 with the Office of General Counsel. They advised that  
2 we could not do that. We did discuss the fact that if  
3 you look at the language -- and as you know, when you  
4 see the term "Commission" in a state that has become  
5 an Agreement State, that term "Commission" in many ways  
6 becomes an interchangeable term.

7 The state can grant an exemption to this  
8 regulation if it wants to, but that would be up to the  
9 state to decide that. We could not find a public health  
10 and safety basis for grandfathering or not having this  
11 criteria apply to a particular state. And with regards  
12 to the fact that the State of South Carolina does not  
13 intend to take any more depleted uranium, apparently,  
14 supposedly, that doesn't change the fact that the  
15 source term is in the ground now and the closure  
16 analysis has to be completed. So that has to be  
17 accounted for even if nothing else is taken in the  
18 future.

19 MR. CAMERON: Okay. Let's go to Gary and  
20 Lisa back here.

21 MR. ROBERTSON: Gary Robertson again.  
22 And touching on John's point, South Carolina I believe  
23 is about 80 percent complete with their covers, not only  
24 90 percent of their inventory. But they, under what  
25 I'm going to call good faith -- and here's the issue:

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1 If NRC can come along and change the rules after South  
2 Carolina or Washington State has been inspected under  
3 the IMPEP program, found to be compatible, their  
4 performance assessment found to be acceptable with the  
5 waste in the ground, and then you change the rules and  
6 force a state that's -- 90 percent of the inventory is  
7 already in the ground. They aren't going to accept any  
8 new waste. I could see your point if they changed their  
9 mind. They need to reevaluate. But if they keep to  
10 what was agreed to, this is going to be problematic  
11 especially in the future for anybody that is ever  
12 thinking about putting a disposal site in a state  
13 because there's always going to be that thought. Then  
14 NRC will come back and change the ground rules.

15 MR. CAMERON: Okay. Let's get -- well, I  
16 want to get Larry's response to this. Okay? So, we'll  
17 be back to you, Lisa, and then we'll go to John in the  
18 back.

19 Larry, you heard the concern.

20 MR. CAMPER: Yes, thank you. We hear that  
21 concern, and that's certainly a concern that we have  
22 heard from the state and we do understand that, but I  
23 would reemphasize that the state of South Carolina can  
24 choose to grant an exemption to the operator of that  
25 site if the state chooses to do so. The state can do

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1 that. If the state decides that they want to allow the  
2 operator, currently Energy Solutions, or any other  
3 further operator to be exempt from these provisions  
4 with regards to the performance assessment, they can  
5 do that.

6 But also with regards to the State of South  
7 Carolina I would remind us that just recently we've  
8 heard conversation about the State of South Carolina  
9 reopening consideration for taking class B and class  
10 C waste and less class A. So I'm not sure that site  
11 is as static as we might think otherwise. And time will  
12 tell. We shall see.

13 But in the final analysis our view was that  
14 these requirements are reasonable for every site, and  
15 it could be up to the state to choose what it might  
16 choose to do about granting an exemption.

17 MR. CAMERON: Gregory, do you want to add  
18 to this and then we'll go to Lisa and then to John.  
19 Gregory? Gregory Suber.

20 MR. SUBER: This is Gregory Suber. I just  
21 wanted to make sure my understanding of something was  
22 correct, and I think it will help in the conversation  
23 moving forward.

24 David, you were making the point that  
25 really the only new thing in the rule was the explicit

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1 requirement for an intruder assessment. Can you talk  
2 a little bit about the fact that a technical evaluation  
3 requirement was always in the rule and all the rule  
4 really did was specify that that technical evaluation  
5 would have to be a performance assessment?

6 And also go a little bit into how  
7 defense-in-depth was always in the rule but now the  
8 statement of this defense-in-depth is a little bit more  
9 explicit? And if I'm wrong on that, correct me, but  
10 that was my understanding.

11 MR. ESH: No, you're correct in the way  
12 you're stating that. I mean, it isn't that the  
13 intruder assessment is the only new piece. As we had  
14 that performance assessment diagram and the things  
15 around the outside, there are other things there, but  
16 they're explicit things now as opposed to implicit. So  
17 the previous performance assessments generally were  
18 including all those things. Maybe not the 61.28, as  
19 I think Dan Schrum had mentioned, the PA at closure,  
20 but there are a few things like that that are more  
21 process-oriented which are new.

22 And the other elements I'd say are not  
23 changed specifically. They are added making things  
24 explicit versus implicit. There was always a  
25 requirement to do a technical analysis for a low-level

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1 waste disposal facility. And as I understand South  
2 Carolina; and they have undergone the IMPEP process,  
3 you can look at the last IMPEP report, there was a  
4 recommendation or something cited in there about how  
5 they do their 61.41 evaluation. Because basically  
6 they take the observed groundwater monitoring wells;  
7 or at the time they were -- they took the observed  
8 groundwater monitoring well concentrations and they  
9 would use that to do their performance assessment,  
10 which is not recognizing the inventory that's in the  
11 system. It's only recognizing the inventory that's  
12 come out of the system so far.

13 So that to me technically is the paying up  
14 with their potential system, not the new requirements.  
15 It's that maybe the way they interpreted the existing  
16 requirements is problematic.

17 MR. CAMERON: You wanted to follow up,  
18 Gary?

19 MR. ROBERTSON: Yes, a quick response. I  
20 think it's really important to use the data from your  
21 groundwater monitoring to calibrate your performance  
22 assessment and the assumptions that you've built into  
23 it.

24 MR. ESH: Right.

25 MR. ROBERTSON: Hopefully they're doing

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1       that. And I'm not from South Carolina, but --

2               MR. ESH: Right, and we aren't saying that  
3       you shouldn't be using the information to calibrate,  
4       but the information that you observe in the wells  
5       doesn't necessarily represent what's going to come out  
6       of your system. It only represents what has come out  
7       so far. Those can be two completely different things,  
8       especially for something like uranium.

9               MR. CAMERON: Okay. We're going to have  
10       one more comment from Gary.

11              MR. ROBERTSON: And I'm not sure if South  
12       Carolina is thinking this, but I know in Washington  
13       State there wasn't a cover on some of these trenches  
14       for 30-40 years. And by putting a cover on like South  
15       Carolina has done, you would expect the numbers to  
16       possibly go down. And I know there's the containment  
17       and there's a lot of issues, but that may be a line of  
18       thinking by them.

19              MR. CAMERON: Okay. Lisa?

20              MS. EDWARDS: Lisa Edwards with EPRI. I  
21       guess I'm a little confused. I thought this was an "or"  
22       option, that there was nothing that drove you to have  
23       to implement 61.58 and follow this whole process. You  
24       could stick with the waste classification table and the  
25       current system you're under, or you could go this route.

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1 So if it's an undue burden, someone could just stay with  
2 the process they're at. Am I missing something?

3 MR. ESH: No, 61.58 and the waste  
4 classification is an "or," but everybody still needs  
5 to demonstrate 61.42, which requires an intruder  
6 analysis. So you're going to have to do an intruder  
7 analysis. Whether you use the results of that intruder  
8 analysis to develop your own waste concentrations at  
9 your site, that's up to your choice. But you still have  
10 to do the analysis and show that the dose limit is met.

11 MR. CAMERON: Okay. Let's make sure that  
12 that is clear to everybody. We're going to go to John  
13 from Neptune.

14 MR. TOKES: John Tokes, Neptune Company.  
15 I'm going to put on my civil engineer hat for a bit.  
16 There's an analogy that comes to mind for me, and that's  
17 building codes. If someone's refurbishing an old  
18 building or continues to occupy and work on a building,  
19 they've got to meet code. And if the codes change,  
20 that's all for the public good. There's a reason  
21 building codes are in place.

22 This last summer I had to replace the roof  
23 on my house. And I went to the county and they said,  
24 well, no, now the code is changed. You're going to have  
25 to do some more stuff. And it ended up costing me

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1 another \$5,000, but I have a better roof now. It meets  
2 code, and I'm not objecting to that. I continue to  
3 occupy my house. I want it to be safe. I want it to  
4 not leak and that sort of thing.

5 So I think that's actually an appropriate  
6 analogy here. You guys are writing the codes. And the  
7 building codes change and everybody who owns a building  
8 knows that codes may change from time to time and as  
9 they maintain their building they got to keep it up to  
10 code. So I think that analogy serves well here.

11 MR. CAMERON: Okay. Let's go to John  
12 Greeves. And then I want to check in with Yomi on the  
13 phone. Maybe someone is on the phone from South  
14 Carolina. Who knows? John?

15 MR. GREEVES: Yes, this is a healthy  
16 discussion. There's going to be more meetings. But  
17 it really comes back to the need for redline strikeout.  
18 You're making changes. Dan Schrum asked a good  
19 question, because the new rule is going to say at  
20 closure you have to update. The old rule said  
21 technical analysis. It didn't say performance  
22 assessment. It just said technical analysis.

23 So we need the redline strikeout in this  
24 question of somebody that's 90 percent through the  
25 process, closed caps. What does the new rule add that

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1 makes their life miserable? And there's going to be  
2 some more discussion about it. So again, I would  
3 appreciate seeing redline strikeouts so we can be very  
4 precise the next time we meet about the tension over  
5 that topic. So, look forward to that. Thank you so  
6 much.

7 MR. CAMERON: And as we noted, these  
8 aren't formal comments on the proposed rule now, but  
9 this discussion I think will be very helpful in terms  
10 of guiding Larry and his staff for a future  
11 collaborative process work shop in terms of issues. So  
12 this is good.

13 Yomi, is there anybody on the phone?

14 OPERATOR: I'm showing no questions in  
15 queue. Again, if you'd like to ask a question or state  
16 a comment, please press star one and record your name.

17 MR. CAMERON: Okay.

18 MR. SUBER: Chip, can I --

19 MR. CAMERON: Go ahead.

20 MR. SUBER: say something --

21 MR. CAMERON: Go ahead, Gregory.

22 MR. SUBER: -- for John's benefit? Priya  
23 Yadav, who has been working on this project for awhile  
24 and who led the guidance development, has said that  
25 there is a redline strikeouts version available. We

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1 would have to update that, but we can update that in  
2 short term. And after the Commission FRN -- after the  
3 official FRN comes out, we can update it and we can put  
4 it on the Web site. So I think that would address John  
5 and some other people's concerns.

6 MR. CAMERON: Good. Good. That's  
7 great. Anybody else on the proposed rule? Anybody  
8 want to say anything at this point?

9 (No audible response)

10 MR. CAMERON: And, Yomi, anybody on the  
11 phone?

12 OPERATOR: No questions in queue.

13 MR. CAMERON: Okay. Well, we're ahead of  
14 schedule and maybe we should go to the branch  
15 technical --

16 MR. SUBER: Yes, we can do that.

17 MR. CAMERON: -- position. And there was  
18 one comment made to me during the break about the branch  
19 technical position and the risks in the manifest. And  
20 after we hear from Greg Suber on the BTP, Clint, you  
21 can restate that for us. Okay?

22 Gregory Suber, Branch technical position.

23 MR. SUBER: All right. Thanks for the  
24 introduction, Chip. And as Chip stated, my name is not  
25 Christopher McKenney, so for those of you who are

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1 confused, make that clarification.

2 The first thing I'd like to do before I go  
3 into my discussion of the implementation phase that we  
4 have planned for the branch technical position on  
5 concentration averaging is I would like to explicitly  
6 thank my staff. This has been an extremely productive  
7 quarter for us. We have been able to issue a lot of  
8 things that we have been working on for a number of  
9 years, Part 61 being one of them. But also the branch  
10 technical position on concentration averaging and the  
11 risks on the uniform waste manifest.

12 So I know Priya Yadav is on the line. She  
13 did a lot of work on Part 61. So did Mr. Christopher  
14 Grossman. So I'd like to thank them for their hard  
15 word. Mr. Don Lowman and Karen Pinkston led the effort  
16 of issuing the RIS on the uniform waste manifest. And  
17 the presentation that I'm going to give right now and  
18 the update of the branch technical position on  
19 concentration averaging is a result of work done by Mr.  
20 James Kennedy, Dr. Christianne Ridge, Mr. Maurice Heath  
21 and again Mr. Donald Lowman. So first I'd like to  
22 acknowledge them before I move forward.

23 Okay. On February 25th the BTP was issued  
24 and it was issued in the Federal Register. It has been  
25 broken up into two volumes. The first volume is a

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1 revision of the technical positions that the staff has  
2 revised, but the second volume consists of the summary  
3 and the assessment of the stakeholder comments that we  
4 received, and also an explanation of the technical  
5 basis for the BTP. One of the big criticisms of the  
6 previous version was that a lot of people didn't  
7 understand what the technical bases were for the  
8 staff's positions. So we went through the effort of  
9 trying to justify and explain the technical bases for  
10 the BTP, and you'll find that in the second volume.

11 The other thing I'd like to say is that the  
12 staff did what I consider an unprecedented amount of  
13 public outreach when we revised the BTP. We came out  
14 with a series of public meetings. After we had the  
15 public meetings we issued a draft. And we got comments  
16 on the draft and we were asked to allow the people who  
17 commented on the draft to see the next version of our  
18 draft. So we actually issued a second version of the  
19 BTP and enabled people to comment on that. And that  
20 was pretty out of process, but it shows our level of  
21 commitment in trying to address the many concerns that  
22 were raised as we revised this document.

23 The basis of the reorganization was for a  
24 number of reasons. One I already hit on. People  
25 complained about the readability and the ability to

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1 understand the previous version of the BTP. So that  
2 was a major driver for us revising the document. In  
3 addition, we tried to make the document a little bit  
4 more risk-informed. And we tried to remove some of the  
5 conservatisms in some of the positions, and in doing  
6 so we were able to do things like remove the factor of  
7 10 constraints on mixing of blendable waste, and we also  
8 revised the application of the factor of 2 and the  
9 factor of 10 for discrete items.

10 One thing that was most noteworthy was the  
11 increase in the limit for the disposal of cesium-137  
12 sealed sources. Sealed sources present a significant  
13 problem, especially from a security perspective and we  
14 got a lot of very positive comments, especially from  
15 our sister regulators at NNSA for the work that we did  
16 on sealed sources.

17 The other thing was the work that we did  
18 on alternative approaches. So what the position does  
19 now is allow people the flexibility to use alternative  
20 approaches when they're doing their concentration  
21 averaging.

22 We're now in a phase of implementing the  
23 BTP and we're about to go on a series of training. Now,  
24 the goal of the training is to address those who are  
25 going to inspect against the branch technical position.

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1 So that would include the materials inspectors in the  
2 regions, the inspectors at the nuclear power plant  
3 sites, and also in the Agreement States.

4 Now, our purpose is twofold: First of  
5 all, we want people to optimize the use of the BTP. But  
6 secondly, we want the inspection efforts associated  
7 with the BTP to be consistent across the country. And  
8 if everyone has the same understanding, if everyone  
9 receives the same training, then hopefully the  
10 implementation of the inspection program associated  
11 with that will be consistent across the country and  
12 people will actually be able to optimize the use of the  
13 BTP.

14 So we're starting with our inspectors in  
15 Region I and we hope to actually perform that training  
16 at the end of April. We're trying to accelerate our  
17 inspection schedule. As a matter of fact, I was trying  
18 to work out an arrangement with Rusty before he left  
19 today of getting to Utah and training Utah sometime in  
20 the first week in May.

21 Now in addition to going out and engaging  
22 the inspectors on training, we're also trying to come  
23 up with a plan; and we'll be more than welcome to take  
24 your comments or your suggestions, on how we can help  
25 educate the industry or help explain the various

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1 positions to the industry so that they will be clear,  
2 and so once again we can optimize or maximize the use  
3 of the BTP.

4 So once again, as I've explained, the BTP  
5 is available finally, and that probably cuts down 90  
6 percent of the questions that I get asked when I make  
7 these presentations. The first one is when is Part 61  
8 coming out? And it's out. Okay. And the second one  
9 is when is the staff going to issue the BTP? So I would  
10 not be surprised if I don't get any questions, Chip,  
11 seeing that we have been very productive. Well, you  
12 know, hope springs eternal, right? Seeing that we have  
13 been very productive.

14 MR. CAMERON: All right. We've got a  
15 question, and will go to Bob Halstead after Billy.  
16 Billy?

17 MR. COX: Yes, Billy Cox. I represent  
18 myself. I guess I'd like to thank the staff for the  
19 work on the BTP. I agree that it was a very fruitful  
20 and iterative process, and I think in the end we got  
21 a reasonable product. So looks pretty good.

22 Actually the question kind of came to my  
23 mind before you asked it, but I know that you folks are  
24 going to do training outreach to the states and your  
25 staff, and you kind of asked the question about maybe

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1 you're looking for suggestions on how we might be able  
2 to do that with some of the industry. And I guess what  
3 I was thinking was; I don't know if it's possible,  
4 probably not, for industry people to attend some of the  
5 trainings that you're doing. But depending on the  
6 length of it, it might also be something that could be  
7 tagged on the end of a conference that EPRI might  
8 organize or maybe on the end of this symposia that just  
9 passed.

10 MR. SUBER: That is a good comment. In  
11 fact, we are definitely on schedule to do a presentation  
12 at the upcoming EPRI conference I believe in June. So,  
13 we have already started working with the various  
14 organizations to schedule the training.

15 We know we will probably talk. We will  
16 probably do something with the Low-Level Waste Forum.  
17 It is likely that we will do something with the RadWaste  
18 Summit. It won't be to the extent that the Inspector  
19 training is. I mean, that is a different role that we  
20 have when we are engaging our Inspectors. But we  
21 definitely want to hear your ideas on what information  
22 we should disseminate. As we are developing our  
23 presentations, we will take that into consideration.

24 FACILITATOR CAMERON: Bob? Bob  
25 Halstead.

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1 MR. HALSTEAD: Thank you.

2 Bob Halstead, State of Nevada.

3 I am going to embarrass myself asking this  
4 question because some of our staff who had to leave  
5 earlier probably know where this information is.

6 But we have been real sensitive because of  
7 the Global Threat Reduction Initiative and other areas  
8 related to disposal of sealed sources at Area 5 at NNSS  
9 and that whole area. I guess the question is, is there  
10 somewhere in the regulatory analysis or somewhere, some  
11 numbers about the actual inventory of cesium-137 sealed  
12 sources that the new limits might apply to or any  
13 information on the distribution of the number of  
14 sources within activity categories?

15 Again, forgive me for asking because I know  
16 we have got people on the NDEP staff that I can ask when  
17 I get home. But, while I am here, I thought I should  
18 ask the question.

19 FACILITATOR CAMERON: Okay. Chris?

20 Are we going to Chris on this one?

21 MR. SUBER: Yes, I was, but Chris is now  
22 looking at me.

23 (Laughter.)

24 Okay. Yes, right. DOE is probably  
25 the -- Martin, what are you doing, man?

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1 (Laughter.)

2 I will defer to my counterparts in DOE.

3 FACILITATOR CAMERON: Okay. And just  
4 please introduce yourself.

5 MR. MARTIN: I will. No, I'm David  
6 Martin.

7 The reason I sat silent is because I am a  
8 contractor with DOE. I do not speak for DOE, but I will  
9 give you just some factual information. So, I want to  
10 be careful about that.

11 I think the question was, is there an  
12 inventory of the sources that will, then, fall under  
13 I guess the new limits for cesium and maybe the  
14 alternative approaches? We know that Category 1 and  
15 2 sources are in the NSTS. So, obviously, a lot of  
16 those are cesium and a lot of those would fall under  
17 those limits.

18 There is also a voluntary registry that Los  
19 Alamos does for the Offsite Source Recovery Project.  
20 There is also a list with that. It is voluntary,  
21 though. And so, it is just likely a fraction of what  
22 is out there.

23 Whether or not any of that is publicly  
24 available, I just don't know the answer to that, but  
25 those are the two sources.

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1 FACILITATOR CAMERON: Do you want to add?

2 Okay.

3 MR. HALSTEAD: Thank you.

4 FACILITATOR CAMERON: You got it, Bob?

5 MR. HALSTEAD: Thank you.

6 FACILITATOR CAMERON: Before we go to  
7 Lisa, Bob used a term that may be helpful for people.  
8 He used the term "regulatory analysis." Is there one  
9 for the proposed rule?

10 MR. SUBER: Yes, there is a  
11 regulatory -- do you mean for Part 61?

12 FACILITATOR CAMERON: Yes.

13 MR. SUBER: Yes, there is, but we usually  
14 don't make the regulatory analysis public. So, the  
15 purpose of the regulatory analysis is to take, to use  
16 this term loosely, a cost/benefit look at the  
17 rulemaking. And there is a regulatory analysis, but  
18 it is not public. Okay?

19 It sounded like I had a question, but okay.

20 FACILITATOR CAMERON: Just for  
21 everybody's information.

22 Lisa?

23 MS. EDWARDS: Gregory, first of all, thank  
24 you for the presentation. Thank you very much for the  
25 BTP. I always say the proof is in the pudding. And

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1 when you read the BTP, it clearly reflects that a great  
2 deal of the feedback that was provided in these and  
3 other forums was actually analyzed and incorporated to  
4 a very large extent. So, I really appreciate that.

5 I couldn't help but notice, and I am quite  
6 interested in, the Implementation Plan. Larry and I  
7 have had some discussions. Industry is a little  
8 missing off of that list, but EPRI is funding a project  
9 over the next year or so to develop some implementation  
10 guidance related to the BTP. That is not to suggest  
11 at all that I think it is poorly-written. I think it  
12 is actually quite well-written. But we all know that,  
13 when six people read the same paragraph, they do not  
14 come away with one interpretation of the paragraph.

15 So, the Implementation Guide is basically,  
16 in a nutshell, designed to go through each section of  
17 the BTP, kind of summarize what it says and what this  
18 means, how you would apply it, provide some additional  
19 illustrations perhaps.

20 Discussions of the alternative approaches  
21 would be the second section in terms of what are the  
22 technical considerations you want to keep in mind to  
23 determine if an alternative approach applies to your  
24 particular situation or does not apply, and as many  
25 examples as we can drum up from across the industry of

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1 application of the alternative approaches.

2 The last one, which may be of interest  
3 early, probably will be obsolete fairly soon, is the  
4 comparison of the new BTP to the old BTP and an analysis  
5 maybe of what the difference is.

6 So, I think the most important element of  
7 this project is who is on the Committee. The hope is  
8 that the Committee will be comprised of five to ten  
9 plant folks, the generators, representation from the  
10 expert shipping folks. In fact, Tom Kalinowski with  
11 DW James will be our principal investigator on this and  
12 will actually be writing the guidance, in conjunction  
13 with the Committee.

14 Also, disposal site operators; and then,  
15 very importantly, we would like to get representation  
16 from the four agreement states that have a disposal site  
17 and from the NRC staff, to kind of start from the  
18 generator, go through the shippers and the disposal  
19 site operators to the regulators that are overseeing  
20 and implementing this process.

21 So, perhaps this effort, if you  
22 participate -- and I surely hope you will -- could be  
23 part of your Implementation Plan for free.

24 (Laughter.)

25 MR. SUBER: That's great. And I am sure

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1 we are able to participate in that kind of -- okay, yes,  
2 so we would be more than happy to send a representative.  
3 And if not, then you have got to hire Jim Kennedy in  
4 six weeks because he will no longer be with the NRC,  
5 but a retired annuitant.

6 FACILITATOR CAMERON: And, Yomi, is  
7 anybody on the phone for us?

8 OPERATOR: There are no questions at this  
9 time.

10 FACILITATOR CAMERON: Okay. Let's go to  
11 Clint, and this is, I think, the manifest risk, the  
12 whole concern that you had. Go ahead, and please  
13 introduce yourself.

14 MR. MILLER: Clint Miller, Pacific Gas  
15 and Electric.

16 Again, I would like to commend the NRC on  
17 getting all of these things out of triple play, I guess.  
18 Got the BTP out, the RIS on the manifest, and the  
19 proposed rule, in my notes, I guess in reverse-order  
20 here.

21 So, I would encourage NRC, now that the BTP  
22 is out, that in my view this makes clear that you really  
23 don't classify waste until it is in the final package.  
24 I believe that means that, out there for us in the  
25 regular community, your colleagues in NRR, Reg Guide

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1 1.21 still requires us to submit annual rad effluent  
2 reports. And the solid waste reporting on that  
3 currently in Rev 2 out there says you have to count the  
4 shipments that go from your power plant or generation  
5 site to a waste processor and state the waste  
6 classification of that. So, I think that is in  
7 conflict.

8 And NEI and industry have provided  
9 comments. We have been waiting for a while for 1.21  
10 to be revised. So, we appreciate that, with this out,  
11 maybe that will spur that effort to get that revised  
12 and consider comments there.

13 But, turning back to the proposed rule on  
14 61 --

15 MR. SUBER: Clint, can I respond to that --

16 MR. MILLER: Sure, sure.

17 MR. SUBER: -- real quick before I forget  
18 the answer? Okay.

19 We are actually, now that the rule is out  
20 in draft form, and now that we have issued the RIS, we  
21 are going to proceed to update NUREG/BR-0204, which  
22 deals with the waste shipment manifest. In that  
23 process, it will probably be the right arena for you  
24 to bring up the concerns about the inconsistency that  
25 you see between the manifest and the Reg Guides and

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1 those requirements.

2 MR. MILLER: Very good. Yes, that  
3 answers part of my second one. So, thanks for that.

4 Yes, point 1 was Reg Guide 1.21. We need  
5 the revision from this.

6 Going back to the proposed rule on 61, we  
7 appreciate that the classification tables are still  
8 there because we, as waste packagers, even though a  
9 disposal site may be open with its own individual WAC,  
10 at any day we could lose access to that site. So, it  
11 is very important that we have those classification  
12 tables around.

13 I guess some of this is timing, and that  
14 would be the NRC Strategic Policy where all our guidance  
15 is spread across many items. So, I believe the  
16 Commission asked to look at the values in those  
17 classification tables. I believe that is going to  
18 happen in a separate track. We look forward to input  
19 on that.

20 With regard to the manifesting issue on the  
21 BR-0204, I believe, ASME had submitted comments beyond  
22 just the certification issue, but also mentioned some  
23 items on precision that we have put in the manifest.  
24 I think that has become a timely topic with some recent  
25 Part 37 inspections, where we get to do the calculation

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1 for activity.

2 We get a factor of 1.5 on gamma emitters.  
3 We get a factor of 10 on difficult-to-measure emitters.  
4 And some of us have made some errors. We report them  
5 in our CAP program. But, you know, a couple curies here  
6 or there, and 65 curies or 150 curies doesn't affect  
7 waste class, doesn't affect shipping type, but it can  
8 affect if you are going to be Cat 2 radioactive  
9 material.

10 We are looking at some issues there about  
11 what level of finding is that, if we make that error,  
12 and is it really an error? I mean, we do the best we  
13 can with the numbers we have. So, it is something to  
14 think about on precision that we manifest because we  
15 are now being held to that standard.

16 Thank you.

17 MR. SUBER: Okay. all right.

18 FACILITATOR CAMERON: Thank you, Clint.

19 Greg, are you going to respond to anything?  
20 Do you have anything to say in terms of the issues Clint  
21 raised?

22 MR. SUBER: Not to the last issues,  
23 because I think you are referring to Part 37, correct?  
24 The precision on the waste manifest?

25 MR. MILLER: Because Part 37, it is

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1 requiring perhaps more precision on our part than we  
2 would have in a regular waste classification and  
3 shipping notification.

4 FACILITATOR CAMERON: Okay.

5 MR. SUBER: Yes, we will look into it.

6 FACILITATOR CAMERON: Okay. Good.

7 Let's go to Tom Magette.

8 MR. MAGETTE: Thank you.

9 Tom Magette, Pricewaterhouse Coopers.

10 I think it sounds like we have two really  
11 good things happening post-new-BTP in terms of what the  
12 NRC is planning for training of Inspectors and the  
13 working group that EPRI plans on empaneling. I am just  
14 really curious to see how different the two things they  
15 might come up with would look.

16 I have been concerned about that all along.  
17 I know there is some concern about industry  
18 participation and our NRC training. But it seems to  
19 me that one NRC person on that panel might not really  
20 go far enough to make sure that the new interpretation  
21 by the various people that are going to have to be  
22 implementing the new guidance are, in fact, the same,  
23 and not even just really close, but the same.

24 Otherwise, I foresee a lot of difficulty.  
25 It is a brand-new document. The

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1 six-people-reading-the-same-paragraph issue I think  
2 is very real. So, I would like to see a little bit of  
3 some more cross-fertilization between the industry and  
4 the NRC before the training starts.

5 And I know you guys are trying to get out  
6 there quickly, and I appreciate that. I appreciate the  
7 need for that because you are talking about a guidance  
8 document that, in fact, carries the weight of a license  
9 requirement because of the way it is incorporated in  
10 the disposal site licenses. So, certainly, timeliness  
11 is an issue.

12 But I do think I don't hear enough  
13 coordination. I mean, I would love to see them be  
14 together. By that, I mean training of people that are  
15 going to be actually packaging waste and accepting it  
16 for disposal as well as people that are going to be  
17 inspecting to make sure that they have the same  
18 understanding.

19 I have heard from you guys, when I have  
20 asked this, that that is a problem. But, to me, if  
21 there is not some way to bridge that, then we are going  
22 to have a lot of inconsistency for a while.

23 Thank you.

24 Well, one thing that could help us, if we  
25 could at least see the slides that you guys are

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1 developing for your training exercise, so that EPRI  
2 could actually put them into their document.

3 FACILITATOR CAMERON: Do you think that  
4 would be possible, Greg?

5 MR. SUBER: Did you want to handle it?

6 MR. CAMPER: I was going to comment about  
7 this as a sum-up. But we certainly recognize the  
8 operational reality that takes place every day,  
9 particularly in the nuclear power plants as they go  
10 about using the BTP. So, we will look for  
11 opportunities to interface with industry and share  
12 information and get reactions firsthand to that  
13 guidance.

14 On the one hand, we have to maintain an  
15 arm's length and the integrity of the inspection  
16 process and not have industry participating in training  
17 of our Inspectors, for the obvious reasons, I would  
18 daresay. But, on the other hand, there will be  
19 opportunities and ways, Tom, to make that sort of thing  
20 that you are getting at happen. Lisa and I have  
21 discussed it. Participation in that panel is one  
22 thing, but specific opportunities to sit down and train  
23 and exchange information, we will look for ways to do  
24 that.

25 FACILITATOR CAMERON: Yomi, anybody on

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1 the phone?

2 OPERATOR: We are showing no questions in  
3 queue.

4 FACILITATOR CAMERON: Okay. And we have  
5 nothing on the webinar. Okay.

6 Anybody else have any comments on BTP, Part  
7 61, anything at all?

8 Okay, let's go to this gentleman.

9 MR. NOLAN: Mike Nolan, Energy Northwest.

10 Just one quick comment. A lot of  
11 representatives in here from the vetter community, some  
12 folks from the power plant community. I would just  
13 recommend that, as this training gets rolled out, you  
14 don't forget the non-nuclear power plant generators  
15 because they have just as much a stake in this as anybody  
16 else.

17 MR. SUBER: Right. Thank you.  
18 Excellent point.

19 FACILITATOR CAMERON: All right.  
20 Anybody?

21 (No response.)

22 Okay, one final check with Yomi. Yomi,  
23 anybody on the phone?

24 OPERATOR: I am showing no questions in  
25 the queue.

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1 Participants, I would remind you, please  
2 press \*1 and record your name if you would like to ask  
3 a question.

4 FACILITATOR CAMERON: Okay, we will just  
5 give that a second to see if anybody is going to press  
6 \*1. And then, I think we will go to Larry for closing  
7 comments.

8 Did anybody respond to that, Yomi?  
9 Anybody on?

10 OPERATOR: No questions at this time.

11 FACILITATOR CAMERON: Okay.

12 Larry?

13 MR. CAMPER: Thank you, Chip.

14 I thank all of you for being here today.  
15 Thank you for your excellent comments. Staff will go  
16 back and review the transcript and look carefully at  
17 everything that has been said.

18 I, from my perspective as the Division  
19 Director, have found your input to be extremely useful,  
20 and it will aid us as we plan the next public meeting.  
21 So, thank you for that input.

22 Since we are on the record, I want to make  
23 a few comments in closing. I always like to kind of  
24 share with you what I hear coming from the Division  
25 Director perspective, but also it is important because

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1 others will read this transcript. Members of the  
2 public will read this transcript, people who weren't  
3 here, people who are maybe not quite as familiar with  
4 some of the workings as you. So, it is important that  
5 a few things be made from my perspective for the record.

6 First, the Site-Specific Performance  
7 Assessment rulemaking and the other changes that we  
8 have that are associated with it, such as the guidance,  
9 will, in fact, enhance the disposal of large quantities  
10 of depleted uranium and other long-lived radionuclides  
11 that weren't necessarily specifically addressed at the  
12 time Part 61 was created years ago.

13 We have developed the guidance that will  
14 be necessary to implement this rule. You saw a copy  
15 of it earlier. It is extensive, but the rule does have  
16 adequate guidance, as the Commission directed us to do.

17 Speaking of the Commission, clearly, there  
18 is a great deal of interest in this rulemaking by the  
19 Commission and, for that matter, I would say there is  
20 a great deal of interest by the Commission in waste  
21 issues in general. We get asked a lot of questions by  
22 the Commission offices. The Commission deliberated on  
23 this rulemaking extensively. I mentioned in my  
24 opening comments we got three sets of direction from  
25 the Commission. So, the Commission is aware. The

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1 Commission is interested. I know some of you do  
2 drop-in visits with the Commissioners. So, do know  
3 that it is on their minds.

4 We will be holding more public meetings.  
5 We will get a schedule out. Greg and his staff will  
6 work on that soon. We will address the rule. We will  
7 address the guidance. Yes, John, we will provide a  
8 redline/strikeout. (Laughter.) And we do agree with  
9 the value of it.

10 I want to point out that the waste  
11 classification system in 61.55, the two tables that are  
12 there are not changed as a result of this rulemaking.  
13 Those waste classification tables, as you know, have  
14 been used successfully for years. They were built  
15 around protecting the inadvertent intruder,  
16 particularly from cesium-137. Those tables don't go  
17 away. The core component applies to being able to use  
18 a Waste Acceptance Criteria if the licensee wants to.  
19 But those screening values in 61.55 remain.

20 I would point out, though, that it is  
21 important, as you do your review of this regulation,  
22 to bear in mind that the staff does have another  
23 assignment before it that we have been specifically  
24 directed to do by a previous Commission, but not to do  
25 until such time as this ongoing rulemaking is complete.

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1           And that assignment was to update the waste  
2           classification scheme, bringing to bear current ICRP  
3           methodologies and, in particular, to determine the  
4           class of waste for depleted uranium.

5           I think it is important, when you look at  
6           this rulemaking and the fact that the Commission has  
7           now proceeded to require or is in the midst of a  
8           proceeding to require the use of a Site-Specific  
9           Performance Assessment, you could comment as to the  
10          efficacy, the need for, the value of that subsequent  
11          direction which the Commission has given to the staff.

12          I raise that because at the time that that  
13          direction was given to the staff, we didn't have, the  
14          Commission didn't have in place, then, the  
15          Site-Specific Performance Assessment that this rule  
16          will put in place to address the disposal of large  
17          quantities of depleted uranium.

18          So, the staff would find value in views  
19          provided as to the efficacy or need for that subsequent  
20          rulemaking, so we can communicate with the Commission  
21          at a future date about that particular assignment.

22          I want you to think holistically. I  
23          mentioned that in my opening comments. I want to  
24          reiterate it here. We would like for you to review the  
25          proposed rule and please comment. We would like for

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1 you to review the guidance and please comment. But you  
2 also need to examine the concentration averaging BTP  
3 that was recently finalized that Greg just shared with  
4 you in his comments.

5 You also need to review the Regulatory  
6 Information Summary that we put out recently, in  
7 February, to address the Phantom 4. That is the  
8 so-called Phantom 4 isotopes, tritium, carbon-14,  
9 I-129, and tech-99.

10 It is important that you do that and look  
11 at all these things together because they all impact  
12 operations day-to-day on the management and disposal  
13 of low-level waste. As you look at those documents  
14 holistically, if you see something in the RIS and you  
15 go, "Hmm, why did they do that when they are doing  
16 that?", or you see something in the BTP and you say,  
17 "Does that make sense now that I see the proposed  
18 rulemaking?" -- we can always continue to improve  
19 things. So, look at it all when you do your review of  
20 the regulation and, also, of the guidance document.

21 Ultimately, as Greg said, part of our plan  
22 is to make certain modifications to the manifest that  
23 accompanies the disposal of waste as part of our  
24 finalization of this rule. We will also, then, update  
25 NUREG/BR-0204. The RIS dealing with the Phantom 4 was

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1 an interim step, so that there could be guidance out  
2 there, particularly guidance with regards to the use  
3 of scaling factors to address accounting for those four  
4 radionuclides.

5 So, ultimately, as you look at this rule,  
6 bear in mind that there will be some adjustments to the  
7 shipping manifest and, ultimately, a revision to that  
8 particular NUREG. So, do look at the big picture.

9 I will tell you that not only is there a  
10 lot of Commission interest in this, but, as I speak,  
11 we, the staff, are working with SECY to plan a  
12 Commission briefing on the Part 61 rulemaking. There  
13 will be a separate briefing on the low-level waste  
14 decommissioning business-wide, but, first, there will  
15 be a briefing on this rulemaking. The Commission wants  
16 to have that. Tentatively, that will take place in  
17 June. That could change. But, again, the Commission  
18 is very interested in this rulemaking and is very  
19 interested in waste issues.

20 I want to make it very clear for the members  
21 of the public, in particular. I know that you all know  
22 this, as industry practitioners, but for those who read  
23 this transcript or follow in public meetings. Nothing  
24 in this rulemaking should be interpreted by members of  
25 the public that the existing Part 61 is not adequate

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1 to protect public health and safety.

2 Similarly, no one should question whether  
3 or not the four sites that are currently operating, the  
4 four commercial sites that are operating in Washington,  
5 South Carolina, Utah, and Texas, they are, in fact,  
6 being operated safely.

7 We had some discussion here about some  
8 concerns about one of those states with regards to the  
9 provisions in this rulemaking because of the status of  
10 their site at this point in time. But those sites, all  
11 four of them, have and are operating safely. It is  
12 important to the public to know that.

13 This rulemaking, rather, will enhance the  
14 current regulations to fully address the disposal of  
15 large quantities of depleted uranium that wasn't  
16 envisioned at the time Part 61 was created. And  
17 similarly, it will ensure that certain long-lived  
18 radionuclides are fully and completely addressed in the  
19 rule language.

20 This rulemaking, similarly, will fully  
21 protect the inadvertent intruder by requiring an  
22 assessment and by imposing a dose limit. Protection  
23 of the inadvertent intruder has always been there at  
24 61.42, and sites are designed to protect the  
25 inadvertent intruder. What this rule does is make it

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1 explicitly clear, not implicitly present.

2           There is a relationship with what is going  
3 on internationally in this rule. I pointed out earlier  
4 that the Commission put an emphasis upon  
5 defense-in-depth plus performance assessment equals  
6 safety case. We have always done a safety case; we have  
7 just not called it a safety case. A safety case is an  
8 IAEA, the International Atomic Energy Agency,  
9 nomenclature used in its guidance and standards.

10           So, we think it is a positive thing that  
11 there is more alignment or more consideration of an  
12 international concept. I mean, radioactive waste is  
13 radioactive waste. The IAEA has a different waste  
14 classification system. It works very well. Ours  
15 works very well. But this is a bit of an alignment  
16 around what goes on internationally, and that is not  
17 a bad thing.

18           We do plan to have discussions  
19 specifically around the proposed rule with the  
20 agreement states, those four agreement states that have  
21 the operating sites within their jurisdiction. It is  
22 very important, not only for the reasons raised, the  
23 concerns, by the State of South Carolina, but all four  
24 states.

25           Given that they are the states that

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1 actually have the operating sites, it is very, very  
2 important they provide comments to the staff and that  
3 they fully understand the contents of the rule. And  
4 so, we will specifically reach out and interface with  
5 the agreement states.

6 Bob Halstead, is he still here? Yes, Bob.  
7 Bob asked a question about the waste out there that is  
8 possible for being disposed of at these sites. I think  
9 earlier in our comments today and the opening remarks  
10 we commented on the BTP, that for cesium-137 the sealed  
11 source strength that could be disposed of goes from 30  
12 curies to 130 curies.

13 I want to emphasize again for the record  
14 that that is based upon a much more realistic health  
15 physics scenario. When you look at the background in  
16 the BTP, you will see that previously the assumptions  
17 that went into the limit of 30 curies were, arguably,  
18 unnecessarily conservative. I mean, it assumed  
19 contact with the source for 2350 hours. That is just  
20 not realistic.

21 So, we used a much more realistic health  
22 physics scenario. That is why that dramatic increase.  
23 And believe, I explained that in considerable detail  
24 to our previous Chairman Allison Macfarlane because she  
25 wanted an answer to that question.

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1           It is a big year. It is a very big year  
2           for what we do on the waste front. Part 61 rulemaking,  
3           concentration averaging BTP implementation, GTCC,  
4           Greater Than Class C waste, and the communication that  
5           we will be having with our Commission in the May/June  
6           timeframe.

7           We are currently in the midst of updating  
8           our Low-Level Waste Strategic Assessment. A year ago  
9           in this meeting we had a panel. We got input about what  
10          should we be spending our time and energy and limited  
11          resources on strategically over the next five years.

12          We did the LLWSA, the Low-Level Waste  
13          Strategic Assessment, back in 2007, but, obviously, the  
14          world changes. The dynamics of our industry are  
15          different. The considerations that we have to be  
16          focused upon are different.

17          So, we will be putting out an updated  
18          Strategic Assessment for awareness and comment, I think  
19          that is in July. Greg, is that when it is?

20                 MR. SUBER: June or July.

21                 MR. CAMPER: It is in that timeframe? It  
22          will be this summer, let's say.

23          And then, of course, the Phantom 4  
24          Regulatory Information Summary, do take a look at that.  
25          Lisa Edwards from EPRI gave a presentation at our

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1 Regulatory Information Conference a couple of weeks  
2 ago, and I was very pleased to see that the work that  
3 our staff had done did align with the analyses that had  
4 been performed by EPRI. And so, we got a scientific  
5 gut check there, if you will. That is a good thing.

6 So, do observe. There is a lot going on.  
7 Do be involved. We know you will.

8 Thanks for coming today.

9 And thanks to my staff. It has been an  
10 absolute pleasure to work with the staff on all these  
11 issues over the last three or four years. They have  
12 done a great job.

13 Thank you for your input.

14 (Applause.)

15 (Whereupon, at 11:40 a.m., the meeting was  
16 adjourned.)

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