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Waste Regulatory Management Issues

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## 1 NUCLEAR REGULATORY COMMISSION

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## 3 PUBLIC MEETING ON PROPOSED RULEMAKING

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## 5 10 CFR PART 61: LOW-LEVEL RADIOACTIVE WASTE

## 6 REGULATORY MANAGEMENT ISSUES

7 + + + + +

8 Friday, March 2, 2012

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10 The meeting was held at the Marriott Renaissance  
11 Phoenix Downtown Hotel, 50 East Adams Street, Phoenix,  
12 Arizona at 8:30 a.m.; Brett Leslie, Facilitator,  
13 presiding.

14 SPEAKERS:

15 BRETT LESLIE, NRC/NMSS, Facilitator

16 LARRY W. CAMPER, NRC/FSME, Director, Division of Waste  
17 Management and Environmental Protection18 CHRISTOPHER GROSSMAN, NRC/FSME, Systems Performance  
19 Analyst, Division of Waste Management and  
20 Environmental Protection21 ANDREW PERSINKO, NRC/FSME, Deputy Director, Division  
22 of Waste Management and Environmental Protection23 GREGORY SUBER, NRC/FSME, Chief, Low-Level Waste  
24 Branch, Division of Waste Management and  
25 Environmental Protection**NEAL R. GROSS**

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1 MICHAEL P. LEE, NRC/FSME, Division of Waste  
2 Management and Environmental Protection

3 ATTENDEES:

4 PAUL BLACK, Neptune & Company

5 JOHN CARILLI, US Department of Energy

6 BILLY COX, EPRI

7 WILLIAM DORNSIFE, Waste Control Specialists

8 LISA EDWARDS, EPRI

9 CHRISTINE GELLES, DOE/EM

10 SONNY GOLDSTON, Waste Management Working Group, Energy  
11 Facility Contractors Operating Group

12 JOHN GREEVES, Talisman International

13 MATT KOZAK, Intera

14 JIM LIEBERMAN, Talisman\* \*\*

15 THOMAS MAGETTE, Energy Solutions

16 MIKE RYAN, ACRS

17 MARK SATORIUS, NRC/FSME

18 JANET SCHLUETER\*\*

19 ROGER SEITZ, Savannah River National Laboratory\*

20 DAN SHRUM, Energy Solutions

21 LEONARD SLOSKI, Rocky Mountain Compact

22 LINDA SUTTORA, DOE

23 JOHN TAUXE, Neptune & Company

24 \*Present via telephone

25 \*\*Present via Webinar

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

(8:33 a.m.)

1  
2  
3 DR. LESLIE: Thank you very much. And  
4 good morning everyone here in Phoenix and those of you  
5 who are joining on the bridge line or through the  
6 Webinar. I'm going to go to the meeting aspect. And  
7 I wanted to welcome you to a meeting after you've been  
8 in meetings all week, for those of you in Phoenix.

9 And with that in mind, our topic today is  
10 on the site-specific Part 61 rule that's -- you'll  
11 hear quite a bit about today. And before we get  
12 started, I have some logistics to go through. I want  
13 to make sure that people realize that there were  
14 several handouts out front and if you don't have them  
15 you can pick them up at the break. There was one on  
16 the notice for the public workshop, which was the  
17 Federal Register Notice. And in that is also where to  
18 supply written comments and the comment deadline is  
19 July 31, 2012. Those comments could be submitted at  
20 <http://www.regulations.gov> with a docket ID of NRC-  
21 2011-0012.

22 A couple other things. I'm here to  
23 facilitate the meeting and I've already been used  
24 once. Someone said, well more than one person said it  
25 was too hot in here. So, if it gets too hot, too

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1 cold, kind of raise your hand for those types of  
2 things and I'll take care of it.

3 The other aspect is, this meeting is one  
4 of many that's going to -- or several that's going to  
5 happen and my goal today is to maximize your  
6 participation and to do that we're going to do a  
7 couple of ground rules. And again, you'll understand  
8 why we have those ground rules here in a second.

9 But, so that we can be as flexible and in  
10 a listening mode and be responsive, I'm going to ask  
11 everyone, both on the phone lines and here, when  
12 they're making comments and when they're in the  
13 audience to be respectful, i.e., turn off your cell  
14 phone so you don't interrupt the meeting.

15 This meeting is being transcribed. And we  
16 have Corey over here who is our court reporter and  
17 she's trying to get a clean transcript. So that means  
18 when it's public comment time make sure you're at a  
19 microphone, you tell us your name and if you have any  
20 organizational affiliation. And that will help Corey  
21 to develop the transcript for this.

22 I'm also going to ask one person at a time  
23 so if you do have a comment we have these yellow  
24 comment cards. If you think you're going to have a  
25 comment, you can just hold them up after I'm done with

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1 this little introductory blurb and I'll get them and  
2 work you into the conversation we're having today.

3           Again, we're going to try to manage time  
4 to maximize your participation. So I may be going out  
5 to the audience a couple times today as we're going  
6 through the slide presentation to judge your interest  
7 on particular topics, because not all topics are of  
8 the same importance to individuals. So we have four  
9 topics later in Chris Grossman's presentation, for  
10 instance, and maybe everyone wants to talk about one  
11 topic. I want to make sure we have enough time for  
12 that one topic.

13           So, again, bear with me as I try to manage  
14 the time to maximize your participation. Again, what  
15 we had out there as I started to talk about, we had a  
16 Federal Register Notice, which gave the notice of this  
17 workshop and commenting. We had the Staff  
18 Requirements Memorandum. It looks like a two pager.  
19 We had a blue Agenda. And I'll walk through this  
20 Agenda here in a second.

21           And we also had a NRC Meeting Feedback  
22 Form. And this is important because this is the first  
23 of a series of meetings and we always are trying to  
24 strive to do better with what we do. So if we do  
25 something good, let us know so that we can continue to

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1 do it. And if I do something bad or we can improve in  
2 some way, just let us know through these comment  
3 meeting feedback forms.

4 And finally, of course, the thing that you  
5 probably wanted the most, which is the slide  
6 presentations.

7 All right. What else? Some other  
8 logistical issues. We've already found that a lot of  
9 people haven't figured out where the restroom was,  
10 which is down the hallway, when you get out to the  
11 foyer, go to the left and then to the right. So that  
12 will help things.

13 This is a Category 3 meeting according to  
14 the NRC Public Meeting Policy, which again, the whole  
15 idea is to try to maximize the input today and so we  
16 have a couple times to do that. And perhaps, the best  
17 way to do that is to go through the Agenda. We'll  
18 start here with my facilitation from 8:30 to 8:40,  
19 then I'll turn it over to Larry Camper. He'll  
20 introduce someone, Mark Satorius. And then he has an  
21 introductory presentation. Then we'll go into the  
22 first technical presentation, not that Larry doesn't  
23 know technical stuff. But he is laying the framework  
24 for the rest of the meeting and Drew Persinko here,  
25 why don't you raise your hand, Drew, so people know

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1 you, and Chris Grossman will also be giving the first  
2 presentation.

3 And in that session from 9:00 to 10:30,  
4 there'll be opportunity for people to talk about the  
5 things that Drew and Chris have presented and so  
6 that's your first opportunity to give us some of your  
7 thoughts and insights.

8 Then we intend to take a break from about  
9 10:30 to 10:50. Then the second session from 10:50 to  
10 11:50, also including comments. And Greg Suber, if  
11 you don't mind raising your hand, will be making that  
12 presentation. And again, what we're trying to do is  
13 to have the conversation limited to certain topics at  
14 certain times. So, you know, it doesn't mean if you  
15 don't have time then we won't come back to it, but  
16 what we're trying to do is to create a record and have  
17 a, you know, have people think about what other people  
18 are thinking.

19 And because one of the things the staff  
20 got tasked to do is to list the pros and cons of some  
21 of the things that they've talked about. So they need  
22 your feedback to do their job. And their job today is  
23 to try to give as much information as they can, so  
24 they're in a listening mode as well. To the extent  
25 that there's a simple question in terms of their being

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1 able to respond, they'll respond as they can.

2 I'll be using a parking lot over here for  
3 issues that -- where we can't get a real quick answer  
4 to it. Oops, sorry about that. So I will be using  
5 the parking lot to judge our progress and issues that  
6 may come up.

7 And we're actually taking a late lunch and  
8 I'll get to why we're doing that. We had this meeting  
9 here last year and we saw that a lot of people left  
10 pretty much after lunch and so we're trying to get as  
11 much of the conversation going and done in a longer  
12 morning session. So between 11:50 and 12:20, Mike Lee  
13 will be -- Mike, can you raise your hand? Thanks.  
14 Providing a summary of SECY-10-0165.

15 So, let me ask this question. How many  
16 people are going to be leaving at lunchtime? Could  
17 you just raise your hands? Okay. Drop your hands.  
18 How many people are leaving at 1:00 or later? Okay.  
19 So, the whole goal is that we need to maximize our  
20 conversation this morning. For those of you on the  
21 phone line, there are quite a few people who are going  
22 to be leaving by lunchtime.

23 After lunch there was and there will still  
24 be, a period for extended commenting. And so again,  
25 that helps me to maximize your participation today and

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1 I appreciate your letting me go a little long in terms  
2 of the introduction.

3 Logistics for safety. Emergency exits are  
4 out this door and to the left, or you can go down the  
5 hallway as well. Are there any questions on the  
6 ground rules or logistics before I turn it over here  
7 to Larry? If not, Larry, why don't you come up and

8 MR. CAMPER: Good morning. Good to see  
9 you. It's a real opportunity for us at the NRC to be  
10 here following the Waste Management Symposium. It  
11 really is. It's an opportunity for us to capture  
12 people who deal with low-level waste issues everyday.

13 Part 61, part of your life. I'm sure there are some  
14 members of the public here as well. But I think I  
15 counted like 66, 67 people. So we appreciate you  
16 staying over and taking part in the meeting today.  
17 And we know you all have a lot of interesting things  
18 to say to us and share with us.

19 Drew Persinko is my Deputy Director on the  
20 environmental side. Greg Suber next to him is our  
21 Branch Chief for the low-level waste program. Mike Lee  
22 is one of our senior product managers and has been  
23 doing low-level waste issues for a very long time.  
24 Chris Grossman -- I didn't say how long, Mike. I just  
25 said a very long time. Chris Grossman is in our

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1 Performance Assessment Group and had a lot to do with  
2 the development of the period of performance that was  
3 in our site-specific rulemaking. And so Chris brings  
4 a lot of good PA [performance assessment] background  
5 to the table.

6 Before I get into the overview of what  
7 we're going to be covering today, I want to take a  
8 moment and ask Mark Satorius to stand. Where's Mark?

9 Mark is our Office Director. He's been with us now,  
10 I think three or four months. Prior to becoming the  
11 FSME Office Director, Mark was the Regional  
12 Administrator, Region III. So he has a tremendous  
13 amount of experience and he has been here all week.  
14 He has a lot of interest in our program. And I  
15 thought it would be nice for Mark to say something to  
16 us.

17 MR. SATORIUS: Thanks for that, Larry.  
18 And thanks for the introduction. As Larry has  
19 mentioned, I've been in my current position here in  
20 the office for about four months. But I do come with  
21 some field experience with regard to materials  
22 programs and of course, reactor programs.

23 It's been a very eye opening week for me  
24 here at this waste management symposium. Over a  
25 hundred breakout sessions. You could just kind of

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1 roll the dice and go into any one of the, and very,  
2 very professional presentations. And I learned a  
3 great deal and had an opportunity to get to know  
4 several of you that I recognized from this week  
5 sitting here today.

6 This is an opportunity for us to outreach  
7 and really, as Larry has said, talk to the operators.  
8 The people who work low-level waste issues everyday.  
9 And also members of the public that may not work in it  
10 every day but have an interest and certainly a stake  
11 in what we're working with as we move into this  
12 rulemaking. So please give us what you think. And  
13 we're here to listen to you and for you to understand  
14 the direction we believe our mandate is and to get a  
15 better process and to get a better product as a result  
16 of that. So, thanks Larry.

17 MR. CAMPER: Thank you, sir. I'd also  
18 like to just recognize Mike Ryan, Dr. Mike Ryan, who's  
19 with the ACRS [Advisory Committee of Reactor  
20 Safeguards]. Most of you, if not all of you, know  
21 Mike. He's on the ACRS and brings the waste expertise  
22 to the ACRS. So it's good to have Mike here with us  
23 as well.

24 Okay. Here's what we're going to cover.  
25 In this meeting and in all of these Part 61 public

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1 meetings, these are the subject matter that we'll be  
2 going through.

3 First, we have some recent Commission  
4 direction that was provided to the staff on the 19<sup>th</sup> of  
5 January. You see the identifying numbers and so forth  
6 for the Commission direction. This was provided and  
7 caused quite a change in direction for the staff in  
8 terms of the site-specific rulemaking. And you'll  
9 hear a lot more detail about that.

10 We also are going to cover emergent  
11 technical issues. And what I mean by that is these  
12 are issues that have come up over the last year or so.

13 When we did SECY-10-0165, which is the paper that  
14 laid out the five options, what we said to the  
15 Commission was that we do not have a recommendation  
16 but rather we would go talk to stakeholders and then  
17 come back with a recommendation in December of this  
18 year.

19 So over the past year, year and a half or  
20 so, we've heard a lot of issues. Some of those have  
21 come up in our discussions with the ACRS. Some of  
22 those have come up in our public meetings around the  
23 branch technical position and concentration averaging  
24 and in other forms. So we're going to address  
25 probably half a dozen or so of those that have come up

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1 again and again.

2 We're going to talk about SECY-10-0165.  
3 That is the paper that Mike Lee led us in the  
4 discussion last year here in the meeting we had with  
5 the Department of Energy and it contains five options  
6 in that paper and we're going to go through those.

7 We've had a lot of stakeholder feedback  
8 and you'll hear that sprinkled in throughout the  
9 various presentations today. This is the first of  
10 several public meetings. I have a slide later that  
11 will show you all those public meetings and outreach  
12 opportunities.

13 And it really is an opportunity to impact  
14 the future direction of Part 61. So again, we're very  
15 glad that you're here. We know that you bring a lot  
16 of expertise to bear and we're really going to be  
17 listening today. We almost view this as a scoping  
18 meeting, if you will. So we'll provide some  
19 presentations but we want to listen a lot.

20 In terms of Commission direction, there  
21 were four major components of the recent direction  
22 provided to the staff on the 19<sup>th</sup> of January. Some of  
23 that had to do with process. Some of it had to do  
24 with policy. The Commission gave us a definitive  
25 timeline, that is, 18 months for doing the revised

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1 rulemaking on site-specific performance assessment.  
2 And the Commission directed that we do a great deal of  
3 public outreach.

4 You're going to hear a lot, especially in  
5 Drew's presentation about the process issues and the  
6 policy issues. So I won't belabor those now because  
7 they'll step through each one of those in some detail.

8 In terms of the issues that have come up  
9 over time, so far these are the ones that we'll go  
10 through today. The role of institutional controls,  
11 exposure scenarios, the actual concentration tables in  
12 Section 61.55, engineered barrier system performance,  
13 clearance, revising the Part 61 Environmental Impact  
14 Statement (EIS) assumptions, and the role of  
15 protecting the intruder, which is currently a  
16 cornerstone of the Part 61 Regulation. So these are  
17 the issues that have come up again and again in our  
18 interactions thus far. We'll talk through those with  
19 you in some detail.

20 In terms of SECY-10-0165, these were the  
21 options that were in that SECY and Mike will step us  
22 through those in some detail. The first was to risk-  
23 inform the current Part 61 waste classification  
24 framework. We currently have that assignment from the  
25 Commission that was in the SRM, the Staff Requirements

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1 Memorandum that was associated with our paper SECY-08-  
2 0147, which dealt with large quantities of depleted  
3 uranium. And that we were directed by the Commission  
4 to budget for doing a risk-informing of the waste  
5 classification system. We assumed that meant do it.  
6 And so we have planned to do that. So that's an  
7 option within the paper though.

8 A comprehensive revision. We refer to it  
9 sometimes as the "Big C". Not Big C for Camper but  
10 the Big C, comprehensive. In other words, if you had  
11 a clean piece of paper and you have all this operating  
12 experience that we now have of Part 61 and we were to  
13 start anew, what would it look like? So that's the  
14 comprehensive revision.

15 The site-specific waste acceptance  
16 criteria. In other words, under that option Part 61  
17 would have been changed to function like the process  
18 that DOE [the US Department of Energy] uses, in that  
19 there would not be a weight classification system in  
20 Part 61. Rather, it would rely upon a waste  
21 acceptance criteria approach.

22 International alignment. The IAEA  
23 [International Atomic Energy Agency] uses a waste  
24 management system that has different classifications  
25 of waste than we do. And so that was an option,

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1 international alignment.

2 And the last option was for the no action  
3 alternative, if you will. In other words, the  
4 direction that we had been given to do the first one  
5 you see there would not be done. We would not proceed  
6 to do some risk-informing of the weight classification  
7 table.

8 So those were the five options in SECY-10-  
9 0165. Michael will step through those in considerable  
10 detail later.

11 Okay. We've had a lot of events already  
12 to maximize stakeholder input. You see them here on  
13 Slide 6. I won't go through them. You can just kind  
14 of look at them for a moment, but for those of you who  
15 are listening in, what it does is, it identifies a  
16 number of opportunities where the staff has met with  
17 members of the public or the ACRS to get input around  
18 either the Concentration Averaging Branch Technical  
19 Position or the Volume Reduction Policy Statement for  
20 Part 61 in general. So there have been a number of  
21 opportunities already and that's consistent with the  
22 Commission direction to do a lot of stakeholder  
23 outreach.

24 And I think, more importantly, this next  
25 slide [Slide 7] identifies those activities that are

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1 coming up. We start off, of course, with the meeting  
2 today here in Phoenix. We will be participating in  
3 the Low-Level Waste (LLW) Forum Spring Meeting in San  
4 Francisco in April. We are going to outreach and  
5 participate with the CRCPD [Conference of Radiation  
6 Control Program Directors] Annual Meeting in May in  
7 Orlando, Florida. We're going to have another NRC  
8 sponsored public meeting like this one in Dallas in  
9 May. We are going to interface with the EPRI Annual  
10 Meeting in Tucson in June and EPRI has asked us to  
11 have a day-long workshop with their meeting  
12 participants for that particular group of people to  
13 have the opportunity to interface with us. We think  
14 that's very important because those are people who are  
15 dealing with waste every day. Especially the utility  
16 industries. We'll have another public meeting in mid-  
17 July in Rockville, Maryland near NRC Headquarters.  
18 And then we're also going to be participating in the  
19 Health Physics Society Annual Meeting in July in  
20 Sacramento, California. So, many opportunities for  
21 outreach either with professional organizations in the  
22 field or in NRC meetings as such.

23 Now, this slide [Slide 8] is a timeline  
24 and I do want to take just a moment or two to explain  
25 a couple things in this slide. What you see here is -

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1 - it's a graphic depiction of a very complicated  
2 mosaic of instructions that the staff is carrying out  
3 at this moment in time. On the first line you see a  
4 timeline associated with the Volume Reduction Policy  
5 Statement. The Commission has been voting on that  
6 policy statement and is nearing conclusion on its vote  
7 and direction to the staff.

8 The second line shows the Concentration  
9 Averaging Branch Technical Position that we will now  
10 put out for comment in May. This says April but it's  
11 actually May, I believe. Jim Kennedy here? It's the  
12 2<sup>nd</sup> of May isn't it? So that will go out for comment.

13 We've had some meetings around this and I will tell  
14 you that one of the things we heard in the last  
15 meeting that we had around this subject was there was  
16 a preference for folks who had provided comments to  
17 see those comments addressed within the next version  
18 going out. They will be. And as Jim said in his  
19 presentation the other day, we made a lot of changes  
20 based on what we've heard thus far. So that document  
21 comes out in May.

22 The next line that has the broken zone and  
23 then the clear white zone and a dark area right here  
24 and then a continuing timeline, is the part 61 site-  
25 specific performance assessment rulemaking. We've

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1 actually been working on that rule for a couple of  
2 years. We were nearing the time to actually provide  
3 the proposed rule to the Commission. However, two of  
4 our commissioners, Commissioners Magwood and  
5 Commission Apostolakis, generated a COM, which is a  
6 piece of paper that's a communication vehicle when  
7 they want to talk to other Commissioners formally, and  
8 they provided a number of suggested changes in that  
9 COM to that ongoing rulemaking. The Commission voted  
10 on that COM. The Commission got new direction to the  
11 staff, which is the subject of what we're talking  
12 about today.

13 Now the dark area is important because we  
14 must get the revised Part 61 Technical Basis for the  
15 new rule done by September in order to meet the  
16 ultimate timeline, which includes getting the proposed  
17 rule to the Commission by July of next year, and then  
18 the final rule being 2014. So even though the rule  
19 will not be completely finished until --

20 (Sound system disconnected at 8:55:57 a.m.  
21 and reconnected at 8:56:08 a.m.)

22 Good to go. This timeline right now, in  
23 all the meetings that we're going to have that I  
24 shared with you a moment ago, you can see the  
25 importance of the timeline of having a lot of meetings

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1 between now and July because we'll have to take all  
2 the feedback and go develop the technical basis for  
3 the enhanced site-specific rulemaking that the  
4 Commission has now directed us to do.

5 The last line item is the assignment to  
6 risk-inform the Waste classification system, that's  
7 WCS, and the Comprehensive rulemaking. The Commission  
8 had asked the staff to provide some information that  
9 we did do in SECY-10-0165, which I shared with you a  
10 moment ago, but what is interesting in the recent  
11 direction from the Commission, they told us to focus  
12 upon four specific things as part of this enhanced  
13 site-specific rulemaking that you'll hear a lot about  
14 today. And then they said that anything else that  
15 you're doing under the comprehensive umbrella, wait  
16 and do it after this rulemaking. Thus, that timeline,  
17 as you can see, goes all the way out to 2019.

18 Now, I do not know, we do not know as we  
19 stand here, if there will, in fact, be another  
20 rulemaking. We know that we have an assignment to  
21 risk-inform the 61.55 waste classification tables.  
22 That would necessitate a rulemaking, but will there be  
23 a second rulemaking that would go beyond that? Don't  
24 know. Shouldn't know at the moment. That's because  
25 if we knew, we would be preordaining a conclusion

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1 without getting all the input that we're seeking. So  
2 we don't know. We'll have to wait and see.

3 But the Commission was very clear in its  
4 direction to the staff about doing the site-specific  
5 rulemaking - 18 months. Advise them if we run into a  
6 timeframe problem and specifically, what to do about  
7 the bottom line in terms of the comprehensive  
8 approach. And we have swept into that the waste  
9 classification direction.

10 Now, so we'll follow that direction. As  
11 we go through these meetings, we may at some point  
12 hear things that would cause the staff to go back and  
13 communicate further with the Commission about what  
14 we're doing and the timelines and so forth, but at the  
15 moment, that's our assignment. 18 months on the site-  
16 specific analyses rulemaking. Delay the other efforts  
17 until this rulemaking is completed.

18 Okay. That concludes everything I wanted  
19 to say. Any questions for me? Any clarification  
20 needed? Okay. So I think Drew --

21 DR. LESLIE: Thank you --

22 MR. CAMPER: --you're --

23 DR. LESLIE: --Larry.

24 MR. CAMPER: --first.

25 DR. LESLIE: Yeah. And before we get to

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1 Drew, a couple of logistical -- well, thanks. Larry,  
2 you did a great job on spelling out each of the  
3 acronyms and kind of one of the other things that I'm  
4 going ask each of the NRC speakers. Having a little  
5 bit of a problem right now with the Webinar, in terms  
6 of the slides are not projecting for them. So they're  
7 still stuck looking at my name, Facilitator. So for  
8 those on the bridge line and -- telephone bridge line  
9 and the Webinar, the slides are available on the NRC  
10 website, [www.nrc.gov](http://www.nrc.gov), and if you look for Low-Level  
11 Waste Disposal under Radioactive Waste, which is  
12 across the top banner if I recall right, there is a  
13 part of that web page that says 2012 Workshop and the  
14 slides are there. So really for the NRC presenters,  
15 as you change slide numbers, kind of say I'm moving  
16 onto slide number two and again to help people  
17 understand, although there might be acronyms on the  
18 slides, I'd ask people to do just like Larry did and  
19 not use the acronyms but speak to them.

20 MR. GROSSMAN: It was human error.

21 DR. LESLIE: Okay.

22 MR. GROSSMAN: We were on pause. We  
23 apologize. We -- it should work correctly now,  
24 Webinar. I didn't realize that we were on pause.

25 DR. LESLIE: And that's Chris Grossman,

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1 who forgot to introduce himself for the record.

2 (Laughter.)

3 MR. GROSSMAN: I'm not very good at  
4 following rules.

5 DR. LESLIE: So if you'll bear with us  
6 just for a second longer I think we're ready for Drew  
7 Persinko. Oh, and one final thing because I've  
8 already screwed up as well. There were yellow comment  
9 cards out there and if you have a comment and you  
10 think you're going to have a comment, just hold up  
11 your hand and I'll come by and pick them up. It will  
12 help me to judge approximately the participation here.

13 And again, we will be taking comments here in  
14 Phoenix. We'll be taking comments on the phone later  
15 and also through the Webinar as well, later, once we  
16 get into the public commenting time. Thank you.

17 MR. PERSINKO: Good morning. As Larry  
18 said in his opening remarks, the first part of today's  
19 meeting we're going to talk about the site-specific  
20 analyses rulemaking and the recent Commission  
21 direction that we've received. There's a time delay  
22 on these slides because we're on the internet here, so  
23 you press the advance button and there is a ten second  
24 time delay it seems like. Let's see here.

25 DR. LESLIE: Chris, do you mind?

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1 MR. PERSINKO: And I think it'll go, it  
2 just has to engage. There we go again. I'll try that  
3 again. Here we go.

4 DR. LESLIE: Okay. We also got  
5 disconnected from the phone, too.

6 MR. PERSINKO: Okay.

7 DR. LESLIE: So before you get started  
8 Drew --

9 MR. PERSINKO: Okay.

10 DR. LESLIE: --I got to get the bridge  
11 line. Let me see if I can --

12 MR. PERSINKO: I guess the ten second time  
13 delay is to check what I say before it goes public.

14 (Laughter.)

15 MR. PERSINKO: Okay. This is an overview  
16 of what we intend to cover in --

17 DR. LESLIE: You can't start yet.

18 MR. PERSINKO: Okay.

19 DR. LESLIE: Sorry, Drew. How's the  
20 temperature in the room? Everything okay? If the  
21 music came back on I might have a song and dance, but  
22 right now we're going to redial into the bridge line.

23 It's an operator assisted bridge line and that's why  
24 we're not getting feedback from people who, you know,  
25 are shuffling papers and so on and so forth. I don't

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1 imagine that this is going to take too much longer.  
2 Sorry about that. Fortunately, we're on schedule.  
3 We're not that -- too far behind.

4 Can I get actually a raise of hands of  
5 people who think they might be commenting at some  
6 point today? So, I'm only seeing a handful of people  
7 who have anything to say. But of course, you haven't  
8 heard anything that they're presenting yet, so --

9 UNKNOWN SPEAKER: That won't stop us.

10 DR. LESLIE: --well, yes. For some of  
11 you, it won't. But, anyway, I'm going to turn off the  
12 microphone now, and then as soon as we're back on then  
13 we'll start it again. Thanks. Thank you for your  
14 patience.

15 (Whereupon the proceedings went off the  
16 record at 9:04 a.m. and went back on the record at  
17 9:10 a.m.)

18 DR. LESLIE: Okay. Again, for those of  
19 you who are on the bridge line, we apologize. We had  
20 a minor power outage here, which is the other side of  
21 NRC, you know, Palo Verde, no it wasn't Palo Verde,  
22 but anyway, so we just reconnected with the bridge  
23 line. Let me catch you back up where we are.

24 My name is Bret Leslie. I'm the  
25 Facilitator. We had just finished Larry Camper's

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1 presentation. We were having a little bit of a  
2 problem with the Webinar so if you had joined us on  
3 the Webinar, I'll remind folks that the slides are  
4 available through the NRC website, [www.nrc.gov](http://www.nrc.gov). Go to  
5 Radioactive Waste Management on the top banner and  
6 there's a drop down menu. Hit Low-Level Waste  
7 Disposal and you'll see something about the 2012  
8 Public Workshop and the slides are there. So you  
9 should be able to pick them up. I've asked -- so for  
10 those of you who are on the Webinar, if you're having  
11 trouble, just -- you can go on the internet and get  
12 those slides. I've asked our NRC speakers to use  
13 slide numbers as they progress through their talks and  
14 I'll remind folks here to introduce yourself too --  
15 when you use the microphone for the record because  
16 we're trying to develop a transcript. So with that,  
17 Drew Persinko will proceed.

18 MR. PERSINKO: Okay. I'm going to take a  
19 moment on that shot. I'm Drew Persinko. And as I  
20 said, this part of the meeting we're going to talk  
21 about the site-specific analyses rulemaking and the  
22 recent Commission direction that we've received.

23 For this part of the discussion we'll  
24 cover the following five areas. The Commission's  
25 licensing requirements for the disposal of low-level

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1 waste in near-surface facilities is contained in NRC  
2 Regulation 10 CFR Part 61, which was first published  
3 back in 1982. The regulations incorporate an  
4 integrated systems approach to the disposal of  
5 commercial low-level waste in that has provisions  
6 regarding site selection, disposal facility design,  
7 waste form requirements and disposal facility closure.

8 The regulation, 10 CFR Part 61, also  
9 contains four performance requirements. First is  
10 protection of the public, protection of inadvertent  
11 intruders, protection of individuals during operations  
12 and finally, stability after closure. And within the  
13 regulation it talks about the demonstration of  
14 compliance with these performance requirements is to  
15 be met through technical analyses and a waste  
16 classification system, which is incorporated into the  
17 regulation.

18 When the regulation was developed back in  
19 the early 80's, it was based on what was assumed to --  
20 what was thought to be the waste that would likely go  
21 into a commercial low-level waste facility. Recently  
22 some developments have taken place, which call into  
23 question some of the assumptions in that earlier  
24 rulemaking. Such as the emergence of potential low-  
25 level waste streams that weren't considered in that

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1 rulemaking. One example being depleted uranium [DU].

2 The staff concluded that disposal of such waste may  
3 be appropriate in a near-surface facility, but not  
4 under all conditions.

5 Staff developed two Commission Papers  
6 related to this subject. One dealt with the disposal  
7 of large quantities of depleted uranium and another  
8 dealt with the issue of blending. In response to the  
9 staff's Commission Papers, the Commission gave the  
10 staff direction in what's known as a Staff  
11 Requirements Memorandum, an SRM as we call it. And  
12 they directed the staff to proceed with a 10 CFR Part  
13 61 rulemaking to require site-specific performance  
14 assessment analyses for the disposal of large  
15 quantities of DU and to specify the technical  
16 requirements for such analyses. And it also directed  
17 the staff to develop accompanying guidance.

18 A subsequent SRM came out that directed  
19 the staff to include the issue of blending within the  
20 site-specific analyses rulemaking. There were other  
21 provisions in the SRM's in addition to the three that  
22 I've listed, but for the purpose of this meeting,  
23 these are the three pertinent requirements -- for the  
24 purposes of this section of the meeting, these are the  
25 pertinent requirements.

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1           So the staff proceeded and developed a  
2 rulemaking per the Commission direction. We held  
3 numerous meetings with the public as we proceeded. A  
4 main component of that draft proposed rule was a two-  
5 tiered approach consisting of a compliance period,  
6 having a 20,000-year timeframe after site closure in  
7 which the dose limit was specified to be 25 millirem.

8           And the second part of the two-tier approach was a  
9 longer period of performance taken out to peak dose,  
10 whatever that might be, and in which case there was no  
11 dose limit set upon that in that longer period of  
12 performance.

13           Recently, as Larry mentioned, we received  
14 Commission direction in an SRM dated January 19<sup>th</sup> of  
15 this year. It provided additional direction to the  
16 staff concerning policy matters. More specifically,  
17 the direction we received directed the staff to amend  
18 the rulemaking for the four main areas listed. It  
19 directed the staff to allow flexibility in the rule to  
20 use ICRP dose methodologies in a site-specific  
21 performance analyses. It directed the staff to  
22 include a two-tiered approach that covers a reasonably  
23 foreseeable compliance period followed by a longer  
24 period of performance that does not set a *priori* and  
25 that the period of performance should be based on the

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1 site characteristics and a peak dose to a designated  
2 receptor.

3 As I mentioned, the staff did have the  
4 two-tiered approach in it but the staff also had  
5 specified a compliance period of 20,000 years. And in  
6 case you're wondering, *a priori* is Latin not French.  
7 It comes from -- it means from the one before, for all  
8 you linguists out there.

9 The third direction was to include  
10 flexibility for disposal facilities to establish the  
11 site-specific waste acceptance criteria based on  
12 results of the site's performance assessment and the  
13 intruder analyses.

14 And finally, the fourth direction was to  
15 include a compatibility category that ensures  
16 alignment between the states and the federal  
17 government regarding safety fundamentals, but yet  
18 still provide to the states flexibility to implement  
19 those safety requirements.

20 In addition to the four main policy issues  
21 here that were in the SRM, the SRM also directed the  
22 staff to provide the proposed rule to the Commission  
23 in 18 months, which puts us into July of next year --  
24 July of 1013. And it also directed the staff to  
25 provide analyses of the issues, stakeholder feedback

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1 that we received and the pros and cons of the specific  
2 revisions.

3 It further told the staff to continue to  
4 engage stakeholders on risk-informed revisions to the  
5 rule that were outlined in the Staff's Commission  
6 Paper SECY-01-0165. So there were a number of other  
7 directions to the staff on the process in addition to  
8 the four policy issues that you see in front of you.

9 Which is why we're here today. We're  
10 seeking input on the direction that we've received  
11 from the Commission on these four policy issues.  
12 There we go. Hold on. Oops, too far. Okay.

13 This is our path forward. Between now and  
14 September of this year we plan to develop what's known  
15 as the Technical Basis Document. The rulemaking  
16 process at the NRC starts off with developing a  
17 Technical Basis Document before we get into the formal  
18 development of the proposed rule.

19 The Technical Basis Document is really a  
20 foundation of the rule. It contains information such  
21 as the justification for the rule, technical,  
22 scientific, legal information that would be used to  
23 support the rule. It also includes the stakeholder  
24 comments we've received on the particular topic.

25 So that is the initial step to develop

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1 this Technical Basis Document. We'll be doing that in  
2 parallel with the meetings we're having. As Larry  
3 mentioned, we're going to have two more NRC sponsored  
4 meetings. One in Dallas, one in Washington. So as we  
5 have the meetings, we'll be taking the feedback from  
6 those meetings, feeding it into our development of the  
7 Technical Basis Document. We plan to complete the  
8 Technical Basis Document in September, at which point  
9 we enter the, officially, the proposed rule  
10 development. And we have, as you can see there, in  
11 order to meet the time that we were directed to  
12 follow, we will be providing the proposed rule to the  
13 Commission in July of 2013. At which point the  
14 Commission reviews it and we anticipate then it will  
15 be issued as a proposed rule for public comment.  
16 Although, I mean, the Commission has various options  
17 at that point. Assuming it was issued for public  
18 comment, we'd receive the comments and then we would  
19 enter the development of the final rule. And we allow  
20 ourselves one year from the time of the proposed rule  
21 to the time that we would deliver the final rule to  
22 the Commission, which puts it out in the July 2013  
23 timeframe that we would deliver the final rule to the  
24 Commission.

25 In parallel with the rulemaking process,

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1 you can see up there on the lower bar chart, we would  
2 also be developing a guidance document to accompany  
3 the rule. So, I guess that's the big picture of how  
4 we get from where we are today to development of the  
5 initial big deliverable would be the proposed rule in  
6 July of 2013. Okay. So.

7 DR. LESLIE: Thank you very much, Drew.

8 MR. PERSINKO: With that -- let me just  
9 say one thing though. Before I turn it over to Chris  
10 though, I just want to mention there that, you know,  
11 we did a lot of work in developing this proposed rule  
12 and a lot of it we intend to use as we go forward with  
13 the direction that the Commission gave us. And a lot  
14 of it is still applicable. It's not as if we're  
15 starting from square one again. So, we hope to  
16 incorporate as much as we can over the -- from the  
17 information we've already developed. Okay. With  
18 that, let me turn it over to Chris Grossman who will  
19 go into the technical issues in further detail.

20 DR. LESLIE: Thanks Drew. As Chris is  
21 walking over there, to kind of give you a heads-up.  
22 As you listen to his presentation, afterwards we're  
23 going to be opening it up for public comment. And  
24 again, as I stated in the opening remarks, we're going  
25 to try to talk about the topics in some sort of order.

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1 So as you get -- go through Chris' presentation, if  
2 you're getting agitated about something, I'm -- right  
3 after he's done I'm going to poll the audience here,  
4 who's about 60 to 70 people. And we have somewhere  
5 greater than ten people on the Webinar. But I'm going  
6 to use the audience here to kind of judge which ones  
7 are going to take more time and then that will help me  
8 make sure that we get as much participation as  
9 possible. So, Chris, are you about ready?

10 MR. GROSSMAN: Just about. Okay. I'm  
11 getting set up here. There's not much room at the  
12 podiums with all the technology today. Okay. We'll  
13 try that.

14 DR. LESLIE: Chris, I'll remind you to try  
15 to use slide numbers when you switch as well.

16 MR. GROSSMAN: Thank you. So we're on  
17 Slide 10. The Webinar seems to be working. I was  
18 monitoring it while Drew was speaking.

19 My name is Chris Grossman, as Bret  
20 mentioned. I'm a Systems Performance Analyst in the  
21 Division of Waste Management Environmental Protection  
22 of the NRC. I've been working in the radioactive  
23 waste management area, whether high-level waste or  
24 low-level waste, for about ten years now. And I've  
25 had the pleasure to work on Part 61 in both responding

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1 to the Commission's initial direction and this  
2 expanded rulemaking. And so I look forward to  
3 engaging the public as we go forward and seeking your  
4 feedback.

5 I just want to reiterate what Drew  
6 mentioned in that when the Commission went, it  
7 provided instructions to the staff, said that it  
8 agrees and I'm going to read their words here because  
9 I don't want you to get too far -- I can take  
10 direction from some people. Sorry Bret. "That it  
11 agrees that there is value in considering through  
12 extensive interactions with the stakeholders", which I  
13 hope that's something we're trying to achieve through  
14 these meetings, "whether the risk-informed approach is  
15 below", and I'll get to those, "should be incorporated  
16 in the current rulemaking. The staff should provide  
17 an expanded proposed rule to the Commission, which  
18 includes the following issues", which we'll discuss  
19 today, "along with staff's analyses for this use and  
20 stakeholder feedback and the pros and cons of the  
21 specific revisions."

22 So those are our marching orders and  
23 that's what we're attempting to address today. As  
24 Drew also mentioned, in responding to the initial  
25 direction, the staff was set to provide the Commission

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1 with a proposed rule and an accompanying basis. We  
2 believe some of that material, though, will not all be  
3 applicable in responding to this expanded direction.  
4 And so we felt it might be necessary for some  
5 stakeholders who maybe don't have the chance to follow  
6 it as closely as I do, what we mean by site-specific  
7 analyses and some of the information we developed in  
8 responding to that initial direction, which we see  
9 could be useful in responding to the new direction as  
10 well.

11 These analyses are essentially three  
12 analyses. There's a performance assessment, which  
13 would be used to demonstrate compliance with  
14 performance objective for protection of the public.  
15 There's an intruder assessment, which is a new concept  
16 we're bringing to Part 61, which would be designed to  
17 assess compliance with performance objective for  
18 protection of the intruder. And then the final  
19 analyses was what we termed a long-term analyses,  
20 which was a new concept for Part 61, which was  
21 intended to look at the impacts from long-lived waste,  
22 which was brought about by this question with the  
23 disposal of significant quantities of depleted  
24 uranium.

25 So moving to Slide 10. So I mentioned the

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1 three analyses. I'll walk through each of these in a  
2 little more detail to provide an overview.  
3 Performance assessment is a systematic process for  
4 evaluating the performance of a facility. It's  
5 typically used in the field of radioactive waste  
6 management, although the process is generic enough  
7 that I think it can be applied very broadly and is  
8 applied with different names in other fields,  
9 especially nuclear waste management.

10 What is a performance assessment? It's a  
11 systematic analyses -- I'm going to walk around this  
12 diagram. Right now I'm in the box "What is  
13 Performance Assessment?" It's a systematic analyses  
14 of what could happen at the site and it assesses -- so  
15 I'm moving over to "What is assessed?" what can  
16 happen, how likely is that to happen and what  
17 consequences can result? We like to call that term in  
18 this field the 'risk triplet', those three questions.

19 So it has a process for conducting it.  
20 And I apologize to the members at the table if I hit  
21 you with the laser pointer today. It's an iterative  
22 process where you start-out to collect data on both  
23 site characteristics and design of the waste form. So  
24 I'm at the top of our pentagon in the slide. And I'll  
25 be moving around to the right as I go.

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1           You assess those features, events, and  
2 processes that can occur and then you look at how  
3 likely they are to occur at the site and whether to  
4 incorporate them into a conceptual model, and the  
5 conceptual model really describes how we believe the  
6 site will behave or evolve over time.

7           Once we have that conceptual model, we  
8 then move into developing numerical and computer  
9 computations to assess quantitatively the evolution of  
10 the site. And we combine sometimes many models and  
11 estimate the effects. So I'm in the blue trapezoid of  
12 the pentagon. As I mentioned, it is an iterative  
13 process and we would expect that you would learn as  
14 you develop new information and potentially repeat the  
15 cycle as you go.

16           This process is often used at many stages  
17 of waste management, from the early conceptual phase  
18 where you might be looking at site selection or  
19 engineering design and all the way through to closure  
20 and assessing, then compliance with the performance  
21 objectives.

22           So why do we use this methodology? Well,  
23 radioactive waste management systems can be complex  
24 systems, especially when you start to consider site  
25 characteristics. And so it's a systematic way to

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1 evaluate the data and it's also, we believe that it's  
2 an internationally accepted approach for assessing  
3 performance in radioactive waste management.

4 And so I'm now at the bottom. We'll take  
5 all this information and the staff will be looking to  
6 require for a performance assessment. We would  
7 anticipate that this rulemaking would include some set  
8 of requirements for what a performance assessment is.  
9 And one thing, I apologize, I forgot to mention at the  
10 beginning. The performance assessment is not a new  
11 concept for Part 61. Part 61 calls for an assessment  
12 of doses to members of the public and we view that  
13 this is consistent with that. So what we're  
14 essentially doing is not bringing something new to  
15 Part 61, but we're bringing it up into kind of a  
16 modern methodology and providing some of the structure  
17 that smarter methodology entails.

18 So we would require then providing site  
19 and design data describing barriers that isolate  
20 waste, evaluating the features, events and processes,  
21 which I've talked about in the context of risk  
22 triplet. I can't read at the angle -- providing a  
23 technical basis accounting for variability and  
24 uncertainty and evaluating alternative conceptual  
25 models. When I say that we're looking at these as

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1 requirements, this isn't necessarily the exact  
2 language but these are the concepts that we'd be  
3 looking for in a performance assessment. We're here  
4 to engage the public and so even though we developed  
5 these under the initial rulemaking we'd still like to  
6 receive feedback on these issues.

7 Moving to Slide 12. The intruder  
8 assessment is a new concept or a new assessment for  
9 Part 61. It's not necessarily a new concept. And  
10 intruder assessment was done in the Environmental  
11 Impact Statement for the development of Part 61 and  
12 that was then to develop the waste classification  
13 system, and so we've modeled it on that sort of an  
14 assessment in terms of our thinking about this. But  
15 the idea is that it would demonstrate protection of an  
16 inadvertent intruder. Currently Part 61 relies on the  
17 waste classification system to demonstrate protection  
18 of an inadvertent intruder.

19 And for those who may not be aware, Part  
20 61 does not look at all intruders. It's only looking  
21 at someone who might enter the site after a loss of  
22 institutional controls, the temporary loss of  
23 institutional controls, and unknowingly be exposed to  
24 radiation from the waste. If it's someone who is  
25 intentionally trying to dig into the facility, Part 61

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1 recognizes that you cannot stop human ingenuity and  
2 someone who is engaged in that activity is taking on  
3 that risk. And so there are no performance objectives  
4 for advertent intruders, only inadvertent intruders.

5 So I just want to make that clear because  
6 sometimes I slip into just talking about intruders.  
7 And when I talk about that in this context today, I'm  
8 only talking about the inadvertent intruder.

9 The intent, though, is to demonstrate  
10 protection and then to identify, design, and control  
11 measures that might preclude intrusion or limit the  
12 radiological impacts if it were to occur at some point  
13 after the loss of institution control. And we  
14 envision this assessment to be similar to the  
15 performance assessment methodology with one proviso,  
16 that it assumes an intrusion event occurs, and so that  
17 second question of the risk triplet, how likely is it?

18 There is an assumption built into this assessment.

19 That being said, I will say as we've been  
20 flushing out guidance to support any potential  
21 requirement for an intruder assessment, we are  
22 envisioning that there will be some accounting for  
23 site characteristics and engineering design of the  
24 facility to affect the timing of when an intrusion  
25 event may occur. So for instance, if you have a

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1 robust intruder barrier that you can demonstrate that  
2 it may have some longevity of x number of years, we  
3 believe that you can bring that information to the  
4 table and present that as a reason to limit intruder  
5 access into the waste.

6 Okay. Slide 13. The long-term  
7 assessment. This is a new assessment for, or we  
8 envision it being a new assessment for Part 61. It's  
9 intended to estimate the potential performance beyond  
10 the compliance period. And the rationale for this was  
11 to try and communicate impacts to stakeholders of what  
12 may occur from the disposal of long-lived waste, such  
13 as depleted uranium. And then it was also designed to  
14 identify the features and reduce any long-term  
15 impacts.

16 In our proposal that was set to go to the  
17 Commission, we had not identified any performance  
18 metrics being required for this long-term analyses,  
19 and one thing I want to point out is that we were  
20 leaving lots of flexibility for licensees on how to  
21 assess long-term performance -- we don't necessarily  
22 believe that it needs to be a continuation of the  
23 performance assessment. It could be. And so there's  
24 flexibility for how a licensee may need to communicate  
25 those impacts depending on the situation and the

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1 specific waste streams they're looking at and the site  
2 characteristics.

3 So now we'll get into some of the new  
4 direction. And as Bret mentioned, what I hope to do  
5 here is walk through each of the four issues or pieces  
6 of new direction that the Commission provided to  
7 staff, provide a little bit of context and then ask  
8 for feedback. Now, we'll be doing -- we'll be  
9 receiving your feedback once I get through all the  
10 four issues and then we'll go through each issue as  
11 Bret mentioned. So bear with me here.

12 So each of these issues, you'll see a  
13 little bit of repetition. I'll start off with what's  
14 the Commission direction, provide the context and then  
15 elicit feedback.

16 I'm on slide 15, for those participating  
17 on-line. The Commission direction was to consider  
18 allowing licensees the flexibility to use ICRP, and  
19 that's International Commission on Radiological  
20 Protection, dose methodologies in a site-specific  
21 performance assessment for the disposal of all  
22 radioactive waste.

23 To provide a little context, NRC  
24 regulations are based on various methodologies. The  
25 ICRP has essentially set forth four main

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1 recommendations over the years that have progressively  
2 superseded previous recommendations. And so I  
3 presented four of them here on the slide from IRCPs 2,  
4 26, 60 and 103, which are the four, what I consider  
5 the four main recommendations that have been  
6 promulgated by the Commission.

7 ICRP 2. I put up here was in 1959. This  
8 is really what Part 61 today is based on. It's a  
9 little dated. And for a little more context, ICRP 2  
10 is built around dosed organs, specific organs. As we  
11 go through, there was -- the Commission had what I  
12 would term, maybe not others, kind of a revolutionary  
13 jump to a tissue weighted exposure assessment in ICRP  
14 26. And then more evolutionary kind of developments,  
15 incorporating new models based on updated information.  
16 And so from ICRP 26 to ICRP 103 that's kind of how I  
17 view it, is those have been more evolutionary.

18 Part 20 is based on ICRP 26. The  
19 Commission, speaking of the NRC Commission, not the  
20 ICRP, has a policy that presently allows four  
21 exemptions for the current methodology. And this  
22 policy was announced in this Staff Requirements  
23 Memorandum for Commission Paper SECY-07-0148 and we  
24 will have to correct that because there should be a  
25 year in there too, between SECY-07-0148. We will try

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1 and get that information today. I just realized that  
2 that is missing. Probably the year that it was  
3 promulgated.

4 So in terms of using these methodologies  
5 in a performance assessment, you need to convert the  
6 recommendations to dose coefficients. The current  
7 version of that is ICRP 60 through ICRP 72, where the  
8 dose coefficients are published. ICRP 103, we have  
9 the tissue weighting factors. The dose coefficients  
10 that follow have not been developed. We anticipate  
11 those in the 2014/2015 timeframe. So that gives you a  
12 little perspective on the ICRP and the history of its  
13 recommendations and where we are today.

14 So what we're looking for, then, is  
15 feedback from stakeholders on allowing licensees the  
16 flexibility to use current ICRP dose methodologies in  
17 a site-specific performance assessment for the  
18 disposal of radioactive waste. So some questions that  
19 you might be considering is should the NRC codify its  
20 policy for exemptions and regulation and how best  
21 might the Commission do that? So we're looking for  
22 feedback on that.

23 '07 on the policy? Thank you. So back to  
24 Slide 16. Just for the transcripts. Mike Ryan  
25 pointed out that the SRM-SECY should be -07-0148.

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1 Thank you, Mike.

2 Okay. So now we're on to item number two  
3 of the Commission's new direction and the Commission  
4 directed the staff solicit public feedback on  
5 considerations for a two-tiered period of performance,  
6 POP, for the analyses. And for those on-line I'm on  
7 Slide 18. I've put together a little diagram to help  
8 kind of clarify terminology that we're using. As this  
9 process has gone along, I think we've become more  
10 refined or more specific in our terminology and so  
11 when I refer in this presentation to period of  
12 performance, I'm talking about the entire period. So  
13 the Commission is looking at two tiers, a compliance  
14 period and a long-term performance period, the second  
15 tier. And so the question is then, where do you set  
16 these boundaries? Or, how do you set these  
17 boundaries, may be a better way of putting that.

18 So the first tier, the Commission is  
19 interested in considering a compliance period that  
20 covers the reasonably foreseeable future for this  
21 compliance period. And the second tier, then, would  
22 be a longer period, and as Drew mentioned it's not a  
23 *priori* that is based on site characteristics and peak  
24 dose to a designated receptor. So you can see there  
25 are some phrases in here that may need some

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1 consideration and we certainly want feedback on those  
2 considerations.

3 Okay. Dr. Mike Ryan has just informed me  
4 that -- let me go back. Okay. We're back to Slide  
5 16. And Dr. Mike Ryan pointed out it's not SRM-SECY-  
6 07-0148; it is in fact SRM-SECY-01-0148. So 2001 was  
7 the year it was issued.

8 DR. LESLIE: So Chris, as you move forward  
9 one of the things that's coming to my mind is that  
10 you're going to have lots of slides to go through.

11 MR. GROSSMAN: Yes.

12 DR. LESLIE: And what we might do is right  
13 after you finish the period of performance, kind of  
14 test the waters. See where we're at. Maybe get some  
15 of the public interaction on those first two topics.  
16 Depending on the time, we might take a break and then  
17 come back and finish the rest of it. People have been  
18 sitting here a long time. I know I'm somewhat  
19 restless, so why don't you go ahead and do the period  
20 of performance before you jump into the next --

21 MR. GROSSMAN: Okay.

22 DR. LESLIE: --I think that might work  
23 better getting the people involved.

24 MR. GROSSMAN: Sounds very good. Sounds  
25 very good, sorry. Okay. So a little context on

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1 period of performance. Part 61, for those who do not  
2 know, does not currently specify a period of  
3 performance of any sort. And so in response to the  
4 initial direction where the Commission directed the  
5 staff to specify the requirements of the site-specific  
6 analyses, NRC staff set about to develop a technical  
7 analysis of the factors that the Commission could  
8 consider in selecting a period of performance. And we  
9 recommended -- we were set to recommend a two-tiered  
10 approach, with the first tier being a compliance  
11 period to 20,000 years and the second tier would be at  
12 a peak dose with no performance metric. Obviously,  
13 the Commission has given us new direction and so we're  
14 going out and soliciting feedback on that new  
15 direction.

16 So I'll walk through some of the  
17 considerations that I think the public might want to  
18 explore and provide feedback to the Commission on its  
19 direction. And so the first will be the first tier  
20 and a compliance period and I think the heart of the  
21 matter here gets to how the Commission should define,  
22 or should have defined, reasonably foreseeable future.

23 The many factors that could be considered, I've  
24 listed a few possibilities here that members of the  
25 public might want to comment on. They're potential

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1 societal factors such as the types of activities that  
2 humans may engage in. Technical factors such as the  
3 hazard, its longevity, the site characteristics. For  
4 instance, how long can you model site characteristics?  
5 As well as what I've kind of termed equity issues.  
6 How to balance both inter- and intra-generational  
7 equity in terms of protection of the current  
8 generation and protection of future generations. It's  
9 not an easy question.

10 One of the things that I hadn't put on the  
11 slide but I will mention here is that the Commission  
12 also provided direction specifically on the compliance  
13 period. That the staff should balance the principles  
14 in the National Academy of Public Administrations'  
15 1997 Report that looked at this issue of equity, in  
16 terms of balancing protection of today's generations  
17 versus future and what are our obligations. It looked  
18 at that we should also balance principles in that  
19 report, international and domestic approaches,  
20 technical considerations, which we've listed here, as  
21 well as any previous guidance that the Agency has  
22 developed.

23 So in terms of -- for those who may not be  
24 familiar, since they specifically called out the  
25 National Academy of Public Administration's Report,

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1 I'll read you those principles, which we discussed in  
2 our technical analyses that we used to develop our  
3 initial proposal. There were four principles.

4 The first principle was that every  
5 generation has obligations as trustee to protect the  
6 interests of future generations. The second principle  
7 was no generation should deprive future generations of  
8 the opportunity of a quality of life comparable to its  
9 own. The third was each generation's primary  
10 obligation is to provide for the needs of the living  
11 and to succeeding generations. Near-term concrete  
12 hazards have priority over long-term hypothetical  
13 hazards. And the fourth was that actions that pose a  
14 realistic threat of irreversible harm or catastrophic  
15 consequences should not be pursued unless there is  
16 some countervailing need to benefit either current or  
17 future generations.

18 So those are the four principles and I  
19 apologize, I didn't have a slide. I think that's  
20 something that we'll try and do for future  
21 presentations and public meetings. And I'd be happy  
22 to share the reference for that report if there's  
23 anyone interested in looking at it further as they  
24 decide on the comments they want to make to the  
25 Commission.

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1           A little more context as we look at kind  
2 of the domestic and, well,-- this focuses on domestic  
3 approaches. For various waste streams, there are a  
4 variety of approaches that are used in setting  
5 compliance periods. As you can see from this slide on  
6 Slide 21, I would note that I've listed a lot here.  
7 Some of these have varying levels of compatibility  
8 with low-level radioactive waste and so use some  
9 caution when you're looking at this. But you get a  
10 sense of some of the parameters that are associated  
11 with the waste, such as hazard duration and whether  
12 the hazard is radiological or chemical and then the  
13 compliance period.

14           They also -- these programs have different  
15 goals. Some are looking at disposal action. Some are  
16 looking at remediation action. So you're cleaning up  
17 a site for reuse. And so keep those in mind as you're  
18 looking at that. But I thought it provided a decent  
19 summary of at least our domestic approaches.

20           Okay. So on to tier two. Tier two was  
21 the longer term period of performance based on site  
22 characteristics and peak dose to a designated  
23 receptor, and so the Commission identified  
24 characteristics for consideration and what they meant  
25 by site characteristics. And I've listed those here.

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1 §61.50 and §61.51 of Part 61 specify site suitability  
2 and design requirements, and so there are another  
3 couple of potential ones there that might be  
4 considered and we'd like to receive feedback on that,  
5 such as tectonics and igneous activity. And then  
6 uncertainty in the site characteristics themselves  
7 over time. Specifically, how should the Commission  
8 factor this in into setting this longer term period  
9 and its effect on the site characteristics?

10 The second part of the tier two was the  
11 peak dose to a designated receptor. And we're out  
12 seeking feedback on should this be something the  
13 Commission defines or not. Should it provide guidance  
14 on how to define this on a site-specific basis? And  
15 so there are characteristics associated with a  
16 receptor. I've listed kind of three main categories  
17 here. This is how we tend to think of them at NRC.  
18 There are other ways you can think of them. And for  
19 those on the web, I apologize, I'm on Slide 23.

20 So the three characteristics I've -- or  
21 groupings of characteristics I've laid out here are  
22 metabolic, behavioral and physical. Metabolic, what I  
23 mean by that are basically physiology and we view  
24 these -- are largely embodied in the ICRP's  
25 recommendations and that methodology. But there is,

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1 over time these characteristics can change and so to  
2 what extent should we consider that or, as I mentioned  
3 in the second tier here, should this be based on kind  
4 of a current understanding.

5 The second then, behavioral, has to do  
6 with the activities that a receptor might be engaged  
7 in. You know, do they farm? Are they an industrial  
8 worker? Those sorts of things.

9 And then the third, physical, has mostly  
10 to do with the biosphere's characteristics that the  
11 receptor lives in. And so those I think -- should we  
12 set those as a generic biosphere or could they --  
13 should they be site-specific for site-specific  
14 analyses? And so we're looking for feedback on that.

15 And then are there other approaches that  
16 the Commission should consider in regards to the  
17 designated receptor? And then one final thing on the  
18 second tier is the staff was set to recommend the two-  
19 tiered approach with the second tier having no  
20 performance metric. The Commission didn't provide us  
21 direction on that. And so we're out soliciting  
22 feedback on should the Commission consider a  
23 performance metric for the second tier? And if so,  
24 what metric should the Commission consider? Should  
25 they be quantitative, such as dose or risk metric or

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1 some sort of qualitative standard? Or should we  
2 follow the staff's initial approach in that we're  
3 looking at this period to communicate the impacts from  
4 these long-term analyses given the uncertainties.

5 So with that, that ends the period of  
6 performance discussion. The Commission is seeking  
7 public feedback on this two-tiered approach with the  
8 first tier defining a reasonably foreseeable  
9 compliance period and the second tier defining a  
10 longer term period of performance that is not a *priori*  
11 but developed on site characteristics in the peak dose  
12 to a designated receptor. So with that we'll --

13 DR. LESLIE: Thank you Chris. This is  
14 Bret Leslie, the Facilitator. And just to give people  
15 a heads up on the phone, what we're going to do right  
16 now to energize the people here and to energize  
17 myself, is how many people think, and again, I'm going  
18 to be using the audience here in Phoenix as a gauge as  
19 one way to assess how much interest we might have on  
20 the phone or on the Webinar. How many people think  
21 they have something to say on the first topic that  
22 Chris talked about: flexibility on dose methodology?  
23 Okay. I see a couple hands, three, four, five. Okay.  
24 What about on the two-tiered approach? Kind of  
25 comparable. So about five, six, something like that.

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1           So for those of you who think they're  
2 going to talk about the flexibility on dose  
3 methodology, can you at least keep raising your hand  
4 because I need -- or give me a card. I know some  
5 faces here and names and that -- on the flexibility on  
6 dose methodologies, if you're interested in that.  
7 Yes. Sorry. Thank you.

8           And, again, what -- thanks. I'm using the  
9 cards so that I can call people up. Judge how much  
10 time we have. John Greeves asked the question, how am  
11 I going to try to get everyone to speak? But I need  
12 to know how many people are going to be speaking  
13 because that gives us, judge about how much time I can  
14 allow people to speak. Again, okay. So, based upon  
15 kind of a quick head count, I'm probably going to  
16 allow people about three minutes each for providing  
17 comments on the flexibility of dose methodology. And  
18 again, I'm going to take the comments here in Phoenix  
19 first and as -- I'll bring the microphone to you and  
20 I'll let you know when you're getting close to your  
21 three minutes.

22           And again, remember that a lot of people  
23 have comments and we want to respect everyone's  
24 ability to provide their comments today. Excuse me --

25           (Comments by audience off the microphone)

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1           Okay. All right. So. Kind of one of the  
2 questions is what does flexibility mean, and Chris,  
3 can you just touch upon that?

4           MR. GROSSMAN: I think, without reading  
5 too much into it, I think the Commission is looking at  
6 receiving feedback on one, whether it should allow  
7 flexibility and consider modern, or should it specify  
8 a specific methodology in its regulation as it's done  
9 in the past by tying them to certain methodologies?  
10 And so there's that question and then there's also the  
11 question of how best should the Commission accomplish  
12 this? Should it be a generic statement such as you  
13 have the flexibility to use the most current  
14 methodology without getting an exemption to do that?  
15 Or are there other approaches that the Commission  
16 should consider? I think that's where they're getting  
17 at.

18           DR. LESLIE: That was Bill Dornsife who  
19 asked a great thought-provoking framing type of  
20 question. I appreciate that. If you have a comment,  
21 again, we're trying to get a transcript. Raise your  
22 hand, I mean, like that was good to kind of frame the  
23 discussion we're going to have. But don't just yell  
24 it out because the transcriber won't get it. Okay.  
25 So now I see Bill that's also going to have it. Lisa,

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1 I'm going to start with you if you don't mind.

2 (Comment off the microphone)

3 DR. LESLIE: Flexibility on dose. And  
4 then I'm going to go to Bill and then I'm going to  
5 have a chance to look through my cards and get the  
6 names in order, so about three minutes and here you  
7 go. Can you remember to do two things? Your name,  
8 organization and try to hold the microphone close  
9 enough so that we get a good record. Thank you.  
10 Lisa.

11 MS. EDWARDS: All right. My name is Lisa  
12 Edwards. I'm with Electric Power Research Institute.  
13 Can you hear me okay? All right. I guess what I  
14 would say is I would like to see the updated dose  
15 conversion factors used in the tables within the code  
16 itself. But if there is also a methodology to  
17 specifically reference, perhaps a newly developed new  
18 regulation or something like that, that says if new  
19 dose conversion methodologies become available, or  
20 dose conversation factors become available, you could  
21 go to the new regulation and revise those tables.

22 But I'm afraid that if the tables  
23 themselves are not updated, they'll remain *de facto* in  
24 the rule. And given that there are a number of  
25 different methodologies currently out there and we are

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1 using the oldest, at a minimum I would update to Part  
2 60 or 72 depending upon, you know, how you define the  
3 ICRP 60.

4 But I would suggest that there also be a  
5 recognition that not only the dose conversion factors  
6 but the dose methodologies themselves could be updated  
7 to reflect whether you're in a dry climate site or wet  
8 climate site. Whereas now the tables assume kind of a  
9 combination of characteristics between those two types  
10 of climates.

11 DR. LESLIE: Thank you, Lisa. And I'm  
12 going to go next to Bill Dornsife. Again, you'll have  
13 three minutes and then John Tauxe and then Tom  
14 Magette.

15 MR. DORNSIFE: Real quickly, this is Bill  
16 Dornsife, Voice Control Specialists. I fully believe  
17 we should use the latest dose methodologies, but the  
18 concern I have is that it be strictly compatible with  
19 all the Agreement States that everybody uses the same  
20 thing. In terms of what it should be used for. I  
21 think it certainly should be used for the dose  
22 conversion factors in a performance assessment. I  
23 don't support a new classification system, so in terms  
24 of that, you know, we don't use it at all. And I'm  
25 sure we'll get into that later what my reason is for

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1 not updating the classification system.

2 DR. LESLIE: Thank you Bill. John.

3 MR. TAUXE: John Tauxe with Neptune &  
4 Company. I guess I would suggest that I wouldn't see  
5 any reason not to use the latest dose information  
6 that's available and published by the ICRP, which  
7 would suggest perhaps ICRP 103 at this point in time.

8 And I would say that not only should people -- should  
9 performance assessment developers or other entities be  
10 allowed to use them. They should be encouraged to use  
11 them or maybe even provide justification why they  
12 wouldn't use them. You know, perhaps people could use  
13 older methods but they would need to, you know,  
14 justify why that's okay.

15 I would discourage actually putting into  
16 the code references to a particular one because as  
17 we've seen, these regulations age and they don't  
18 necessarily age well. And if you're referring to a  
19 particular one like in 10 CFR 61, now with the organ  
20 doses, you know, that's not -- that just causes  
21 trouble to have that kind of reference in there.  
22 Perhaps it should just be a reference to use the  
23 latest information and then on a case-by-case basis  
24 depending on when things are developed, you would  
25 understand what that latest one is.

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1 DR. LESLIE: Thank you Tom -- Bill.

2 MR. TAUXE: Nope.

3 DR. LESLIE: John.

4 MR. TAUXE: John.

5 DR. LESLIE: John. Too many names. This  
6 is Bret Leslie. Tom Magette. I'm sorry; I misspoke  
7 what your name was earlier. I'm so excited. Thank  
8 you.

9 MR. MAGETTE: My name is Tom Magette. I'm  
10 with Energy Solutions. I have two comments on this  
11 part. Thank you Chris for what you've put forth.  
12 First of all, I agree with the suggestion from the  
13 Commission as it is in the SRM. So in terms of  
14 providing feedback on whether or not we think that's a  
15 good idea, I think that's a good idea to have that  
16 flexibility.

17 Second of all, in response to the comment  
18 you made at the very tail-end there in terms of how it  
19 should be done, I don't think an exemption or having  
20 to go back to, you know, a SECY-07-0148 approach is  
21 okay. That exists today and in theory, could be  
22 invoked today with no change whatsoever. It's  
23 complicated. It's a huge hurdle to do something like  
24 that for a licensee.

25 So that's not helpful in my view. So I

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1 don't think you should allow it as an exemption. I  
2 think you should specifically invoke it. I agree with  
3 John's comment in terms of the regulations. I think  
4 this is something that you should specifically invoke  
5 the flexibility in the regulations and the additional  
6 specificity as to what that means can be in guidance.

7 DR. LESLIE: Thank you Tom. And some of  
8 Tom's words are helpful. In the sense that they're  
9 all helpful but, no, but the context. The staff are  
10 struggling with the pros and cons so a statement --  
11 your latter statement why it was better this way than  
12 other is going to be more helpful than yeah, the  
13 Commission got it right so for -- people, as we go  
14 through the day, remind yourself what the staff is  
15 going to have to struggle with. In very short order,  
16 they need to have the reasoning, both the pros and  
17 cons for different ways and that way they will have a  
18 basis for developing their technical basis.

19 Anymore comments here in Phoenix on the  
20 flexibility on dose methodologies? I'm not seeing any  
21 and so I'm going to turn to the bridge line to the  
22 operator to see if we have any questions at this time  
23 on the flexibility and dose methodologies.

24 OPERATOR: As a reminder, to ask a  
25 question over the phone, please press \*1. If you need

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1 to withdraw that question you can press \*2. Once  
2 again, to ask a question please press \*1. No  
3 questions at this time.

4 DR. LESLIE: Okay. Thank you very much.  
5 And at this point I don't think that we're getting any  
6 questions right now from the Webinar as well, so I  
7 kind of gathered this wasn't going to be a  
8 tremendously hot topic compared to the second one that  
9 I would like to go to. And kind of as a reminder, on  
10 the Agenda we were planning on breaking around 10:30  
11 so if we're looking at this right now, we're about  
12 around 10:00 and I think after we have some comments  
13 on the two-tiered approach, perhaps we'll be moving  
14 into a break, letting Chris go back to the last two  
15 topics and taking more questions on that if people are  
16 fine with that. I know people have been sitting in  
17 these uncomfortable chairs for quite some time.

18 So, can I get a show of hands for people -  
19 - okay. Hold on a second. I'm going to be collecting  
20 some things. John. John you're going to be first.  
21 And you will be second. Okay. John, if you don't  
22 mind, I'll be right there in a second. And I'm going  
23 to be picking people as I go. And Lisa after Daniel,  
24 if you remind me if I forget. Then I've got one more.  
25 Bill. Okay. John. And again, I'll remind folks

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1 about three minutes. People have been good.

2 MR. GREEVES: Yeah. My name is John  
3 Greeves. I'm with Talisman International and I, too,  
4 agree with the Commission's direction to consider  
5 these four points. Of the four, I think number two is  
6 the most difficult. So with my three minutes, first,  
7 I agree with a two-tier approach. I always have. In  
8 fact, I think the NRC staff has -- just found some  
9 documents that say that.

10 And the first of which is a compliance  
11 period and it's quite important, this reasonably  
12 foreseeable language that the Commission gave us.  
13 We've got to figure out what that is. And I would  
14 offer it is not 20,000 years. I personally offer  
15 also, it's not 10,000 years either. So if it's not  
16 those numbers, what is it?

17 Staff put up some charts. And as a  
18 starting point, I think 1,000 years is a fine number.

19 One agency uses it quite effectively. I've helped  
20 implement that. In fact the NRC has 1,000 years a  
21 number of places, so I think it's important to have a  
22 number too.

23 To implement a regulation, you've got to  
24 have an applicant and a regulator and they've got to  
25 clearly understand what they're implementing and

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1 telling them what that number is helps both parties.  
2 So that's what I would say about the first tier period  
3 of compliance. I think 1,000 years is a fine place to  
4 start and that's really where a lot of the risk is.

5 The second tier right now goes out to peak  
6 dose. I agree with that. And keep in mind the burden  
7 eventually is going to be on a regulator to make a  
8 decision to either grant, deny, or condition a license  
9 and an applicant to make a proposal. The second tier,  
10 I agree go out to peak dose and by the way, there's a  
11 bunch of critical groups out there. It isn't just  
12 one. So you have to look for which one's critical,  
13 examine them and it's tricky because I think it'd be  
14 nice to have a metric. There's going to be pros and  
15 cons to that. And if you read the NAPA and it talks  
16 about equity but more term.

17 Keep in mind you have to be deferential  
18 because we know more about that. In the long term  
19 they use the term catastrophic consequences and  
20 irreversible. I'm not quite sure what irreversible  
21 is. That's a matter of opinion. I've got a pretty  
22 good idea of what's catastrophic. And what jumps in  
23 my mind is one rem. One rem will change how society  
24 operates. Whether you put that number in the  
25 regulation is going to be a subject of debate. But if

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1 I was a regulator and I had to make a decision, I  
2 could make a decision if I saw an applicant come in  
3 and tell me the dose was going to be one rem at that  
4 peak dose. I'd be happy to make that decision and  
5 thinking what my answer would be.

6 So, this is a very important -- am I  
7 running over my three minutes? So, anyhow, I hope  
8 I've been clear. It's not -- period of performance is  
9 not 20,000 years or 10,000 years. I'd recommend 1,000  
10 years. I think there's reasons for that and the peak  
11 dose analyses; I hope that the guidance at least says  
12 pay attention to catastrophic consequences. So I'll  
13 stop at this point. Maybe have -- commence later.

14 DR. LESLIE: John, thank you very much.  
15 And Daniel, I'm not going to try to pronounce your  
16 last name because I'll mess it up, but here's Daniel.

17 MR. SHRUM: Hi. My name is Dan Shrum.  
18 I'm with Energy Solutions. The last meeting I was Don  
19 'Shram' so thanks for not trying.

20 My comments are very much like John's. I  
21 see that you are looking to set a time period for a  
22 reasonably foreseeable compliance period. I'm looking  
23 at your table on page 21. We commented on this with  
24 the proposed draft and if high-level waste, spent  
25 nuclear fuel, is 10,000 years and I see that the low-

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1 level disposal has a bracket around the 10,000 years,  
2 I'm assuming that's being pulled out of the NUREG-1573  
3 guidance document. If high-level waste is 10,000  
4 years, I don't see how low-level waste would also have  
5 to be 10,000 years and so let's not just default to  
6 that 10,000-year number.

7 DOE has been successful with a 1,000-year  
8 compliance period. We are in the throes of doing  
9 analyses at our facility and we agree that it's good  
10 to look at beyond that, but for a compliance period, a  
11 reasonably foreseeable, for this type material, 1,000  
12 years is a good starting point.

13 The other issue that I guess we'll really  
14 get into later is this equity issue on how we ensure  
15 the future is protected also protecting today. And  
16 don't know what that ratio is, how we balance those  
17 things out, but that has to be very open as that is  
18 considered this equity issue. That's all I have for  
19 now.

20 DR. LESLIE: Thank you. Just to give  
21 people a heads up. I'll be going to Matt next, then  
22 Bill Dornsife, then John and then Tom. So and Lisa  
23 decided she didn't have anything else to add. So  
24 Matt, okay, I'll be right over to you. Appreciate  
25 people keeping their comments very short and very on

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1 topic so far.

2 MR. KOZAK: Matt Kozak, Intera. My  
3 comments are similar to the guys who have spoken  
4 already. I'm probably a little bit of an outlier, as  
5 I don't think 10,000 years is particularly difficult  
6 to meet from a performance assessment standpoint. And  
7 we're hearing a call for more like 1,000 years. But  
8 there's some flexibility and differences of opinion on  
9 what people think is achievable in terms of reasonably  
10 foreseeable. And there's precedent for both. And  
11 there's reasons for both. And the literature is  
12 replete with discussions of why people have come up  
13 with one number rather than another.

14 One of the precedents we have never seen  
15 is 20,000. And I'm not sure where that number comes  
16 from and there doesn't seem to be any real basis in  
17 precedent or particularly technical basis for it;  
18 20,000 rather than 10,000 years. Clearly there's a  
19 difference between 1,000 and 10,000 years.

20 The other thing that I would like to raise  
21 as a caution is going out to peak dose. You said  
22 there's not going to be a metric, but then we're going  
23 to calculate peak dose. That's already presuming the  
24 forum in which the results ought to be presented. And  
25 as you go out progressively further in the future,

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1 again, there's an enormous amount of literature,  
2 particularly internationally on this. The meaning of  
3 a dose calculation as you go out beyond --  
4 particularly beyond about 10,000 years it really  
5 becomes a shaky calculation because you start getting  
6 out with the way the hazard and depleted uranium  
7 changes, you're getting out into the timeframes over  
8 which even human evolution occurs. And so you're not  
9 even calculating doses to human beings anymore. It  
10 just becomes progressively less sensible to even talk  
11 about doing peak dose calculations and we did a very  
12 careful study of this because we were forced to, for  
13 Yucca Mountain.

14 By the way, there's no reason that high-  
15 level waste has to go out to a million years other  
16 than a judge said so. There is no technical reason  
17 for that. We did some work on behalf of EPRI for  
18 Yucca Mountain in which we pushed back on that and  
19 gave the reasons why even going out to a million years  
20 was not such a good idea, and here we're talking about  
21 hazard increasing even a million years beyond that.  
22 So I would urge the Commission to be extremely careful  
23 about how they deal with it. You're going to leave a  
24 legacy of problems for people who are having to try to  
25 evaluate these things, even if there is no metric.

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1 DR. LESLIE: Thank you very much Matt.  
2 And I'm walking back to Bill Dornsife. And then I'll  
3 go to John and then Tom.

4 MR. DORNSIFE. This is Bill Dornsife,  
5 Waste Control Specialist. I certainly support a two-  
6 tier system. I think 1,000 years is fine for the  
7 compliance period. It's what we have at our site.  
8 And it probably doesn't -- if you have a good site, it  
9 probably doesn't matter much anyway because all you  
10 see are the long-lived mobile radionuclides that are  
11 peaking well beyond 1,000 years. And they become the  
12 problem. So the devil in the details is how you deal  
13 with those peaks out at a long time.

14 The first issue is how long out do you  
15 have to do? You know, our regulations require we go  
16 out forever. Forever is a long time. How do you  
17 assess those peaks? Well, maybe you put -- some  
18 regulators attempted to say, it's 25 mrem forever.  
19 Obviously, that's not a good way to go. It doesn't  
20 give you any sense of how the uncertainty changes.  
21 Maybe a good way to go is to have a sliding scale that  
22 says, okay, you know, at 10,000 years it's -- based on  
23 the uncertainty, it's this dose. And as you increase  
24 in time, the dose standard, if you want to use a dose  
25 standard, becomes greater.

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1           But I think you need to have some  
2           specificity of how those peaks are evaluated because  
3           that's what the decisions in terms of inventory limits  
4           are going to be for the licensees. And if you don't  
5           have specificity, you're going to have people hanging  
6           out there with all kind of crazy interpretations of  
7           this qualitative, you know, qualitative analysis and  
8           what it really means.

9           DR. LESLIE: Thank you Bill. And for  
10          those of you, a couple people have figured out that  
11          they want to ask a question, we have blank comment  
12          cards or just raise your hand. I'm trying to look  
13          around as I get these cards. So again, John and then  
14          Tom Magette.

15          JOHN TAUXE: John Tauxe, Neptune &  
16          Company. I would echo Matt Kozak's concern about the  
17          calculation of peak dose in the very distant future.  
18          The use of the word dose makes this very problematic  
19          for fairly obvious reasons. It seems to me that the  
20          question is dose to whom? After some period of time -  
21          - well for example, in the case of depleted uranium,  
22          the radioactivity of the material you've disposed  
23          increases for two million years. Well that's the age  
24          of our genus. And so it's dosed to some future  
25          hominid. We have no idea that future creatures of

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1 whatever sort would have the same sort of dose  
2 response. I mean, it just fades into uncertainty on a  
3 number of counts.

4 But, I would suggest the use of the word  
5 dose not be used, and I hate to suggest something more  
6 vague like peak impact because then -- but it's better  
7 than the word dose and then there's some  
8 interpretation and maybe that part needs to get  
9 hammered out more. But I really would suggest not  
10 using peak dose for the distant future.

11 DR. LESLIE: Thank you John. Tom.

12 MR. MAGETTE: Tom Magette with Energy  
13 Solutions. I will start by saying that we agree with  
14 the two-tiered approach John and Dan described that, I  
15 think, well. Not -- and Bill highlighted some key  
16 problems with the second part of that, which I also  
17 agree with. But, in our comment letter on the  
18 preliminary proposed rule language that we looked at  
19 before, we asked for and suggested a two-tiered  
20 approach with 1,000-year compliance period and then  
21 this more subjective analysis out to peak dose or if  
22 you call it something else, that would certainly be  
23 fine, too, in accordance with what John Tauxe just  
24 said.

25 But something like what the Commission

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1 asked to comment on, we agree with. I still think  
2 1,000 years is good for a rigid compliance period.  
3 You, Chris, have asked for a lot more here this  
4 morning. In your slides 23/24, you have posed a lot  
5 of more probing questions and I don't think I'm  
6 prepared off the top of my head to talk about the  
7 relative importance of physical versus behavioral dose  
8 receptor characteristics in 2.1 million years. I'm  
9 sure I could, but it might drive people from the room,  
10 so I won't.

11 The other thing I would point out though  
12 is you have articulated a terminology distinction that  
13 I think would be useful for all of us going forward.  
14 However, it's not what the SRM says. So if period of  
15 performance is going to mean the whole thing and long-  
16 term performance is going to mean the part that starts  
17 after the compliance period, somehow that has to be  
18 formally articulated and we all have to shake hands or  
19 something and agree that that's what we're going do.  
20 It's a good thing. But it's a little dangerous  
21 because right now we have two sets of terminology  
22 floating around in this meeting. One of which the  
23 Commission gave you and one of which you've proposed,  
24 so I would caution you that that could cause a  
25 problem. Thank you.

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1 DR. LESLIE: Tom that's a good point and I  
2 think that's -- if you looked up on the flip chart  
3 over here I was very careful in terms of how I framed  
4 it because I was reading right off the SRM. And thank  
5 you for that. Paul Black. Oh, sorry.

6 MR. BLACK: Paul Black with Neptune &  
7 Company. I like some of the comments that were made  
8 on the long-term issue. I have one other thought on  
9 the tier-one issue as well. There's a lot of work  
10 done these days thinking in terms of sustainability.  
11 And sustainability in most of the literature has three  
12 pillars. Those pillars are environment, which we deal  
13 with in a PA by doing our risk assessment in some  
14 form. The society, which you put up on your overhead.  
15 But there's one other pillar of sustainability and  
16 that's economics. And if we bring economics into  
17 play, I think that naturally we will be dropping down  
18 to a compliance period of, at most, 1,000 years. I  
19 think it's something that NRC should consider. So if  
20 you tie it to sustainability, I think that's a natural  
21 endpoint.

22 With the long-term issues we hear about  
23 2.1 million years for peak activity, really for  
24 depleted uranium. I think peak activity is a better  
25 term for us to be using than peak dose. One other

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1 side note on the dose issues there, or just long-term  
2 for DU, is peak activity is flat after 2.1 million  
3 years. For five billion years, where's peak dose? Do  
4 we really want to go out five billion years?

5 But I think peak activity is a very  
6 reasonable way to think about this. So the idea of  
7 two tiers is to stop -- is to consider economics as  
8 well for the first tier and for the second tier do  
9 what NRC's been doing and evaluate it qualitatively.  
10 What the Utah regulation talks about for the long-term  
11 is evaluate qualitatively with simulations. And  
12 although that sounds like a contradiction, I think  
13 actually it's a useful way to think about the problem.

14 DR. LESLIE: Thank you Paul.

15 MS. EDWARDS: Lisa Edwards with Electric  
16 Power Research Institute. I actually am not sure if  
17 this is the exact right place to comment. I generally  
18 agree with 1,000 years. And what I really wanted to  
19 comment about instead was the concept of intrusion,  
20 which you had up on the slide earlier. I'm not sure  
21 exactly which category it goes into. But here's my  
22 comment on intrusion. Does intrusion actually have to  
23 happen in the first 1,000 years?

24 I mean, what kind of always puts me in a  
25 spin cycle is that we -- in order to have the

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1 intrusions that we're describing, we have to  
2 simultaneously assume kind of the complete collapse of  
3 society in terms of knowledge of land use, records,  
4 permitting processes, testing requirements, etc., that  
5 are all heavily in play now and only tend to increase  
6 with time, not decrease. So that has to all go away  
7 at the same time that the technology to date can --  
8 for some pretty considerable depth and perhaps through  
9 some pretty significant boundaries has to still be  
10 present even though all these other things that, you  
11 know, tend to support the use of technology have  
12 disappeared. So, I guess it's a fundamental question.

13 I don't have an answer for you. But does intrusion -  
14 - do you have to assume that intrusion occurs in the  
15 first 1,000 years?

16 DR. LESLIE: Thank you Lisa. I'm going to  
17 be going to Sonny and then Roger. And name and  
18 affiliation.

19 MR. GOLDSTON: Sonny Goldston. I'm the  
20 chair of the Waste Management Working Group with the  
21 Energy Facility Contractors Operating Group. We  
22 represent over 100 companies that do work for the  
23 Department of Energy and try to assist the Department  
24 in various activities. One of the things we're doing  
25 is assisting them in the update and rewrite of DOE

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1 Order 435.1. And I just wanted to go on record to say  
2 that we do support the 1,000-year compliance period.  
3 We provided that recommendation to DOE and the two-  
4 tiered approach and justification for that. So thank  
5 you.

6 DR. LESLIE: Roger.

7 MR. SEITZ: Thank you. I'm Roger Seitz  
8 with the Savannah River National Laboratory and I just  
9 also like to support the idea of 1,000-year period of  
10 performance. It's been used effectively for a number  
11 of years within the DOE system. I do -- I share, and  
12 for many of the same reasons as the other speakers,  
13 but I also share the concern about how we would  
14 interpret a peak dose over any longer timeframes. And  
15 interpretation of those numbers is something that  
16 deserves a lot of attention in any guidance that's  
17 provided.

18 I had one comment on one of your slides,  
19 on Slide, I believe it's 21 under Part 20, it's  
20 indicated it's very short-lived waste. It's my  
21 understanding that there are exemptions granted under  
22 Part 20 that would allow disposal of depleted uranium  
23 at the Grandview Facility in Idaho. So I would  
24 consider that to be long-lived waste.

25 DR. LESLIE: Thank you. And I got a

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1 couple comment cards earlier today and I want to see  
2 if they want -- if either Billy Cox or Ward Brunkow  
3 wanted to weigh in yet. If not -- I'm looking at the  
4 floor right now. I don't -- oh, I see one more person  
5 who wants to talk now. On this topic. I'll give you  
6 one more chance.

7 MR. GREEVES: Thank you. John Greeves.  
8 I'm looking around the room. Are there any agreement  
9 state regulators in this room? You don't have to  
10 raise your hands if you don't want. My point is, it's  
11 terribly important that we talk about these things,  
12 but I think somehow an engagement with the people who  
13 actually are going to regulate this, so if there is  
14 anything you can do to set that dynamic up, because I  
15 can move off of my position but I'd like to understand  
16 what's going on in Texas, what's going on in Utah,  
17 elsewhere, so that we can have an informed discussion.  
18 I think we are missing, unless they are on the  
19 telephone, and we're missing an important dialogue.  
20 So if in the future you can set that up I'd highly  
21 appreciate it. And I'd love to talk to them myself  
22 and I'm willing to change my views but I need to  
23 understand, what is it that we can do to help you the  
24 agreement states, ease some burdens maybe you have and  
25 so, I'm hungry for that dialogue. So, it's a comment.

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1 DR. LESLIE: That's good John. And don't  
2 forget to fill out that meeting summary form and put  
3 that thought down because one of the things -- I know  
4 it's on the record -- but ways we can engage the  
5 affected parties is important. I mean, the Commission  
6 clearly gave these guys a big job to do. This is our  
7 first meeting. We've got more time and so the comment  
8 on what's the best vehicle is a valuable comment for  
9 Larry to think about.

10 MR. CAMPER: Yeah. For the record, Larry  
11 Camper. John your comment -- I was about to share  
12 this with you and kind of ask a question. Your  
13 comment feeds right into it.

14 A philosophical question, if you will. I  
15 had a conversation with one of the Commissioners in  
16 which there was a reservation expressed by this  
17 particular Commissioner to establish any number.  
18 There was a conversation with a Commissioner who  
19 expressed a reservation to establish any number. Any  
20 number. So with what you just said in terms of the  
21 flexibility for agreement states, let me ask you to  
22 think about the following.

23 I mean, our direction is to establish a  
24 two-tiered approach that establishes a compliance  
25 period that covers the reasonably foreseeable future.

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1 We've already talked a lot about what is a reasonably  
2 foreseeable future and some good comments have been  
3 made. I go down to a fourth bullet in the assignment  
4 that we got and we're to come up with a compatibility  
5 category for the elements of the revised rule, so  
6 forth and so on, that aligns the states and federal  
7 government on safety fundamentals.

8 One could ask the question, if having a  
9 compliant period is viewed as a safety fundamental,  
10 which I think most of us would agree upon, could that  
11 flexibility that's being alluded to in the fourth  
12 bullet have regulatory language that ultimately says  
13 that a compliance period will be established that  
14 covers the reasonably foreseeable future and the  
15 states decide what is a reasonably foreseeable future  
16 as compared to picking a number? Any number. Any  
17 reactions to that?

18 (Comment from audience without microphone)

19 MR. CAMPER: Okay. Well, give me some  
20 reactions to it.

21 DR. LESLIE: And I've got a couple hands  
22 raised. First hand was over here. I don't know his  
23 name. But, again, for the record, just name and  
24 organization.

25 MR. CARILLI: Yeah, my name's John Carilli

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1 and I'm with the US Department of Energy with the EEM.  
2 I agree with everything that's being said here but I  
3 want to emphasize, and if I'm wrong, Lisa, please  
4 forgive me. I don't hear very well. But I think what  
5 Ms. Edwards was talking about was about institutional  
6 control, and when you read some regulations there are  
7 some that say that institutional control can only be  
8 100 years or, you know, you have to extend it if you  
9 have reasonable effort in that. Oh, I'm sorry. I  
10 don't hear my own voice.

11 I would not recommend or I would recommend  
12 not having a hard number on how long institutional  
13 control can last. If the generator or the disposal  
14 facility can show that it lasts 1,000 years then, you  
15 know, let that be what the institutional control  
16 period could be. And I mean active institutional  
17 control rather than passive institutional control.

18 The other thing that I'd like to comment  
19 on is I kind of disagree with giving the states the  
20 authority to talk about how long their compliance  
21 period might be. We've already had a state that  
22 really pushed hard for a very, very long compliance  
23 period, an unreasonably long compliance period, in my  
24 opinion. So that's my standpoint.

25 DR. LESLIE: As I walk over to Tom. Can

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1 you -- people show me hands who also want to comment.

2 Okay. Sonny, Bill, John Greeves again.

3 MR. MAGETTE: Tom Magette, Energy  
4 Solutions. What I would say, Larry, is it's hard for  
5 me to envision how something can be fundamentally safe  
6 in one state and fundamentally safe in a different way  
7 in another state. Understanding certainly there are  
8 site-specific variations, not just in terms of geology  
9 and the characteristics of the site, but in the  
10 disposal methods. But if it's fundamental, either it  
11 is or it isn't. And the bottom line, I would see that  
12 there would be an opportunity for some unreasonable  
13 suggestions by some states, but that would be less of  
14 a concern. Just the variation that you would have to  
15 me goes completely counter to what the Commission  
16 directed in the SRM. Bill made the point earlier  
17 about consistency among the states and I think that  
18 would be important. So I would say, no, having  
19 different state thresholds for a compliance period is  
20 not a sound approach and is not consistent with the  
21 direction from the Commission and I would certainly  
22 suggest I don't think it's a good way to go.

23 DR. LESLIE: Thank you Tom. I'm going to  
24 get Bill Dornsife, Sonny Goldston and then John  
25 Greeves. And then I'll probably -- okay. Got a

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1 couple more hands but I'll get Bill first.

2 MR. DORNSIFE: Bill Dornsife, Waste  
3 Control Specialist. I mean, nobody's mentioned this  
4 yet but, you know, one of the things that's pushing  
5 this is site-specific performance assessment. And  
6 everybody says, let's do it like DOE does it. Now the  
7 reason the DOE process works is because there's one  
8 regulator and they all use the same standards. So if  
9 you don't have that as part of the regulatory system  
10 you lose confidence in that system, let's face it.  
11 So, you know, to not have to make all these things  
12 strictly compatible, just doesn't make any sense.  
13 Particularly, as John said, if you can't get these  
14 folks to the table to talk to them.

15 DR. LESLIE: Thank you Bill. Sonny.

16 MR. GOLSTON: I think Bill took the words  
17 right out of my mouth. That's exactly what I was  
18 going to say. Site-specific performance assessment is  
19 key and critical to setting your waste acceptance  
20 criteria in your disposal site and you need to have a  
21 standard period of compliance to be able to make it  
22 work from site to site to site and advising DOE how  
23 the F Tank Farm works with, I believe five operating  
24 sites and three more that are coming on line and you  
25 can't say "Well over here we're going to use a million

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1 years and other there we're going to use 25 years and  
2 50 years and over here we're going to use 1,000  
3 years." That just doesn't work. You can't come up  
4 with a basis for it either.

5 DR. LESLIE: Thank you. And John Greeves.

6 I'm going to come to you Paul Black. And then I'm  
7 going to go to the telephones so that people have a  
8 chance to weigh in. That will give me a chance to  
9 refocus on who else here in the audience in Phoenix  
10 might have some comments. So, John.

11 MR. GREEVES: Thank you. Larry, I been  
12 trying to answer your question based on my earlier  
13 statement and it really emphatically says we've got to  
14 engage the people that are going to regulate this. I  
15 sat in that chair and there's a need for them to  
16 express themselves. So, I'm not dug in on what I'm  
17 saying here today. I need to hear from them. But the  
18 SRM says establish a compliance period. I think you  
19 guys have got to give a number. And if the states are  
20 having trouble with that, I want to understand what  
21 their trouble is.

22 And Larry, maybe you can go out of bounds  
23 and go to item four -- I was going to go to where you  
24 went to when item four came up. But the two really do  
25 go hand in glove. I need to -- I think we need to

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1 hear what's the states that are implementing this view  
2 on item four and how does it color item one. So I  
3 look forward to some future venue where -- and I want  
4 to help but having sat in that chair and done  
5 regulatory process and made hard decisions, I want to  
6 know what's on their mind and how we can help them be  
7 successful.

8 DR. LESLIE: Thank you John.

9 MR. BLACK: Thanks. Paul Black with  
10 Neptune & Company. So I think what Larry has to say  
11 is interesting. Maybe you can have a little bit of  
12 both that you do actually set a compliance limit out  
13 there, but we have a couple of issues, I think that  
14 are more economic-related, to deal with. And one is  
15 budget issues in the country at the moment. But the  
16 other one is optimal use of our disposal systems,  
17 which I think is probably more important. And DOE has  
18 its "as low as reasonably achievable process", ALARA,  
19 which really opens the door to doing some form of  
20 decision analyses. And if instead we take a decision  
21 risk-informed approach to solving our problems, bring  
22 economics into play, I think we'll find that 1,000  
23 years is well beyond any limit that we're likely to  
24 want to consider, and if we apply decision analyses  
25 properly and bring economics in here, we will make

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1 much better use of our disposal facilities than we're  
2 currently doing.

3 Right now we have an awful lot of  
4 conservatism built-in, in the way we build performance  
5 assessments, the way we look at preferably peak of the  
6 means. Also some people were looking at mean of peaks  
7 this week, which is astonishing. But even peak of the  
8 means is extremely conservative. It means we're  
9 picking the worst year and treating every year  
10 equally. If we do an economic analysis, we don't  
11 treat every year equally, we average out across time  
12 and we take much greater advantage of the great  
13 disposal facilities that we have. I think it's  
14 something that NRC should consider, as well as DOE.

15 DR. LESLIE: Thanks. Okay. We're going  
16 to go to the phones first to see if we have questions  
17 on this topic.

18 OPERATOR: Thank you. Once again, to ask  
19 a question press \*1. One moment.

20 DR. LESLIE: Okay. Are there --

21 OPERATOR: There are no questions.

22 DR. LESLIE: Okay. Thank you.

23 OPERATOR: I'm sorry. We did have a  
24 question come in. One moment.

25 DR. LESLIE: Okay. Thank you.

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1 OPEATOR: Jim, your line is open.

2 MR. LIEBERMAN: This is Jim Lieberman of  
3 Talisman International. And (inaudible). I think  
4 that position would be a disaster. Because I think  
5 compliance really needs to be (inaudible).

6 DR. LESLIE: Again. We're having trouble  
7 hearing the person who actually -- I think that was  
8 Jim Lieberman.

9 OPERATOR: Right.

10 DR. LESLIE: So Jim, if you could really  
11 speak right into the phone and give it a hearty --

12 MR. LIEBERMAN: Okay. Well after Larry  
13 Camper's comment, I think that that position would be  
14 a disaster because I think that a period of compliance  
15 needs to be (inaudible) for compatibility to have a  
16 (inaudible) consistency because of fundamental  
17 (inaudible). Did you hear that?

18 DR. LESLIE: Thank you. In fact the  
19 question was asked in the audience by John Greeves,  
20 whether they could send the questions in over the  
21 internet. In fact, I think we have some now from the  
22 Webinar that maybe Chris will be able to pull up and -  
23 - there we go. We're going to get the questions on  
24 the screen here so that people don't have to listen  
25 too intently as Chris tries to explain it. Holy Moly.

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1 Okay. We're past that.

2 MR. GROSSMAN: Do you want me to read  
3 these into the record?

4 DR. LESLIE: I would like you to go  
5 forward at this point. A lot of that is before the  
6 time when we got our act together here. Okay. So one  
7 of the comments is, "People, you got to realize there  
8 are other people out there, so really hold the mic  
9 close for the people here in Phoenix, you know. It's  
10 your best friend." Okay. Yeah, and maybe if you want  
11 to read out loud Janet Schlueter's [NEI] comment  
12 coming in on the Webinar. Chris Grossman.

13 MR. GROSSMAN: Okay. On behalf of Jane  
14 Schlueter, we have a question on the Webinar.  
15 Actually, this is a statement not a question.  
16 "Presentations at the CRCPD and OAS [Organization of  
17 Agreement States] meetings in May and August are  
18 helpful but not adequate. NRC should engage the  
19 regulators in a workshop format such as the well-  
20 organized one being held today. May, if not most,  
21 agreement states, AS, do not have authority and funds  
22 to travel to WM'12 and other such meeting so NRC may  
23 need to help in this regard."

24 DR. LESLIE: Thank you Janet, for that  
25 comment.

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1 MR. GROSSMAN: And then -- do you want me  
2 to read Jim -- on behalf of Jim Lieberman. "In  
3 response to what Larry just raised, to leave it up to  
4 the states would be a disaster. The time period for  
5 compliance should be a matter of compatibility so that  
6 there is a nationwide consistency because the  
7 compliance period is a safety fundamental, in my view.  
8 Jim Lieberman, Talisman International."

9 DR. LESLIE: Okay. Thank you Chris for  
10 taking those questions and comments from the Webinar.  
11 I'm going to look around the room right now to see if  
12 there are any other people who want to -- have such a  
13 burning thought for this topic. As you well know, we  
14 will be engaging the public again. I think this was a  
15 good way to kind of tee off the subject, and we were  
16 supposed to break at 10:30 for -- let me see how many  
17 minutes we were supposed to break for. For 20, but  
18 I'm going to ask your indulgence because a lot of you  
19 got to leave and we want to get your comments. I'm  
20 going to ask for a 15 minute break. I will make my  
21 watch right now at 10:35 and then -- so that means  
22 being back here at 10:50. So we'll break for a 15  
23 minute break and we'll come back to Chris' rest of it,  
24 and we'll have a question for Mike Lee.

25 (Whereupon the proceedings went off the

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1 record at 10:40 a.m. and went back on the record at  
2 10:56 p.m.)

3 DR. LEE: Hi, this is Mike Lee with the  
4 NRC Staff. Just a couple things. One, the staff has  
5 a basis for the 20,000 years. That was a white paper.  
6 It's available on the web. You may or may not agree  
7 with it, but it's there. And I'll just say that, you  
8 know, as we explore these issues over the next several  
9 weeks and months, we'll be returning to that technical  
10 position -- or technical basis and looking at it once  
11 again.

12 Secondly, in reference to the new end-  
13 year calculation in Yucca Mountain or for high-level  
14 waste repository, the National Academy weighed in on  
15 that with a report. So again, there's a basis for  
16 that number. I'm not taking a position on it. It's  
17 out there. You folks ought to read that Academy  
18 report and get a feel for why they felt the way they  
19 felt. It's just another data point in this  
20 interesting debate.

21 Lastly, if you go back to the literature,  
22 I was the guy that put together that table that's  
23 referenced up on the slides regarding the times of  
24 compliance. And Dr. Kozak has pointed this out, the  
25 literature is all over the place on what the time

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1 should be or what you can do and what you can't do.  
2 And if you look at the literature, you'll see guys  
3 like Helton that have come up with suggestions on how  
4 to have better confidence in those numbers. Again,  
5 there's -- the literature's all over the globe. So,  
6 as Bret has pointed out, it would be very useful for  
7 folks to say if we like a number, why you like that  
8 number. So, thank you.

9 DR. LESLIE: Okay. And I've got one more  
10 thing. Actually for those on the phone, one of --  
11 well some of the people commented on this, that -- and  
12 I put this into the parking lot and it's something  
13 we'll come back to at the end of day. Which is what's  
14 the appropriate vehicle for NRC to get that engagement  
15 to have that good discussion on the compatibility?  
16 And I probably put capability up there. But it was  
17 compatibility, which is what I was after. And  
18 Leonard, identify yourself and -- during the break  
19 Leonard had a suggestion, so, here you go.

20 MR. SLOSKI: This came up several times  
21 not just on compati- -- sorry. Leonard Sloski. I'm  
22 the Executive Director of the Rocky Mountain Compact  
23 and Chair of the Low-Level Waste Forum. And since  
24 it's come up several times in terms of interacting  
25 with the host state regulators, I just wanted to

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1 mention that at our April meeting of the forum we're  
2 going to take up this issue of how to best interact  
3 with NRC on this matter, because it's obviously of  
4 keen interest to the states that regulate the sites.  
5 And I think it's likely that the forum will probably  
6 establish a working group to work on this issue and  
7 all the various subparts of it with NRC.

8 DR. LESLIE: Thank you, Leonard. All  
9 right. With that, I think I'm going to hand it back  
10 over to Chris Grossman to finish going through his  
11 presentation, which is part of Session I.

12 MR. GROSSMAN: Thank you Bret. Just  
13 before I get started, very quickly, Mike mentioned the  
14 staff's technical analyses. I maybe didn't point this  
15 out clearly enough. I am back on Slide 19 for those  
16 on-line. The analysis is in this document as this  
17 cryptic number at the bottom. This is our agency-wide  
18 document access and management system accession  
19 number, commonly known as ADAMS. So if you go to our  
20 ADAMS system you can find that analyses there, if  
21 you're interested in that.

22 Okay. So we finished -- or we've covered  
23 two of the four items that the Commission provided a  
24 direction to the staff on and we'll cover the two  
25 remaining this morning. I'm on Slide 26 for those on-

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1 line. The Commission directed the staff to consider  
2 flexibility to establish site-specific waste  
3 acceptance criteria based on the results of the site's  
4 performance assessment and intruder assessment.

5 For a little context, Part 61 specifies  
6 what I'll call a general waste acceptance criteria in  
7 Section 61.55, which is the waste classification  
8 system through 61.57. Section 61.56 involves waste  
9 characteristics and 61.57 deals with labeling. It  
10 also, Section 61.58 currently allows requests for  
11 alternative waste classification methods. I will note  
12 that this is a site-specific exemption and our OGC  
13 [Office of the General Counsel] has informed us this  
14 is not an appropriate vehicle for regulating the  
15 entire system. This is meant to be an exemption  
16 clause and so it's treated that way.

17 I'll also note that from a compatibility  
18 standpoint, the Section 61.58 is health and safety.  
19 And I'll get into these categories a little bit later.  
20 It's a lengthy arcane topic itself. But what you need  
21 to know is basically that state adoption is not  
22 required for that category. And so what we find is  
23 some states have adopted. Some states have not --  
24 elected not to adopt that exemption.

25 And so what we're looking for is feedback

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1 basically on how the Commission should define this in  
2 its regulation. Should it be an either/or: the  
3 generic 61.55 classification system or a site-  
4 specific? Or are there other ways that the Commission  
5 could define this? And so that's all I have on this.

6 I know that there are waste management organizations  
7 in the country that have a lot of extensive experience  
8 with developing site-specific waste acceptance  
9 criteria. And so we're looking forward to hearing and  
10 receiving input from them as we go forward on this.  
11 And so with that the Commission is seeking public  
12 feedback on adding flexibility to establish site-  
13 specific WAC's.

14 On Slide 29, this issue of compatibility,  
15 this is the fourth issue that the Commission directed  
16 the staff to consider. And the direction was that the  
17 category for the site-specific analyses and site-  
18 specific waste acceptance criteria requirements should  
19 balance -- should provide the states with flexibility,  
20 excuse me, to determine how to implement these  
21 requirements and ensure that there's alignment between  
22 the states and the federal government on safety  
23 fundamentals. And so they've kind of listed here two  
24 considerations that they want further explored and how  
25 the Commission should go about balancing those as it

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1 sets out compatibility.

2 And so compatibility can be a rather  
3 complicated topic and so I'll go into it a little bit  
4 to give you some background on what that means and the  
5 context here. Compatibility -- the Agreement States  
6 program was set up through Section 274 of the Atomic  
7 Energy Act and it promotes an orderly regulatory  
8 pattern in which the NRC enters into an agreement with  
9 a state to discontinue its authority and then the  
10 state assumes that authority and regulation. The NRC  
11 does maintain oversight in evaluating the performance  
12 of the states to -- in terms of their fulfillment of  
13 the agreement.

14 So there are one, two, three, four, five,  
15 six categories that a portion of each regulation can  
16 be assigned. And so we do this on a section-by-  
17 section basis. It's not just Part 61 as a category.  
18 It's Section 61.55 is a category, so forth. So  
19 there's a lot of discretization here that goes on as  
20 we consider these categories. But the six categories  
21 are essentially broken down into three super  
22 categories.

23 Those that are essential identical, and  
24 that's the A and B compatibility categories.  
25 Compatibility A and B, these are typically basic

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1 standards and related definitions. And compatibility  
2 B being issues with trans-boundary implications. And  
3 so if there are issues with differences between the  
4 states then that might be something that would fall  
5 into a B category as opposed to an A. But essentially  
6 they require identical regulations on the state that  
7 are compatible with the NRC Regulations.

8 The second super category are essential  
9 objective categories. And here the states need  
10 regulations that are compatible that meet the  
11 essential objectives of the federal regulation. And  
12 we have two categories, C and H&S which stands for  
13 Health and Safety. Compatibility C are sections of  
14 the regulation that are required to avoid conflicts,  
15 duplications or gaps in the regulatory structure. And  
16 Health and Safety is something that is a particular  
17 health and safety significance. Here the states can  
18 adopt them but they can be more restrictive in these  
19 cases too.

20 And then the final super category is other  
21 categories. There's compatibility level D and then  
22 compatibility level NRC. Compatibility D, there is no  
23 requirement for the compatibility since states do not  
24 have to adopt and then NRC are portions of the  
25 regulations that are not relinquished to the states.

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1           So the Commission is seeking your feedback  
2 on a compatibility category for the elements of the  
3 revised rule that establish the requirements of the  
4 site-specific performance assessments and the  
5 development of the site-specific waste acceptance  
6 criteria. They seek to balance alignment between  
7 states and the federal government on the safety  
8 fundamentals and provide states with the flexibility  
9 to determine how to implement these safety  
10 requirements. And with that, then, I'll turn it back  
11 over to Bret.

12           DR. LESLIE: Thank you Chris. And that's  
13 a good way to kind of lay the framework out for the  
14 last two areas that the Commission guided the staff on  
15 in the Staff Requirements Memorandum. And again, just  
16 for me, so that I can get the flow of the meeting, can  
17 you raise your hands if you think you're going to have  
18 specific comments on the flexibility on site-specific  
19 waste acceptance criteria. So I'm seeing four, about.  
20 And how about the compatibility? Okay. All right.  
21 So for the first topic, and what we'll talk about is -  
22 - can you go back to the slide, Chris, that would be  
23 the WAC -- the waste accept- -- oh, you got it up  
24 there.

25           MR. GROSSMAN: It's up.

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1 DR. LESLIE: All right. So Tom, since I  
2 saw your hand first, and can the other people who want  
3 to talk about this topic keep their hands up for a  
4 second so I can organize? And I'll let Tom go ahead  
5 and identify yourself. Again, about three minutes.

6 MR. MAGETTE: I'm Tom Magette with Energy  
7 Solutions. My comment on this point is  
8 uncharacteristically short. I would simply say that  
9 in response to the Commission's request that you seek  
10 feedback on this, we are in favor -- highly in favor  
11 of the notion of the site-specific WAC driven by the  
12 PA.

13 DR. LESLIE: And Tom I'm going to put you  
14 on the spot because you did such a short answer, why?

15 MR. MAGETTE: Well, I think if I read the  
16 SRM and if I read the COM that led to the SRM and I  
17 look at a lot of the comments that you got, it's  
18 always the question and answer part that gets long.  
19 And if I read the comments that you all got on the  
20 preliminary proposed rulemaking language and listen to  
21 a lot of the comments that are made in these various  
22 meetings, there are certain issues with Part 61.

23 Particularly Section 61.55 and the tables,  
24 where the detailed aspects of the rule and the generic  
25 aspects of the rule cause complications. It goes to

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1 Paul's comment about how are we going to effectively  
2 use a limited set of disposal site resources that we  
3 have in this country. And if you compare that to what  
4 Rick Jacobi said in his lecture earlier this week in  
5 which highlighted what I think is a very legitimate  
6 point, that we're not likely to have anymore any time  
7 soon or ever maybe, but certainly not any time soon.  
8 But fixing that problem and allowing us to the maximum  
9 extent that we can safely use those disposal resources  
10 is a very important point that being held to the  
11 criteria in those tables, which go well beyond what is  
12 necessary to, in fact, regulate what we can safely  
13 dispose of without having to go to legislative  
14 remedies, this is the way to do that. Therefore, it's  
15 very important.

16 DR. LESLIE: Thank you very much Tom.  
17 Sorry for putting you on the spot, but that helps us.  
18 I've got Bill Dornsife, John Greeves, Billy Cox and  
19 there was probably one other person who raised their  
20 hand. Okay. So I'm going to Bill Dornsife first and  
21 then I'll pass it along.

22 MR. DORNSIFE: Well, on these two issues  
23 I'm somewhat conflicted having been a state regulator  
24 and now having a different hat, obviously. But on the  
25 issue of the Part 61 classification system, I think

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1 politically it's going to be difficult if not  
2 impossible to change those limits because it's  
3 memorialized in federal law. Each and every state has  
4 a law that memorializes it. And what if -- how long  
5 is it going to take, first of all, to get all those  
6 laws changed? And secondly, what if the state doesn't  
7 change the law? Is NRC going to pull their agreement?

8 Do they have the fortitude to do that?

9 We know from experience that's not  
10 something that's taken lightly. So, you know, let's  
11 keep the classification system. But the way we get  
12 around that is to use Section 61.58 and expand it. If  
13 you have a waste stream that is outside of the  
14 classification system, you do a site-specific  
15 performance assessment that shows that, indeed, that  
16 waste could be acceptable for disposal. Now, you  
17 know, I think the problem lies in how do you establish  
18 regulations to do that?

19 You know, each waste stream is going to  
20 have different issues. For example, you know, if  
21 you're looking at greater-than-Class C. Somebody  
22 wants to dispose greater-than-Class C. Is it required  
23 to be deeper? If you're looking at greater-than-Class  
24 C; if you want to dispose of depleted uranium. What  
25 do you do? You know, about the long-term peak. How

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1 do you address that? So, you know, the real issue is,  
2 you know, how specific and how flexible and how  
3 compatible this rule is going to be in terms of  
4 implementation.

5 And in terms of compatibility I believe  
6 everything needs to be strictly compatible. And the  
7 reason being is really NRC credibility. NRC delegates  
8 this responsibility to the Agreement States and I just  
9 can't see NRC saying this is a credible regulatory  
10 program if you have four different states doing  
11 different things.

12 DR. LESLIE: Thank you Bill. John.

13 MR. GREEVES: John Greeves, Talisman  
14 International. A couple of things. One, other  
15 speakers have identified do not change those tables,  
16 do not touch those tables. It's just too big a lift,  
17 so, but I think the Commission frankly lines up with  
18 comments that Jim Lieberman and I provided over a year  
19 ago asking you to consider a path of having the option  
20 for waste acceptance procedure. So it's not either/or  
21 by the way, it's both. I think, and again, I haven't  
22 had a chance to have a dialogue with the agreement  
23 states, I think they need to have both.

24 The tables, which are generic, are nice  
25 boundary conditions by the way. It defines what's

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1 greater-than-Class C and what's not. So keep them.  
2 But if you -- you're going to do a performance  
3 assessment, which the rules are going to require, it's  
4 a natural step to go to the waste acceptance criteria.

5 Beyond that, so I support using waste  
6 acceptance criteria and I would give the regulator the  
7 flexibility to keep the table. And they should keep  
8 the tables because they're going to have to honor that  
9 classification system and at the same time, direct the  
10 waste acceptance criteria approach, go forward and if  
11 there's any disagreement between some generic  
12 concentration levels and a very site-specific waste  
13 acceptance criteria, which rolls out all those metrics  
14 that Chris had earlier, then the waste acceptance  
15 criteria trumps any direction you get out of the  
16 concentration tables. So, that's my three minutes.

17 DR. LESLIE: Thank you John. And now  
18 Billy.

19 MR. COX: Billy Cox of the Electric Power  
20 Research Institute. Safe disposal, flexible disposal  
21 and access to disposal are priority for our members.  
22 And the utility industry generates a significant  
23 amount of the commercial low-level radioactive waste  
24 in the country, so standardization is important. We  
25 need a level playing field. At least a level playing

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1 field to start from. And this is a point that I  
2 brought up in the roundtable discussion at the Health  
3 Physics Society on Waste. Because the reason is,  
4 without tables to start from it is chaos. Nobody  
5 knows what numbers we should be using and depending on  
6 where you ship to or where you're going to ship to,  
7 it's very hard to do business without some baseline to  
8 start from.

9 I mean, we segregate waste -- the  
10 utilities segregate waste as they go along based on  
11 the values that are up in Part 61 now, because that's  
12 good business. So it's important that we start from a  
13 level playing field. That said, and I would add to  
14 that, that we would also like to see new dose factors  
15 in the tables because we -- if we believe that the  
16 dose factors are more risk-informed then that's what  
17 should be in the tables. That said, we also believe  
18 that site-specific performance assessment criteria  
19 with performance objectives that leads to site-  
20 specific waste acceptance criteria is an alternative  
21 option and we should have both.

22 DR. LESLIE: Thank you Billy. I think I  
23 saw Paul Black's hand up. And are there other people  
24 who are going to be wanting -- okay.

25 MR. BLACK: Thanks. Paul Black, Neptune &

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1 Company. I have a couple of comments. Two different  
2 things here. And one is agreeing with Tom with  
3 everything he said, except one thing. And that's the  
4 intruder assessment. I'm not sure what role the  
5 intruder assessment plays in a risk-informed decision  
6 making process unless you are actually dealing with a  
7 site where intruders are likely. Which goes to Lisa's  
8 comment earlier as well. There are sites out in the  
9 west where intrusion is so unlikely with the  
10 mechanisms, with the default scenarios that we have in  
11 our guidance, that it does not make sense to evaluate  
12 them in that way. If we're going to do site-specific  
13 analyses, that should be site-specific analyses for  
14 receptors that in some sense, bearing in mind that all  
15 models are wrong and we hope some are useful, but in  
16 that context we should be doing site-specific  
17 receptors and projecting them out for hopefully no  
18 longer than 1,000 years. So the intruder needs to be  
19 dealt with somehow and preferably in my mind,  
20 eliminated. And we go to just site-specific  
21 scenarios.

22 The other issue on waste classification,  
23 I'll agree mostly with that. Billy had said that, I  
24 think, that the PA should ultimately dominate. Tables  
25 are useful. They're useful to generators, and so from

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1 that perspective having waste acceptance criteria that  
2 are generic can be useful. But if you've got a site  
3 that's much better, that can perform much better than  
4 those criteria, then you need to take advantage of  
5 that and the PA needs to dominate. If it's a risk  
6 based PA it will. And that's what needs to happen.

7 DR. LESLIE: Okay. Lisa before I get to  
8 you, Chris, do we have some people weighing it? Not  
9 that I need them right now, but --

10 MR. GROSSMAN: We do.

11 DR. LESLIE: Okay. So after Lisa, we'll  
12 take some of the questions from the Webinar and then  
13 go to the phones and come back here to see if there's  
14 anyone else. Lisa.

15 MS. EDWARDS: Lisa Edwards with Electric  
16 Power Research Institute. I agree very much with the  
17 last speaker. And I would just add to Billy's  
18 comments that the retention of the tables in the  
19 regulation itself is important because some nuclear  
20 power plants may face scenarios where they must store  
21 waste. And if they do not have access to a disposal  
22 site or they don't choose to utilize the access to an  
23 existing disposal site and for economic reasons or  
24 because of lack of disposal are storing on-site, they  
25 need to have a way to evaluate the waste that they're

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1 putting into storage, and those classification tables  
2 are one component of how to do that. There are other  
3 components as well. Particularly the dose rate and  
4 the waste form. But part of storing waste is putting  
5 it in a form that you think will be acceptable for  
6 disposal at later time. So having some generic basis  
7 by which they can perform that evaluation is  
8 important.

9 What I would also add to John's comment,  
10 is that while I believe the table should be retained,  
11 I think that they should be retained with updated dose  
12 conversion factors that determine what those actual  
13 limits are for each nuclide. So you could retain the  
14 exact same methodology that was used to develop them  
15 and just change the algorithms to update it with a new  
16 dose conversation factor. Which is not always making  
17 it more relaxed. In some cases, and certainly in  
18 future cases, it could make it more restrictive.

19 DR. LESLIE: Thank you Lisa. And Chris,  
20 do you want to read into record a few of those  
21 comments up there?

22 MR. GROSSMAN: Sure. We have one question  
23 on where the slides are for today's presentation. I  
24 think we can provide that. I'll do that.

25 DR. LESLIE: I'll do that right now.

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1 MR. GROSSMAN: Okay.

2 DR. LESLIE: For those of you who are on  
3 the Webinar and/or on the phone, you can actually get  
4 a copy of the slides via the web at [www.nrc.gov](http://www.nrc.gov). And  
5 along the top banner there's a radioactive waste  
6 button, basically. And on the -- if you touch that  
7 and you drop down, you'll see low-level radioactive  
8 waste disposal. Click on that and there'll be right  
9 near the top something that says "2012 Workshop" and  
10 if you click on that, you'll actually get the slides.  
11 So, thanks again for that question.

12 MR. GROSSMAN: Okay then, Jim Lieberman  
13 had a question. Let me get it here. Okay. "What does  
14 the staff view as safety fundamentals in the context  
15 of a PA and site-specific WAC's approach similar to  
16 the DOE approach? To me, the approach itself, PA and  
17 site-specific WAC's, is a safety fundamental and  
18 therefore is a provision that states must have. What  
19 does the staff view as safety fundamentals in the  
20 context of a PA and site-specific WAC's approach  
21 similar to the" -- it looks like it's repeating. I  
22 apologize.

23 (Audience comments off the microphone)

24 MR. GROSSMAN: Okay. "To me the approach  
25 itself, PA and site-specific WAC's, is a safety

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1 fundamental matter with trans-boundary implications,  
2 given the interstate commerce we have today in waste  
3 disposal. Therefore, the WAC provisions should be a  
4 Level B as a provision that states must have." Jim  
5 Lieberman, Talisman. Okay. That does it.

6 DR. LESLIE: All right. So I got a couple  
7 hands. I figured I might. So I'm going to go to John  
8 Greeves first because his hand rose up first and then  
9 I'm going to go behind him. And then to Bill  
10 Dornsife.

11 MR. GREEVES: Larry, this is feeling like  
12 it should be a roundtable discussion, actually. My  
13 comment is there's some tension over this table  
14 business. My colleagues have expressed an interest in  
15 recalculating those numbers in those tables. In the  
16 sense of debate/conversation, I invite them to go  
17 ahead and do that. Publish a paper. Go into those --  
18 tables are fixed. There are so many radionuclides in  
19 their concentration. I think if the industry comes  
20 along and produces a paper and says, if you use  
21 modern, which is what their comment is, modern dose  
22 limits, here's the way those numbers would be changed.  
23 I think that would be a valuable contribution. But  
24 at the moment I think the tables stand because they're  
25 in legislation and we can all be informed by what

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1 those differences are and maybe they're used on a  
2 site-specific basis or a guidance document. So I, you  
3 know, that's really a comment to the industry. Let's  
4 see what those numbers are. And then the staff may  
5 choose to see if they agree with that. But you could  
6 do that at a waste management conf- -- or anywhere  
7 really and I'd enjoy seeing that.

8 DR. LESLIE: Okay. I got Larry. Okay.  
9 I'll get back to you. I'm going to go to Larry Camper  
10 first. John Carilli, Bill Dornsife and then Billy  
11 Cox. You can tell us where we can find that.

12 MR. CAMPER: Thank you Bret. The comments  
13 about retaining the existing tables in Section 61.55.  
14 Those are all good comments. We understand your  
15 position. I do want to clarify that the staff does  
16 not interpret this direction from the Commission to  
17 abandon those tables. In fact, I would point out, as  
18 I said in some of my opening remarks, that we have an  
19 assignment that came out of the SRM for SECY-08-0147  
20 to risk-inform the waste classification tables using  
21 the lasted ICRP methodologies and that type of thing.

22 So, and you might recall so, that I  
23 pointed out that that task and anything we might do  
24 under the SECY-10-0165 paper, that was the options  
25 paper, would be done post the site-specific analyses

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1 rulemaking. Rather, we interpret this where it says  
2 "on adding flexibility" to most likely be an "or"  
3 provision in Part 61.

4 One can use the tables or one can use the  
5 waste class of the WAC for a given site.

6 DR. LESLIE: Thank you Larry. And John  
7 Carilli, you still have a comment?

8 MR. CARILLI: Okay. I'm probably going to  
9 take a lot of pain for this, but I don't necessarily  
10 agree that the tables should be left alone. There are  
11 some really -- there are some very interesting things  
12 that take place in those tables, especially when you  
13 get with the long-lived isotopes that are out there.  
14 And then you go down to step number six, I believe it  
15 is, where it says if it's not in Tables 1 or 2 then  
16 it's automatically a Class A waste and I don't think  
17 that's really a very good idea to keep that.

18 Now if you go to the site-specific  
19 performance assessment in those cases, I agree, that's  
20 probably where it should -- those isotopes should be  
21 addressed.

22 DR. LESLIE: Bill.

23 MR. DORNIFE: Since we've jumped into  
24 intruders I need to make some comments and also since  
25 we're probably leaving the technical issue, I need to

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1 make some additional comments.

2 First of all, you know, with the intruder  
3 there really was no discussion of the performance  
4 objectives -- the new performance objective that was  
5 in the, you know, the draft proposed that we  
6 originally saw. Some states are using 25 millirem as  
7 an intruder criteria. So at the very least, there  
8 ought to be some specification, if we're going to look  
9 at intruders, of what that dose standard needs to be.  
10 Now the more I work with some of this crazy nonsense  
11 about intruders, I mean, first of all NRC doesn't have  
12 any standard criteria of how you assess. Yeah, they  
13 have guidance, you know. For example, they don't have  
14 any guidance to where you put the intruder well. So  
15 states are doing all kind of crazy things with where  
16 the intruder well goes. You know, you really have to  
17 sharpen the criteria of how you assess intruders. And  
18 I think, looking at a lot of intrusion scenarios in  
19 our performance assessment, I think the best way to  
20 deal with intruders is to look at them  
21 probabilistically. You can put probabilistic numbers  
22 on some of these things.

23 Like for example, in our PA our regulator  
24 made us assume we had the worst case waste, you know,  
25 stacked on top of one another and it was cesium seal

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1 sources and somebody drilled through all those  
2 sources. And somebody looked at it and the probability  
3 of that was like ten to the minus eight. But that's  
4 our worst case intruder scenario. Now does that make  
5 sense? Of course not.

6 Now, if you start using probabilistic  
7 output, the problem you're going to run into is how do  
8 people interpret that? The public doesn't understand  
9 probabilistic output, obviously. But how will the  
10 regulator interpret those numbers?

11 The other technical issue that I think you  
12 need to do something with is these mobile long-lived  
13 radionuclides that dominate the peak doses. They're  
14 fictitious numbers for the most part. Carbon-14,  
15 iodine-129 and technetium-99 are typically MDA's  
16 [minimum detectable activity] in the manifest. Now,  
17 you know, if we want a realistic performance  
18 assessment and we're using numbers that are orders of  
19 magnitude higher than what they really are, why are we  
20 doing it?

21 DR. LESLIE: And that was Bill Dornsife  
22 from WCS. Again, can I ask for people to hold the  
23 side conversations down? It's distracting the people  
24 around and it's also causing me a little anxiety.  
25 Anyway. Billy did you --

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1 MR. COX: Thanks.

2 DR. LESLIE: --and then I'm going to --

3 MR. COX: Billy Cox with Electric Power  
4 Research Institute. We actually have a publicly  
5 available report on epri.com. The report number is  
6 1021098. You can punch that in the search bar and it  
7 will come right up and maybe some other ones that show  
8 up as references. And we did a dose factor evaluation  
9 and came up with a comparison of what the numbers  
10 were. And as Lisa mentioned, some went up and some  
11 went down. So, but it is more dose or risk-informed  
12 based on the current science.

13 And the one other thing that I would bring  
14 into this conversation, only because it's something  
15 that we need to be thinking about on the front end of  
16 this, and that has to do with what are we really  
17 putting in the disposal sites relative to the Part 61  
18 tables? And there's an inherent error in NUREG/BR-02-  
19 04 and instructions for manifesting that has us report  
20 LLD [lower limit of detection] numbers as real values.  
21 So in environmental space we tend not to do that.  
22 Negative values are statistically valid. Now I'm not  
23 saying we use negative values, but we're required by  
24 Part 20 to analyze for and report the nuclides. I'm  
25 not sure that we're required by Part 20 to manifest

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1 the LLD values as totals. Now maybe we need to look  
2 at what the LLD values are, but it's something that we  
3 should consider because we've also studied the fact  
4 that we're significantly overestimating the amount of  
5 carbon-14 and iodine-129 that we put in disposal sites  
6 and technetium-99.

7 DR. LESLIE: Thank you Billy. And I think  
8 we're rapidly wrapping up on the flexibility on site-  
9 specific. I'll take Tom and then I'm going to check  
10 the phones right after Tom and see where we're at.  
11 Thank you Tom.

12 MR. MAGETTE: Tom Magette with Energy  
13 Solutions. I think what Larry just said is important  
14 in terms of clarifying how the staff intends to  
15 describe this notion, if the staff intends to  
16 describe, as a lack of vis-à-vis the tables. And  
17 that's really very important. I was going to make  
18 this comment in terms of the context of the  
19 compatibility category. But I think it stands alone.

20 It's important to look at the lack and the  
21 tables and the [concentration averaging] BTP  
22 holistically (sic). The tables get called look-up  
23 tables. They aren't. I've made this comment many  
24 times. We have about ten people that all they do  
25 every day is help customers understand whether their

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1 waste can go in the site or not. It is not simply a  
2 matter of grabbing Part 61.55, Tables 1 and 2 and  
3 saying, oh, this is Class A, B, or C. It just doesn't  
4 work that way. There aren't look-up tables in most  
5 cases. You have to have the BTP.

6 So the notion that there's a real strict  
7 guideline that's crystal clear in terms of whether or  
8 not a waste is Class A or B or something else, I think  
9 is fundamentally flawed. So you will capture a lot of  
10 these issues that Bill has raised, that Billy has  
11 raised, in terms of over-reporting, which undoubtedly  
12 we are doing. Whether isotopes not listed in the  
13 table should be accounted for. What is the loading in  
14 a site? One of Mike Ryan's favorite points, vis-à-  
15 vis, a concentration which is really a surrogate for  
16 how much activity you're putting in a site.

17 All of these technical issues can be  
18 captured and WAC derived from a PA. That's why it's  
19 so valuable. And that's why it's so important. And  
20 that's why it's so important if we add that to the  
21 regulations we have to be able to rely on it;  
22 otherwise we will be wasting our time, which none of  
23 us wants to do. So that's what I would say about the  
24 tables and why this particular point is so important.

25 DR. LESLIE: Thank you. Okay. I'm going

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1 to go to Mike Ryan since he hasn't had to say anything  
2 yet.

3 DR. RYAN: Let me just follow-up on Tom's  
4 sort of quote. But the right point I think.  
5 Concentration versus quantity -- I'm sorry, I'm Mike  
6 Ryan. I'm a member of the Advisory Committee on  
7 Reactive Safeguards. But I'm here representing myself  
8 today. Concentration and quality have different  
9 purposes in different circumstances. Fractional  
10 release from an inventory is the thing to worry about  
11 for a disposal site in its normal course of being in  
12 an environment, how the environment interacts with it.

13 Concentration is used for a bunch of things.  
14 Radiation protection, which cask do I ship in for a  
15 right circular cylinder kind of calculation, those  
16 sorts of things. I think it would be very helpful for  
17 guidance somewhere along the line and say for these  
18 kinds of assessments concentration is really what you  
19 want to focus on in the end product and, you know, in  
20 the product, or for a disposal or other things, here's  
21 where quantity of radioactive material is really the  
22 driver of risk that the NRC is offering guidance about  
23 what they're interested in. That would be a gigantic  
24 step forward, in my opinion, having wrestled with  
25 that, you know, from a waste acceptance point of view,

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1 from a shipping point of view, from a performance  
2 assessment point of view and there's many other  
3 examples we could talk about. But if -- and I know  
4 practitioners, particularly, you know, the good staff  
5 at the NRC, know these differences kind of  
6 automatically. They know when, you know, when they're  
7 supposed to use one or the other. But if there was  
8 some uniformity in terms of guidance about all of  
9 that, I think it would be a real plus. So Tom  
10 Magette, thank you for making the comment, but I  
11 wanted to expand on that just a bit. Thanks.

12 DR. LESLIE: Thank you. At this point I'd  
13 like to try to go to the phones to see if we have any  
14 questions on the issue of flexibility on site-specific  
15 waste acceptance criteria.

16 OPERATOR: Thank you. At this time if you  
17 would like to ask a question over the phone, please  
18 press \*1 and record your name. To withdraw your  
19 question, press \*2. Again, to ask a question, please  
20 press \*1 and record your name. One moment, please.

21 At this time there are no questions.

22 DR. LESLIE: Thank you. And Chris, can  
23 you move forward on the slide. We'll get to the last  
24 one and then we'll jump right into the next  
25 presentation, which will be Greg.

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1           The last one is on the compatibility  
2 category for elements of the revised rule. Just to  
3 place this in context, we've heard a lot of comments  
4 this morning on do we even have the right players here  
5 and is this the right kind of format of meeting? So  
6 I've actually captured that on the parking lot and  
7 we'll talk a little bit more about that at the end of  
8 the day as we wrap up, so that the staff can have an  
9 understanding of how best we can engage and talk about  
10 this. But with that in mind, do people still have  
11 some questions or comments on the compatibility  
12 category?

13           Okay. I've got a couple. I'll start with  
14 Tom and then work my way over to the left side of the  
15 auditorium. Thank you Tom.

16           MR. MAGETTE: Thank you. Tom Magette with  
17 Energy Solutions. I'd like to start by saying, we  
18 talk a lot of about this, one of the quotes from the  
19 SRM, it's "Safety Fundamentals and Flexibility," but I  
20 would draw you and argue more importantly to the very  
21 last line of the fourth bullet in the SRM in which the  
22 Commission says, "flexibility for the states on how to  
23 implement" not whether or not to implement. And I  
24 think if we focus on that, the Commission's given more  
25 direction maybe than we're giving them credit for. I

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1 don't hear that this is something that's arguable and  
2 for those reasons I can start by citing the agency's  
3 own guidance on this topic.

4           If you look at the NRC guidance on how to  
5 establish compatibility categories, I don't see how  
6 this could be less than compatibility B. There are  
7 undeniably trans-boundary impacts today. We have  
8 generators in all states. We have processors in many  
9 states. We have shipping across state boundaries. We  
10 have compact regions that have more than one disposal  
11 site available to them today. People lose sight of  
12 the fact that Atlantic Compact Nuclear Power Plants,  
13 of which there are 11, don't have to send their waste  
14 to Barnwell and typically don't send their Class A  
15 wastes to Barnwell.

16           When WCS opens the site in Andrews [Texas]  
17 and presumably has the authority to import and export  
18 at some point in time, we'll have more of this same  
19 kind of conflict. But the point is it's not some day  
20 in the future. It's now. There are trans-boundary  
21 impacts. If the Commission evaluates those  
22 appropriately, I don't see how this can be anything  
23 less than a Category B. So I think it's really  
24 important to recognize the importance of this.

25           The other thing is, as I said before in

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1 relation to the tables, it's important in order for  
2 this to be effective that it be something that is  
3 consistently applied by the states. It should be the  
4 same in all the states. Bill has cited confidence in  
5 the disposal system. I think that's a publicly valid  
6 point.

7           You know, we listened to Jim Kennedy  
8 describe for us comments that he received from  
9 disposal sites of compacts on the BTP in which there  
10 were repeated complaints by the states about how they  
11 were supposed to enforce their rules on processors and  
12 generators that are in other Agreement States and  
13 regulated by other regulators. Good point states. So  
14 let's have some consistency on the disposal criteria  
15 and let's look at this as something that has to be  
16 done the same way in every disposal site.

17           DR. LESLIE: Thank you. I'm going to get  
18 John Greeves and then Daniel Shrum. John.

19           MR. GREEVES: John Greeves. So I'm  
20 catching my remarks. Again, I haven't heard from the  
21 Agreement States, but obviously they're affected by  
22 this so I'd enjoy that at some future date. In fact,  
23 a roundtable discussion would be useful.

24           But at the moment, having implemented this  
25 Regulation for a number of years, it is important to -

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1 - when you're setting a standard and it's got a number  
2 in it, it should be Category A or B. And the NRC  
3 jargon for this stuff is almost impenetrable unless  
4 you're an agreement state officer. But effectively  
5 Category A is clearly public dose units concentration  
6 release numbers, so anything that's got a number on  
7 it, should be an Category A or a B. The Category B  
8 goes to trans-boundary issues. So at the moment my  
9 recommendation is as you revised these performance  
10 objectives and you put a number in it like there  
11 currently is on Section 61.41, which by the way, is  
12 Category A. It's got a number in it. That's the only  
13 one that's got a number in it. And it's the only one  
14 currently that has a dose limit attached to it. So as  
15 you move forward, I would assert that when you put  
16 something for intruders in there and you put the 500  
17 millirem in there, or a period of performance in there  
18 which is a number, then it has to be an Category A or  
19 a B. And currently all the rest of them are so called  
20 H&S, which means they can be changed by an agreement  
21 state. So I think we need to have that debated at a  
22 future meeting and understand where others are coming  
23 from that would have to implement this.

24 DR. LESLIE: Thank you John.

25 MR. SHRUM: Dan Shrum with Energy

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1 Solutions. I'm going to try to use the new rule here.  
2 So I believe that this should be a Category B for the  
3 following reasons:

4 Is that how we want to do that now?

5 So now I'm going to explain why I believe  
6 it should be a Category B. I believe that the NRC is  
7 engaged in a good cause here. If you don't believe  
8 that, look at what you've been through to get to this  
9 point and look at all the things you're going to  
10 continue to go through to get this rule out and get it  
11 approved.

12 It's been to the Commission a couple of  
13 times. There's been a redirection by the Commission.  
14 So if it's not a B then you have to ask yourself the  
15 following question: Is what -- do you believe that  
16 this an important thing that you're engaged in? If  
17 you don't think that this is important, then make it  
18 something other than a Category B. You can put it as  
19 a Category C and I guarantee that the states will not  
20 adopt the new rule. And then you have done -- you  
21 have spent a lot of time and didn't get any place.

22 The states have already weighed in a  
23 little bit with the BTP and on some other things that  
24 there is some hesitancy on adopting the revision of  
25 Part 61. I also believe that -- or, you know, I can

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1 use an example. On the waste -- site-specific waste  
2 acceptance criteria you talked about Section 61.58.  
3 And every time you bring up Section 61.58 I get to  
4 bring up the fact that the State of Utah did not adopt  
5 61.58. So, it's a nice rule. It's very nice. It  
6 doesn't do us any good because of the state where we  
7 operate one of our facilities, it wasn't adopted. So,  
8 it needs to be a Category B.

9 Now, I'm going to just change it a little  
10 bit however. The intruder part of it though needs to  
11 be site-specific. So I go with what Tom said is  
12 guidance needs to be given -- the rule needs to say  
13 how the states are going to implement this. The  
14 states need to say how they're going to implement this  
15 new rule. But they just need to implement the new  
16 rule when it comes out.

17 Now if it's 20,000 years, I take  
18 everything back and we'll start it from another place.

19 Thank you.

20 DR. LESLIE: Thanks. Chris, do we have  
21 anyone else on the Webinar? If not, I'm going to  
22 check the phones and going to try to move on to the  
23 next presentation because you guys might have  
24 questions about that. Again, I realize a lot of  
25 people are going to be leaving not too long after noon

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1 and so I want us to push forward. I think we've  
2 started a good discussion so far.

3 MR. GROSSMAN: I see no new comments on  
4 the Webinar.

5 DR. LESLIE: Okay. So could I turn to the  
6 phones just for a second to see if there are any  
7 comments on the compatibility category for elements of  
8 the revised rule topic?

9 OPERATOR: Again, please press \*1 and  
10 record your name.

11 There are no questions.

12 DR. LESLIE: Okay. With that I appreciate  
13 the audience participation and Chris and Drew's  
14 presentation and we're going to move on to the next  
15 session. And this will be a presentation by Greg  
16 Suber. And hopefully we've had most of the comments  
17 earlier on, on the new information, and so what Greg  
18 is doing is kind of summarizing your comments that  
19 you've had before and what you've been hearing. And  
20 so with that, Greg, if you don't mind introducing  
21 yourself.

22 MR. SUBER. Okay. Yes, thank you. My  
23 name is Gregory Suber. And as many of you know, I am  
24 the Chief of the Low-Level Waste Branch at the NRC.  
25 Enjoyed the conversations so far. And as I go through

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1 my presentation, you'll see that many of the issues  
2 that are included as emerging issues have been covered  
3 to some extent. But we can have some further  
4 conversation on those issues.

5 But in addition, Bret asked for specific  
6 information. And included in that information is, I  
7 would like it if we could have a discussion about what  
8 the pros and cons are of the emerging issues that we  
9 discussed. And also, an indication of when you think  
10 that incorporating this information into our change so  
11 Part 61 is more appropriate.

12 As you know, we're currently undertaking  
13 what used to be, the site-specific analyses were a  
14 limited rulemaking. The Commission COM has expanded  
15 that rulemaking to some extent and there may be some  
16 issues that we're covering today that may be  
17 appropriate for that rulemaking. If we get comments,  
18 we can go back to the Commission and tell them what  
19 the pros and cons are of moving forward or there may  
20 be some issues that are more appropriate for the long-  
21 term rulemaking if and when we do that. Or for the  
22 revision of the waste classification tables.

23 Okay. There is obviously something wrong  
24 with my finger because the exact same thing happened  
25 yesterday. Every time I touch the button it advances

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1 two slides. So maybe I'm too slow and I can move a  
2 little faster.

3 Okay. For my presentation I'm going to  
4 start off giving a little bit of background  
5 information. Go ahead and talk about some stakeholder  
6 involvement that we had. And then get into the  
7 specific emerging issues and talk about the path  
8 forward.

9 Now, with respect to background, we have  
10 gone out over the last three years to receive comments  
11 on revising Part 61. We've done that in a number of  
12 venues. We've had a number of things. We've had  
13 rulemakings. We've had guidance documents. And all  
14 I'm -- received that information on those specific  
15 endeavors, we've gotten a lot of comments on the  
16 general framework of Part 61. And when we were doing  
17 those documents, those comments were what we call "out  
18 of scope."

19 For instance, if we were talking about a  
20 guidance document and we got -- we received comments  
21 on the basis of Part 61, then those comments that we  
22 received were essentially out of scope for the  
23 particular endeavor that we were talking about at that  
24 time. And if we were talking about a limited  
25 rulemaking and we got more comments or in a more

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1 expansive rulemaking, then those comments were out of  
2 scope for that particular issue. But now we've  
3 labeled those comments "emerging issues" and we've  
4 given you an opportunity once again to talk about  
5 those comments and to give us your impression of how  
6 you think the NRC should deal with them.

7 Okay. Here we're going to just highlight  
8 some of the recent stakeholder involvement that we've  
9 had. Of course, we've had the February Workshop on  
10 the Branch Technical Position on concentration  
11 averaging. We also issued the updated version of the  
12 Volume Reduction Policy Statement and we got several  
13 out of scope comments during that endeavor. The ACRS  
14 meetings were particularly interesting because they  
15 kind of migrated all over the place. You know, we had  
16 a specific topic that we were talking about in the  
17 Branch Technical Position and a lot of intriguing  
18 things started coming up during that presentation.  
19 And so that was some stakeholder outreach that we also  
20 saw. And of course, the development of the rulemaking  
21 for DU, which is now the site-specific analyses  
22 rulemaking.

23 Okay. One of the comments that came up  
24 dealt specifically with the inadvertent intruder. And  
25 we talked a little bit about that. But basically, we

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1 received comments that the NRC's approach to the  
2 inadvertent intruder is flawed. There were a lot of  
3 reasons -- a lot of justifications given for that, but  
4 one was that the assumption that intrusion is going to  
5 happen is not risk-informed. That to assume that  
6 there was a probability of one was a faulty assumption  
7 and the NRC, if they're going to insist on protecting  
8 the intruder, needs to come up with some kind of  
9 probability based approach to protecting the intruder.

10 And we also got comments that we need to  
11 reevaluate how the NRC is looking at the need to  
12 protect current generations based on what was  
13 perceived as an overemphasis on protecting future  
14 generations.

15 We got comments that we needed to better  
16 balance our ability to look at the regulations that we  
17 were imposing and saying, you know, are we creating  
18 problems now trying to protect a hypothetical intruder  
19 in the future.

20 With respect to institutional controls,  
21 and once again, we've hit on this a little bit today,  
22 the question came up as to whether the 100-year period  
23 for institutional controls was truly justified. Many  
24 of the sites have financial assurance that extend far  
25 beyond 100 years and I believe that people even

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1 brought up the fact that, you know, a nation that has  
2 only been in existence for 200 years may think that  
3 100 years is a long time, but if you go to Europe and  
4 you walk around and there are graveyards that have  
5 been maintained for centuries and so with respect to  
6 that, is 100 years really the right number for an  
7 institutional control period?

8 In addition, there were questions raised  
9 about financial assurance. As I alluded to earlier, a  
10 lot of facilities have a significant fund with respect  
11 to that financial assurance and it assures a longer  
12 period in which they would maintain some kind of  
13 control over that site. And so the NRC should once  
14 again revisit the 100-year intruder control period.

15 Okay. These are additional topics that  
16 came up that couldn't neatly be put under intruder or  
17 institutional controls. And one of them is, once  
18 again something we've hit on earlier today, reasonably  
19 foreseeable. You know, what is really meant by  
20 reasonably foreseeable. You know, is it temporal?  
21 You know, is it spatial? You know, what kind of  
22 assumptions go into, you know, the assessment of what  
23 the Commission says when we try to say, you know, what  
24 is reasonably foreseeable? And so a discussion to try  
25 to put some kind of range or come to some kind of

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1 consensus on the definition of that term.

2 And also, one thing that came up was the  
3 incorporation of some types of clearance of *de minimus*  
4 levels for low-level waste. Of course, right now low-  
5 level waste has no floor. And so in the mildly  
6 contaminated material is considered Class A low-level  
7 waste. So should we in this effort, or in a future  
8 effort, revisit that? Should we say, hey, well it's  
9 about time for us to establish a floor for low-level  
10 waste.

11 Another interesting comment that we dealt  
12 with was this whole concept of depleted uranium. And  
13 why -- and some people expressed frustration about  
14 revising Part 61, which they see as a regulation that  
15 has worked adequately for about 30 years, to go into  
16 whole scale revised Part 61 based on the fact that  
17 we're trying to dispose of depleted uranium in a near  
18 surface. That maybe instead of touching Part 61, what  
19 we should do is set aside and make special  
20 requirements to address the distinct features of  
21 depleted uranium and leave the Part 61 framework  
22 intact.

23 Additionally, we've gotten comments on  
24 compatibility categories, as we just had the  
25 discussion about Section 61.58 being compatibility

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1 Category D. And as Dan has stated the State of Utah  
2 hasn't adopted that. So they're unable to use that  
3 particular part of the regulation. Should we take a  
4 look at that and should we do that in this rulemaking  
5 or should we do that in a comprehensive rulemaking?

6 And also -- and this was a concern that  
7 was raised by many of the states, there's new  
8 requirements that are going to be posted if we go  
9 forward with this rule. Are existing facilities going  
10 to be grandfathered from these requirements? Are  
11 these requirements going to be put in place and  
12 enforced immediately or is there going to be a clause  
13 where existing facilities will be exempted from  
14 certain portions of the new regulation?

15 And also, there have been suggestions,  
16 especially for people who gravitated towards the WAC  
17 approach, that we just totally eliminate the Section  
18 61.55 waste classification tables.

19 Okay. I believe this is the last, let me  
20 see, yeah. This is the last slide with concepts on  
21 it. Okay. There have been comments that instead of  
22 tweaking the system they say we're doing, that we go  
23 back to the risk classification tables and we  
24 explicitly account for uranium in the daughter  
25 products in the classification tables. As you know

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1 now, they're not explicitly addressed in the waste  
2 classification tables and the suggestion was that we  
3 update the waste classification tables to explicitly  
4 account for uranium.

5 We've already had an extended conversation  
6 on ICRP dosimetry and so I'll just talk about the last  
7 point here. Which was to expand the classification  
8 tables to a more comprehensive suite of isotopes. And  
9 that's pretty much consistent with some of the  
10 Commission direction, well, with the Commission  
11 direction that we have to risk-inform the waste  
12 classification tables. And some people see that as  
13 what we should be undertaking now as opposed to the  
14 rulemaking that we are currently doing.

15 Okay. As far as the path forward, we are  
16 in the process of gathering information. And as you  
17 know, we have several more meetings and interactions  
18 planned. I know Mr. Greeves made a good point about  
19 the fact that there are no agreement state  
20 representatives here at this meeting. We understood  
21 that if you have a meeting directly following an  
22 industry meeting like *Waste Management 2010* is, that  
23 there probably isn't going to be a lot state input and  
24 there probably aren't going to be a lot of public  
25 interest groups at that meeting. So we tried to --

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1 first of all, we tried to make this meeting accessible  
2 to other members of the public who aren't here, which  
3 is why we have a bridge line and why we're conducting  
4 a Webinar.

5 But in addition to that, we do have  
6 several other meetings that have been scheduled and  
7 the format of those meetings; we're still thinking  
8 about how we're going to facilitate that. So the  
9 comment that one of our meetings may be a roundtable  
10 is actually a pretty good comment because that's one  
11 of the things that we were thinking about.

12 So moving forward, we're going to have  
13 additional meetings to maximize our stakeholder  
14 outreach. In addition, we're being aggressive as far  
15 as putting information on the NRC web page. As was  
16 mentioned several times today, the slides for this  
17 meeting were put on the web page in advance so that  
18 people could have access to them, you know, either  
19 before the meeting or directly following the meeting.

20 And our staff is going to continue to update our web  
21 page to keep everybody informed and to keep people in  
22 the loop.

23 And I'd like to make one other statement  
24 about the docket number. This particular docket  
25 number is the same docket number that was used last

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1 year. And there's a reason for that. We don't want  
2 people to think that the comments that they have  
3 submitted previously under our other outreach efforts  
4 are going to be lost. We've been accepting comments  
5 from the public since 2009. And we're using and  
6 incorporating all of those comments from depleted  
7 uranium workshops. Comments that we received for the  
8 BTP. Wherever we've received comments for this  
9 particular rulemaking, we haven't lost those in the  
10 docket. So we're using the same docket number. But  
11 we want to encourage you to still submit comments. I  
12 mean, don't not send the comments because you said,  
13 "Hey, I said something in 2009 and you guys have the  
14 comments." We want to encourage people to submit  
15 comments to refine them. And as Bret has said, to not  
16 just tell us what you want us to do, but give us a  
17 basis for why you think that's a good thing and why  
18 you think we should take that particular approach.

19 Okay. And of course after we finish this  
20 effort we have a rulemaking to report back to the  
21 Commission. We also have a task, you know, to tell  
22 the commission in the interim if there's any important  
23 issue that arises as a result of our current outreach  
24 effort. So I just encourage everybody to engage and  
25 to submit comments both here. Don't be shy. To

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1 submit written comments as well.

2 DR. LESLIE: Thank you Greg. And that was  
3 a great wrap-up to remind folks that there are  
4 multiple places to comment. I want to check in with  
5 folks in terms of the Agenda. If no one had any  
6 comments right now, and I'm sure that's not true, but  
7 we would only be ten minutes behind on the Agenda. So  
8 at this point I would like to open it up for comments  
9 here on Greg's presentation and I've got -- I'm going  
10 to start with Billy and then I'll go to Bill Dornsife  
11 and Tom and then if I don't catch you right away, I'm  
12 sure you'll get my attention. Billy. Name and  
13 affiliation.

14 MR. COX: Billy Cox with the Electric  
15 Power Research Institute. Thank you Gregory. You did  
16 a fine job.

17 MR. SUBER: Thank you, sir.

18 MR. COX: I guess I would just like to say  
19 that - well, as a health physicist I fully support the  
20 concept of clearance. It has been a failed political  
21 attempt in the past. And I think that the states  
22 already do this rather well, Tennessee in their Bulk  
23 Survey for Free Release Program and Texas in their  
24 Exemption Program and perhaps there may be others.

25 That said, the Section 20.2002 exemption

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1 process is very tedious. And I know that there are  
2 probably a lot of utility -- non-utility folks that  
3 find it even more tedious. There is probably room in  
4 this, at least I think we believe so, for a very low-  
5 level waste category. This is done very successfully  
6 in other countries, France and Spain at least I know  
7 of, and in the UK. So I think what we need to be  
8 looking at is regulated hazardous waste disposal.  
9 When we talk about very low-level waste, I think we  
10 need to look at it as regulated hazardous waste  
11 disposal. It may be going to a non-Part 61 or  
12 agreement state equivalent licensee, but it's still  
13 going to a hazardous waste disposal site. And that's  
14 the difference between the state programs that are in  
15 place and the -- what we're talking about. So there's  
16 definitely an advantage to doing this for the industry  
17 and it's something that I think we should be  
18 considering as part of this.

19 DR. LESLIE: Thank you. I'm going to go  
20 to Tom and then Bill and then Dan.

21 MR. MAGETTE: Thank you. Actually Greg, I  
22 think you did a really fine job, too. And I really  
23 appreciate the order in which you addressed these  
24 issues on. I presume that wasn't accidental. Because  
25 it really flows very logically.

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1           The first one you talked about, intruder  
2 protection. I don't know if I would call it emerging,  
3 necessarily. Chris talked about it in the context of  
4 the PA. There is simply no way we can't somehow deal  
5 with that in this context. Whether it's in guidance  
6 or how it is, I'm not sure.

7           So I think it's stuck on the list one way  
8 or another even though it's not in the SRM. And we  
9 didn't really call that out as a topic today. And  
10 it's been mentioned in passing a few times, but I  
11 think it needs a lot more treatment. And for your  
12 future meetings, we need to talk about intruder  
13 protection in a more focused way. That's one  
14 suggestion.

15           Your second topic, the Section 61.59  
16 threshold. 61.59(b), 100 years of institutional  
17 control. I think you should go to the Commission and  
18 say, "We want this on the list." I understand the  
19 Commission's direction is very clear. That first  
20 sentence in the last paragraph says thou shalt do this  
21 and thou shalt do no more. And I know you have the  
22 latitude to go back upstairs and say, you know, please  
23 mother, may I? And I think you should for this one.  
24 I think it's very important. I think it's critical to  
25 what we're talking about. I think the list should be

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1 amended to add this and I would certainly support  
2 changing Section 51.59(b) to extend the institutional  
3 control period beyond 100 years.

4 This list falls off very rapidly after  
5 that, in my view. There are other things that are  
6 very interesting. We've supported very low-level  
7 waste category in our comments in the past. But it's  
8 hard for me to see how this rulemaking might not get  
9 hopelessly muddled if you go much beyond that. Partly  
10 because the Commission's already kind of taken you  
11 into some new space with the SRM.

12 And I really believe, and this we'll get  
13 to more later in the 165 questions, they've kind of, I  
14 think, showed you a stopping point that could capture  
15 80% of what we all really want and need to improve the  
16 system, which would mean one rulemaking, not two. But  
17 I'll come back to that. But because they've expanded  
18 the scope in some areas some of these other things  
19 will just -- they won't be helpful. You can deal with  
20 reasonably foreseeable in guidance. And the other  
21 things, I think, they just may fall off the list.

22 The only other item, and it's not on your  
23 list, so maybe you didn't consider it as emerging, but  
24 it was in your preliminary proposed rulemaking  
25 language, was to amend the performance objectives

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1 themselves to add a dose. So I don't know if you  
2 consider that somehow outside the guidance from the  
3 Commission or if it's not on your list, or if it's  
4 still on your list, or because you had it on there  
5 before you assume it's not an emerging issue, it's  
6 already an issue you're dealing with. I don't know  
7 where you have that but I think you should have that  
8 dose limit in Subpart C.

9 MR. SUBER: Just so I have -- this is Greg  
10 Suber -- just so I understand, do you mean the 500  
11 millirem dose? Okay. Yeah, that's in the -- right.  
12 It's not an emerging issue because that is going to be  
13 -- that's part of the proposed rule. Right.

14 DR. LESLIE: Thanks. Thanks for the  
15 clarification, Greg.

16 DR. LEE: Bret. This is Mike Lee. Just a  
17 matter of background, when the staff originally put  
18 Part 61 out for public comment, they did propose a 50-  
19 , 100-, 150- and a 300-year institutional control  
20 period. But as a result of the public comment process  
21 on the original regulation, they settled on the 100  
22 year. So, I just thought I'd make people aware of  
23 that.

24 DR. LESLIE: Thank you Mike. Bill.

25 MR. DORNSIFE: Bill Dornsife, Waste

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1 Control Specialists. First of all Greg, I think you  
2 did okay. I'm not going to give the NRC too much  
3 credit.

4 (Laughter)

5 I have three short comments. First of all  
6 on the institutional control period. I mean, you  
7 know, if we change too much of this we're going to  
8 lose confidence. 100 years was a keystone in the  
9 regulations. You know, it really -- it establishes  
10 how long you have to have institutional control. If  
11 you go to a 500-year institutional control period,  
12 you're going to pay a lot more money to establish that  
13 fund. And I think what's more important is really,  
14 you know, better guidance on how, you know, what does  
15 five meters mean? What does that remove from your  
16 intruder scenario? Why shouldn't everybody have to  
17 dispose waste at least five meters? How long can you  
18 rely on an intruder barrier?

19 You know, NRC has really no guidance other  
20 than, you know. But, let's face it, if you have a  
21 site with low infiltration, those canisters could last  
22 forever. And what you're concerned about is not the  
23 concrete it's the reinforcing steel, in terms of  
24 somebody drilling into it. So I think you need to  
25 sharpen the guidance of how you deal with intruders.

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1 And it gives you the same effect because you can delay  
2 the intrusion.

3 The other thing. You talked about  
4 radionuclides that weren't really considered. You  
5 know, I'm not proposing you add this to the table, but  
6 Chlorine 36 has become an issue and it's mainly an  
7 issue because our regulator decided to use some  
8 archaic NRC guidance document that totally  
9 overestimated how much chlorine-36 is in the waste.

10 Now chlorine-36 is an easy one to deal  
11 with because you can go back to the plant and look at  
12 the chemistry. And you can easily calculate what the  
13 maximum chlorine 36 concentration can be. And it's a  
14 hell of a lot lower than the numbers that NRC threw  
15 out. So some guidance on that would be very helpful.

16 I'm just saying you can do that. Okay?

17 The final one is, I think there's a need  
18 for guidance on waste conditioning. DOE has done a  
19 lot of research on credit you can take for concrete,  
20 cementitious waste forms, which just NRC saying you  
21 can do that, that you can take credit for that would  
22 be helpful. Additives. Like, you know, fly ash, that  
23 ties up the technetium which DOE is also doing a lot  
24 of research on. You know, you put that stuff in the  
25 grout that you put around the waste and, you know, it

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1 ties it up forever. Particularly, if you have very  
2 low infiltrations. But, again, some guidance at least  
3 saying you can do that is needed.

4 DR. LESLIE: Thanks. I see a couple hands  
5 in the front. I'm going Paul, Lisa. I saw John  
6 Carilli, DOE and then get to John Greeves.

7 MR. SHRUM: I'm Dan.

8 DR. LESLIE: That's why you need to  
9 introduce yourself.

10 MR. SHRUM: Dan Shrum with Energy  
11 Solutions. I think Gregory you did a fine job. And I  
12 work for Energy Solutions, not -- anyway. Really  
13 quick. I read on Slide 7 changes made -- or changes  
14 should be restricted to new sites. Grandfather  
15 current sites. That made me think of something else  
16 that may help with this Agreement State issue that's  
17 going on. When this all starts to come together, it  
18 would be really good during -- once the rule is really  
19 developed and ferreted out if we could say or start  
20 working with the agreement states on how they will  
21 implement that new rule. What will be acceptable to  
22 the NRC. What will they need to do in a certain time  
23 frame, because as you know, we have two facilities in  
24 agreement states and that will affect us. And we, you  
25 know, bring the Agreement States together. Bring the

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1 facilities together so that we can work through some  
2 sort of implementation timeframe that -- otherwise,  
3 you know, we don't want to be out of compliance once  
4 the rule hits our state. Okay.

5 DR. LESLIE: Lisa.

6 MS. EDWARDS: I thought you were a rock  
7 star Greg.

8 (Laughter)

9 I'm not a licensee by the way. So I liked  
10 your list. I thought it was very comprehensive. I  
11 would like to see added to the list on the issue with  
12 the, excuse me, the technetium-99, iodine-129, carbon-  
13 14, and tritium being artificially manifested and  
14 artificially inflating the disposal site inventory.  
15 It goes directly to our performance assessment issues,  
16 relative to the potential impacts for health  
17 consequences from the disposal site in the future.  
18 That might be a bit of a challenge too, because, you  
19 know, that in 10 CFR Part 20, Appendix G, so, but it  
20 needs to be fixed.

21 DR. LESLIE: Lisa, thanks. Heads up on  
22 who's going. John Carilli, Roger Seitz, John Greeves  
23 and Linda Suttora and then Mike Ryan.

24 MR. CARILLI: Could you go back I think  
25 one -- I think it's Slide 6. And if it's not Slide 6

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1 forgive me. Yeah, that one. One of the things that  
2 I'd recommend that we move around is -- or move up  
3 higher on the list or whatever, is these words where  
4 you say reasonably foreseeable. And words that really  
5 don't have a definition, because you say reasonably  
6 foreseeable and I can go to everyone in this room and  
7 you'll probably have 97 different definitions of what  
8 that word is. And then when you go out in the streets  
9 it's even going to get even bigger.

10 We ran into this without DOE Order 435,  
11 which was small quantity. And we found out what small  
12 quantity meant to me, and I am right, by the way.  
13 What small quantity meant to me didn't necessarily  
14 agree with other stakeholders. So I would recommend  
15 that you don't have words where they can be  
16 interpreted in various ways. That's the only thing I  
17 wanted to say.

18 DR. LESLIE: Thanks. John Greeves.

19 MR. GREEVES: Yeah, Greg, I've got  
20 comments on a lot of things, but time being short,  
21 just a couple. Putting on your slides eliminating the  
22 waste classification tables, I don't think that's  
23 useful. The Commission doesn't want you to do that  
24 so, I'm surprised to see that bullet on here.

25 Even expanding the tables, that's not your

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1 mission at the present time. So to the extent we  
2 debate these things, I think it's going to pull away  
3 from the things that are important. And also, the  
4 topic of *de minimus* and in a different way, very  
5 little of waste disposal; I agree they're very  
6 important but they're an intractable for this  
7 assignment and I would very much enjoy talking about  
8 them in another venue. But for *de minimus* the  
9 Commission had it in their hands in 2004 and they  
10 pushed it off the table with too heavy a lift.

11 MR. SUBER: Thank you.

12 DR. LESLIE: Roger.

13 MR. SEITZ: Thank you. Roger Seitz with  
14 Savannah River National Laboratory. And as someone  
15 who's used to being on the other end of these  
16 discussions and getting comments, I'd also say, the  
17 work that's been done, there's been a lot of good work  
18 and it's a very difficult task. So keep that in mind  
19 with any comments.

20 Mike had a good point. If we're going to  
21 say 1,000 years we should have a basis for it. So  
22 I'll go just touch on that quickly and then I had a  
23 comment about intruders.

24 And it -- when we talk about timeframes,  
25 it's easy to get into philosophical, academic

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1 discussions, which we don't have time for here so a  
2 few keys things. I try to think from a pragmatic  
3 point of view and so I'll mention a few quick points.  
4 I'd mention precedent. There's the use of 1,000 at  
5 the Idaho Grand View Facility where DU contaminated  
6 material has been approved for exemptions. DOE uses  
7 1,000 years. And I'll give a couple points from the  
8 international community. And this may be an argument  
9 that I'm not sure I've seen but the ICRP in their  
10 *Recommendation 81*, they specifically state that  
11 estimates of health risks or doses as measures of  
12 health detriment beyond times of around several  
13 hundred years into the future should not be considered  
14 a measure of health detriment. So you're looking at  
15 several hundred years into the future where they  
16 consider it to be a true measure of health detriment.

17 That leads us to later, also in the same  
18 report, this is a report of disposal of long-lived  
19 waste. They talk about quantitative calculations for  
20 1,000 to 10,000 years. So we start with several  
21 hundred years of meaningful health detriment  
22 calculations. They give credit that you can do  
23 quantitative calculations for 1,000 to 10,000 years.

24 The IAEA in their safety assessment guide,  
25 which is performance assessment essentially in our

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1 terminology, talk about the need to do calculations  
2 for hundreds to even thousands of years.

3 And finally, to the point related to this  
4 session, that same report talks about the need to be  
5 able to consider probabilities for when you're  
6 considering unexpected events or types of things that  
7 would be like an inadvertent intrusion.

8 DR. LESLIE: Linda and then Mike Ryan and  
9 then Paul Black and we'll see where we're at.

10 MS. SUTTORA: Thank you. And excellent  
11 job Gregory and the rest of the folks. I just wanted  
12 to state that it's unlikely DOE will be submitting  
13 additional comments beyond what we've already  
14 submitted. So if you could just carry those forward  
15 that would be great with me.

16 I do just want to point out a couple of  
17 things. Part of those comments we describe why 1,000  
18 years, so that should be part of our basis in there.  
19 Also, the idea of the site-specific WAC's, of course  
20 we are all for that since that's what we do.

21 And in one of the earlier slides, I think  
22 presented by Chris, there was a mention of FEPS. And,  
23 you know, this is not a concept that's new. I just  
24 lost what the 'F' means -- features, events and  
25 processes [FEPS]. You should be careful on how you

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1 carry that forward because there are many ways of  
2 analyzing what impacts a disposal facility, what  
3 barriers there are and what the potential impact to  
4 the environment and public are. And I don't think you  
5 should just stick with FEPS as they are described  
6 similar in the (unintelligible) place and probably  
7 international and national community. Perhaps it's  
8 just the way they did at Yucca.

9 It really needs to be a much more, again,  
10 a site-specific issue but it takes a lot of time to  
11 start from the very ground and work your way up again.

12 And if there is already a conceptual model out there  
13 that covers many of the same issues, that model should  
14 just be plugged in. Otherwise, you're spending a lot  
15 of time and money on something that's wasting a lot of  
16 time and money. Whereas, if you had the conceptual  
17 model already established and identified and agreed  
18 upon, that should be carried forward rather than start  
19 all the way at the very bottom.

20 So it can almost be viewed as once you do  
21 the bottoms up you should be able to go top down from  
22 that point on, rather than every single event that you  
23 look at a new disposal facility starts from the ground  
24 up again.

25 The intergenerational equity issue is very

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1 significant, particularly for the work I do. I care a  
2 lot about the worker safety. The current people out  
3 there doing the work. And some of the work I'm  
4 involved in is a little bit different than what NRC is  
5 licensing, but we have issues where we are going to  
6 do, in essence, in six you cleanup so we have a  
7 cleanup and now it's eventually become a closure or  
8 disposal facility. I care a lot about how much the  
9 workers get exposed in doing the cleanup. And I  
10 balance that worker dose versus the long-term dose in  
11 the future of the public. And so -- and I think that  
12 should be considered when you're doing your work  
13 because how much you condition the waste, how much you  
14 handle it, how much you do with the movement of the  
15 waste is important for now and the current generation  
16 in addition to the future.

17 And I will echo Roger's comments with the  
18 intruder scenario. What we saw with the Branch  
19 Technical Position on blending, concentration  
20 averaging, all those intruder scenarios that you  
21 presented in the Branch Technical Position were  
22 actually not inadvertent intruders. All of them were  
23 advertent intruders. They were folks that A) went  
24 into a facility that had not been a formal disposal  
25 facility where the field sources or whatever were

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1 actually conditioned in a way, gravid in form and  
2 solidified and stabilized but were actually still in a  
3 free form. And they advertently broke into an  
4 existing facility that was not a disposal facility to  
5 remove, in some case by accident, the waste.

6 So when you do your inadvertent intruder  
7 analyses, seriously look at the probability of the  
8 intruder accidentally hitting this. So don't say the  
9 probability of one hitting the one hot spot in an  
10 entire 10,000-acre disposal facility. And also  
11 clearly look to the distinction between the advertent  
12 and the inadvertent intruder. Thank you.

13 DR. LESLIE: Thank you, Linda. Mike.

14 DR. RYAN: Thank Bill Dornsife for making  
15 me think of this thought to offer. And that's about  
16 the use of fly ash as a solidification agent for  
17 chlorine-36 or anything else for that matter. Usually  
18 fly ash is loaded with radium. I would recommend  
19 strongly against using it for any reason in a low-  
20 level waste site.

21 MR. DORNSIFE: I meant "flue dust gas."

22 DR. RYAN: You meant flue dust gas, but  
23 you said fly ash. Okay. That was a test, wasn't it  
24 Bill? Okay. But I think the general point, which I  
25 think every presenter so far today has done a great

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1 job on, is to address unintended consequences. This  
2 is a balancing act of, you know, a variety of  
3 constraints and requirements in a way where you're  
4 trying to optimize the performance of this system and  
5 the people in it. That's the short version for me.

6 And I think it's a real challenge to do  
7 what you're embarking on, you know, over the last  
8 several months and here presenting today and will  
9 continue on. As to how do you optimize that so that  
10 you don't get unintended consequences and you get the  
11 outcomes that you're expected to get. So I think -- I  
12 just want to offer my thanks that I appreciate the  
13 fact that this is very much an optimization question  
14 that you're looking at. There's a lot of moving parts  
15 and you've certainly laid out the moving parts well  
16 and I think, you know, you're set to do a good job to  
17 kind of assess what's the best optimization to come  
18 out of this. So thanks very much.

19 DR. LESLIE: And that was Mike Ryan  
20 speaking for himself. Paul. And then I think I'll go  
21 to the Webinar and the phone to see -- and actually  
22 Larry's got his hand up too, so Paul, go ahead and,  
23 again, just checking in. We actually, on the original  
24 Agenda would be breaking for lunch right about now.  
25 So. Okay.

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1 MR. BLACK: Paul Black, Neptune & Company.

2 I appreciated what Roger and Linda had to say. I  
3 think that's all right on target for directions to go  
4 in. And some of the reasons that the timeframes are  
5 shorter in Europe are the evaluations that they've  
6 essentially done looking at governmental institutions  
7 over time and their longevity and other things that I  
8 think are somewhat related to economic issues as well.

9 So along those lines, I'll note that it's  
10 been over 30 years since we've had this regulation and  
11 it'll probably be at least 30 years before it's  
12 revised again. And so I think there's a -- from my  
13 perspective, there's another issue that needs to be  
14 included in emerging issues. It's not just putting up  
15 here that we want to deal with risk-informed decision  
16 making, it's understanding what that is and bringing  
17 the economic side into the equation.

18 If we don't do that now, we won't have  
19 done it for another 30 or 40 years and I think 30 or  
20 40 years from now people will scratch their heads and  
21 say, why didn't we do that back then?

22 Back in 2001 the White House issued a  
23 circular and the circular talked about the need to  
24 bring cost and value judgments into science-based  
25 decision making. That was taken up by OMB. The EPA

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1 eventually picked up on it so the Center for  
2 Regulatory Environmental Modeling looks at this  
3 directly these days. To my knowledge other agencies  
4 haven't picked up on it yet and I think it's time to  
5 do that in this context, particularly or specifically  
6 here.

7 DR. LESLIE: Larry, did you --

8 MR. CAMPER: I just -- I want to react to  
9 John's comment about why is that even in there.  
10 Eliminate the 10 CFR 61.55 tables. Remember that we  
11 started off this morning saying there are three  
12 buckets of information we're talking about here today.  
13 One is the direct charge from the Commission and the  
14 recent adjustment to the site-specific analyses  
15 rulemaking. The second is things have come up over  
16 the last year, year and a half, and then the third is  
17 the options paper. Well the reason we're going this  
18 is to maximize efficiency in getting input.

19 When we did SECY-10-1065 we didn't come up  
20 with a recommendation. We said we'd go out and get  
21 input from the stakeholders and that's we're doing. I  
22 mean, that assignment hasn't gone away any more than  
23 the first assignment to risk-inform the waste  
24 classification tables has gone away as a matter of  
25 process. So the reason that any of these issues are

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1 up here, outside of the recent direction from the  
2 Commission specific to this specific site-specific  
3 ruling, is maximizing the opportunity to get input.  
4 So that's why it's up there. And all these things  
5 have come up over the last, you know, year, year and a  
6 half. So just providing clarification as to why we've  
7 been talking about it.

8 DR. LESLIE: Thank you Larry. Chris there  
9 weren't any questions per se on the Webinar?

10 MR. GROSSMAN: As of -- let me check  
11 again. As of a minute ago, no.

12 DR. LESLIE: At this point I'd actually  
13 like to go to the phones to see if there are any  
14 questions on Greg Suber's presentation.

15 OPERATOR: Again, if you would like to ask  
16 a question, please press \*1 and record your name.

17 At this time there are no questions.

18 DR. LESLIE: Thank you very much. And  
19 okay. I'm going to touch base with you all now.  
20 You're the people in the audience and you're the  
21 people who either want to go to lunch, or want to hear  
22 one more talk, or potentially a short break and then  
23 have the last presentation by Mike Lee and so if I  
24 offered folks a ten minute break, would you all come  
25 back and then listen to Mike or -- oh, come on. The

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1 head's got to be shaking the other way. Okay. So --  
2 are you talking about breaking for lunch? I mean, if  
3 we break for lunch an hour from now, raise your hand  
4 if you're going to come back. So we have a fair  
5 number who will come back. Or do you want to just  
6 continue? Yes. Okay. So Mike get your -- for lunch?

7 (Comments by the audience off the  
8 microphone)

9 DR. LESLIE: Oh, okay. Okay. Mike will  
10 make his way up there. We're going to take a ten  
11 minute courtesy break and Mike will be ready to go.  
12 Thank you very much.

13 (Whereupon the proceedings went off the  
14 record at 12:29 p.m. and went back on the record at  
15 12:39 p.m.)

16 DR. LESLIE: If you'll take your seats  
17 now, I'd like to get started. I had a couple good  
18 suggestions during the break, but not everyone's back  
19 from that ten minute break. But everyone wanted Mike  
20 to go ahead and get started. But it will have to do  
21 how we take questions after his presentation. So I've  
22 got your suggestion, John Greeves. I'll go to it when  
23 I've got the full complement of people in the room.  
24 And hopefully some of the people didn't think we were  
25 taking a lunch break. But with that in mind, Mike

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1 Lee.

2 DR. LEE: Hi. My name is Mike Lee. I'm  
3 in Phase B. I joined NRC in 1986. I spent most of my  
4 career working in high-level waste in the Yucca  
5 Mountain PA Program. And so for a period of time I  
6 was lent out to the low-level waste program. I worked  
7 on NUREG-1573, which were the staff's recommendations  
8 on low-level waste PA. So between the two programs a  
9 lot of the conversation that has taken place over this  
10 morning is like old home week. In a different context  
11 though. But it's fun to talk about. Interesting.  
12 And there are still probing questions.

13 The things that I'm going to talk about  
14 today we talked to the public about a year ago on. In  
15 some respects though this discussion has been  
16 overtaken by events, particularly in light of the  
17 January 2012 Staff Requirements Memorandum from the  
18 Commission. But nevertheless, the Commission has  
19 still asked us to respond to them after we complete  
20 the site-specific rulemaking.

21 This slide is just intended to provide  
22 some background. A lot of this has already been  
23 discussed in previous presentations today. The one  
24 point that didn't come up is the revision of Part 61  
25 was first identified by the staff in 2007 in SECY-07-

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1 1080. It was listed as a low priority item at the  
2 time, but of course, things have changed. So just for  
3 your benefit, that document's out there. You may want  
4 to go ahead and spend some time looking at it. It  
5 provides kind of a laundry list of the things that the  
6 staff thought at the time would be useful to do, in  
7 terms of revising the low-level waste regulatory  
8 framework.

9 As I mentioned before, excuse me, we had  
10 our first public meeting just about a year ago. I  
11 don't think it was in this -- was it in this building?

12 I can't remember, or maybe next door. But anyway the  
13 meeting materials, the slides, the transcripts all  
14 that stuff is available on the web so if anyone is  
15 interested they can go back and look at that to  
16 refresh themselves on the types of things that were  
17 discussed.

18 The three things though that haven't  
19 changed are the questions that we asked stakeholders.  
20 And if any stakeholder has a view on these issues,  
21 we'd appreciate hearing from them and placing their  
22 comments in the docket. But the original questions  
23 that were asked is should the existing Part 61 be  
24 revised or left as is? What recommendations would  
25 stakeholders have for specific changes to the current

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1 rule? Or what are your suggestions for possible new  
2 approaches to the commercial -- management of  
3 commercial low-level waste? So those questions are  
4 still outstanding and to the extent that any  
5 stakeholder has a view on these matters, we'd again,  
6 like to hear from you because we still have to get  
7 back to the Commission.

8 One of the items that's been discussed  
9 through the course of the last -- this morning's  
10 discussions was there's challenges to change when you  
11 want to begin to tinker with Part 61. I don't believe  
12 there's any dispute that the regulation is not  
13 protective of public health and safety. It's been in  
14 place for an awful long time. I think it's closer to  
15 four decades instead of the 30 years that's been  
16 discussed. It's adopted by Agreement states. We have  
17 operating sites. The regulatory system is well  
18 understood by waste generators and it's even been  
19 worked into federal and state law.

20 So returning to the SECY-10-0165, the five  
21 options that were laid out in the paper and we  
22 discussed last year were these. I won't read through  
23 them. I'll just go directly to each one. I want to  
24 talk briefly about them. The points that I'm going to  
25 raise are essentially high-graded from the slideshow

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1 that was given last year.

2 Just as background, most everyone in this  
3 room knows that Part 61 was established as a result of  
4 some shortcomings in earlier commercial low-level  
5 waste disposal practices. There's a white paper out  
6 there [NUREG-1853] that Dr. Ryan, myself and Howard  
7 Larsen prepared that is available on the NRC website  
8 that goes over a little bit of this history. But one  
9 of the key philosophies going into development of the  
10 original regulation was that if you go back to simple  
11 contaminant fate and transport analyses you can  
12 control the exposure, the hazard, if you will, by  
13 controlling what goes into the calculation. At the  
14 same time, we know that in case of radiation, dose  
15 radiological hazard diminishes with time. -- Okay.  
16 Thank you. I got an eye from Matt Kozak. A raised  
17 eye. But generally diminishes with time. So that  
18 kind of philosophy, if you will, went into the EIS  
19 process when the rule was being developed and it's  
20 been carried through the current regulation.

21 So what the staff conducted a series of  
22 "what if" types of analyses. It looked at what were  
23 the isotopes in the commercial inventory. It looked  
24 at whether engineering measures could be used  
25 effectively. Institutional controls were examined as

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1 another way of extending the time for which the waste  
2 would be isolated. Including administrative  
3 practices. Things that could be done in terms of how  
4 the waste was actually put in the ground.

5 All these "what if" types of studies, if  
6 you will, that again were documented in the draft EIS  
7 in particular, yielded the waste classification system  
8 that is well known in tables 1 and 2 of 61.55. These  
9 points have been discussed time and time again. I  
10 just won't go over them. But just as a refresher, we  
11 have them on the slide.

12 So what we laid out as an option, the  
13 number one, if you will, in the SECY paper, was to go  
14 back and re-examine the isotopes that were in those  
15 tables. Maintain the existing system but update it  
16 with the latest ICRP dosimetry. We would also  
17 introduce additional radionuclides like uranium and  
18 possibly other isotopes and that was the vision, if  
19 you will, for what was going to be considered under  
20 option one.

21 One of the questions that we hadn't worked  
22 out though in taking on that option, was should we  
23 rely on the original Sandia computer codes that were  
24 used to develop Part 61 originally. Dave Esh, I  
25 think, in a presentation about a year ago said those

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1 codes had been up and running -- I'm just playing the  
2 tape. I'm getting shaking heads. Should we conduct  
3 new generic modeling or should we conduct new generic  
4 modeling and consider new receptor scenarios, as well  
5 as updated codes in undertaking this type of analyses?

6 So these are the things that need to be considered if  
7 we were to go ahead and pursue option one under SECY-  
8 10-0165.

9 Option two is the clean slate approach.  
10 It is a 'turn-back the time clock' type of option, if  
11 you will. Go back to the late 1970's, and if we were  
12 to redo Part 61 knowing what we know today, how would  
13 we go about doing it? Taking into account, of course,  
14 the risk-informed performance based regulatory  
15 philosophy that the Commission now encourages within  
16 all the staff programs. And so again, we would --  
17 under this option we'd kind of take a fresh look at  
18 Part 61, based on the international experience as well  
19 as the 40 years of operational experience here  
20 domestically, and we'd come up with a new regulation.

21 It may or may not look like what we currently have in  
22 place today. There may be some fine tuning around the  
23 edges. There could also be some very fundamental  
24 changes. So this was basically the outline of  
25 thinking that went into the proposed option two in

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1 that SECY paper.

2 This slide is just kind of intended to lay  
3 out some rough thinking in terms of what the staff  
4 might do in revisiting Part 61 as a comprehensive  
5 wholesale revision, including an updated waste  
6 generator survey. But this time we would also take  
7 into account the DOE inventory. As everyone knows,  
8 DOE over the last several years, if not decades, has  
9 been relying on commercial disposal facilities in  
10 addition relying on its own internal ability, if you  
11 will, to manage its waste.

12 Part 61 originally relied on a generic  
13 analysis of a humid site. Staff has been thinking  
14 that if we were to ever redo Part 61, we'd probably  
15 look at arid sites as well and work in some kind of  
16 matrix on how this would factor into an updated  
17 environmental analysis. We'd certainly go back and  
18 look at the literature in terms of what's been done.  
19 Now in terms of best practices, both domestically and  
20 internationally, it's been mentioned time and again  
21 that the way the waste is being managed today at  
22 disposal sites is different from how it was originally  
23 envisioned when the EIS process was underway. And  
24 certainly if we were to have a new regulation we'd  
25 have to go back and revise a lot of guidance,

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1 including our standard review plan and format content  
2 guide.

3           Option three, of course, is the  
4 international alignment option. And there's been some  
5 discussion of that earlier today. The international  
6 approach, that's been advanced by IAEA, looks at the  
7 entire fuel cycle. The approach that the IAEA uses is  
8 more of a strategy, defined by the nature of the  
9 hazard rather than the source, and we've had  
10 discussions in the past critical of how the US system  
11 works. The only wrinkle in this approach, of course,  
12 is that DU internationally is not considered a waste,  
13 but you have the reprocessing option overseas. So  
14 we'd have to factor that into that evaluation, if you  
15 will.

16           Slide 12. This slide is taken from the  
17 IAEA's SSR-1 document, which shows how this would work  
18 conceptually. There's a lot of language in the report  
19 that explains where these lines are drawn and if you  
20 go to these two documents it explains this concept in  
21 more detail, and you have the web link for that. So  
22 that was what was envisioned for option three.

23           Under option four, which is currently part  
24 of the assignment that the staff has in the January 12  
25 SRM, is we have an option now for waste acceptance

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1 criteria. So I think this has been well discussed  
2 over the last several hours and I won't go into it  
3 here. But this of course is one of the options that  
4 we laid out originally in SECY-10-0165.

5 I think we've already kind of gone through  
6 that, so for the purposes of time I won't talk -- this  
7 is Slide 15 by the way. I'm not going to repeat any  
8 of this because I think we've kind of worked this a  
9 lot this morning.

10 Turning to Slide 16. These are the  
11 externalities, if you will, of what might be useful --  
12 or things that would be advantageous in the adoption  
13 of a WAC type approach to commercial low-level waste  
14 management. These points were discussed this morning  
15 so I'm not going to repeat them here.

16 Slide 17. Oh, that was slide 17, sorry.  
17 The last option, option five was do nothing. We would  
18 complete the site-specific analysis rulemaking. That  
19 direction was original provided in SECY-08-0147. We  
20 would do no other work other than the work that was  
21 assigned to this by the Commission and as part of that  
22 evaluation -- or completion of that work, if you will,  
23 we would leave tables 1 and 2 of Section 61.55 as is.

24 So that's all I had to say. Most of this  
25 material has already been discussed this morning so --

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1 DR. LESLIE: Thanks Mike.

2 DR. LEE: --I think it's a good point just  
3 to take on questions or comments.

4 DR. LESLIE: Right. And one of the -- a  
5 couple people came up to me during the break and said  
6 this could take a long time to discuss and there might  
7 be lots of comments. And one of my concerns is first,  
8 that if people are going to have to leave, if we took  
9 a lunch break, you know, if this discussion's going  
10 for too long, we might need to take a lunch break. So  
11 anyone who's got an early departure time I want to  
12 hear from you first. And after that, I'll see where  
13 we're at. If John Greeves and Bill Dornsife think  
14 they've got a lot more to say, then we might go for  
15 lunch and come back and wrap up the meeting.  
16 Otherwise, I'll just look at you guys to see -- to  
17 guide this meeting in terms of the time management.  
18 So with that kind of as a background, are there people  
19 who are going to need to leave in the next hour or two  
20 that have any questions or comments on Mike's  
21 presentation? And I'm looking around the room right  
22 now and I'm not actually seeing any hands being  
23 raised. And because the people on the phone don't  
24 necessarily have to get on a plane, then did you have  
25 a comment?

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1 DR. LEE: Yeah. As I mentioned, we  
2 floated this approach to stakeholders and other  
3 interested members of the public a year ago. We did  
4 get one letter. I checked the docket before I left  
5 and it related to issues on Yucca Mountain and so  
6 aside from the letter we got from Messer's Greeves and  
7 Lieberman, which we're going to add to the docket, we  
8 haven't heard anything from stakeholders on the  
9 comprehensive revision approach thus far.

10 DR. LESLIE: Right. All right. Then I  
11 guess I'm going to open it up to, again, I'll go  
12 through the process of having people raise their hands  
13 if they have questions or comments. I'll give Chris  
14 Grossman a chance to see if people are on the Webinar.  
15 And so far I've only got two --

16 MR. MAGETTE: You said you had a new way  
17 you wanted to handle questions.

18 DR. LESLIE: No. I said we may need to.  
19 And what I was looking for were if there were people  
20 who had to get on a plane, I wanted them to have the  
21 opportunity to raise questions first. Okay. So, Tom,  
22 I saw your hand up and I'll come over to you, then see  
23 if other people have some questions or comments.

24 MR. MAGETTE: Thank you. Tom Magette,  
25 Energy Solutions. And I'm really hungry. Mike, I

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1 appreciate what you've just done but I feel like it  
2 could have been March 4, 2011. Because what you did  
3 was to tell us in SECY-10-0165, which I guess is what  
4 your assignment was, but I feel like it's completely  
5 overcome by events. Absolutely, completely. I, you  
6 know, recognizing the direction in the SRM that said,  
7 you know, and continue doing this to address other  
8 things that go beyond the guidance that we've given  
9 you to the extent that they are necessary and  
10 certainly a point that merits comments. And I have a  
11 couple on that. But in the context of this, I mean, I  
12 don't think that SECY-10-0165 would look anything like  
13 it does today or like it does now if you wrote it  
14 today. You'd write a completely different thing to  
15 follow on.

16 DR. LEE: Sure, yes. And you're  
17 absolutely right. But we've haven't gotten relief  
18 from the Commission to respond to that initial  
19 direction. And as I pointed out at the beginning of  
20 my talk, we still have, at the end of this rulemaking  
21 cycle whatever we come up with we then have to go back  
22 to the Commission and say, "Here's what we also heard  
23 in regards to this original direction."

24 MR. MAGETTE: Understood.

25 DR. LEE: And for the purposes of time

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1 conservation, I could open up my remarks by saying I'm  
2 here to talk to you about the B side of a 45 record.  
3 You know, for those of you who use to go buy records.

4 You buy the 45 for the song you wanted to hear and on  
5 the backend was the 'B side' for the song that you  
6 didn't want to hear.

7 (Laughter)

8 MR. MAGETTE: Yeah, so we just got to  
9 listen to the non-hit.

10 DR. LEE: Yes. But, you know, given that  
11 45's are now retro, there's a lot of interest in the B  
12 side.

13 MR. MAGETTE: Understood. So I would like  
14 to maybe go back to the tract of the album, which is  
15 somewhere between the number one hit and the B side of  
16 the 45. And for those of you that are really young in  
17 the room and don't know what an album or a 45 is,  
18 sorry. Don't see any though.

19 (Laughter)

20 MR. MAGETTE: Don't see any though.  
21 Anyway. Gosh I'm beating into my three minutes here.  
22 Glad you all could come today. Just stay away. So if  
23 I look at this in the context of the SRM and what I  
24 would have said before I said what I just said, which  
25 I think there are some things to be thought about here

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1 in the context of a comprehensive revision. But it's  
2 really hard to know what to say about them until we  
3 see, if we're going to keep calling it that, what the  
4 site-specific assessment rulemaking looks like.  
5 Particularly given Greg's excellent presentation about  
6 emerging issues.

7 So if we take the SRM and presumably add  
8 one or two more things on there, assuming for example,  
9 the dose limit in Subpart C, which is still on the  
10 table even though it goes beyond anything in SECY-08-  
11 0147 and then the most recent SRM. But all those  
12 things taken together are going to leave a lot fewer  
13 things on the table to think about. And in general,  
14 my comment would be, and I think what the Commission  
15 might have been trying to do, was put enough into this  
16 rulemaking that we might be done with this rulemaking.

17 And it would be my view that done properly  
18 this current rulemaking could get a very significant  
19 percentage along the route of whatever a comprehensive  
20 review of Part 61 might look like. Sufficiently far  
21 along that route that we could all be sufficiently  
22 happy. That we would stop and just go home on  
23 Thursday after waste management like we used to.

24 And so I think that's kind of a  
25 perspective that I would like to promote is, this is

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1 looking an awful lot like a one rulemaking thingy to  
2 me and things being the way things are, I don't know  
3 that any of us are going to see, with the possible  
4 exception of Sarah, a second Part 61 rulemaking in our  
5 lifetimes. And so I would like to encourage you to  
6 shoot for that as far along the path as we can get  
7 perspective.

8 In other words, if the four items that the  
9 Commission sent you out for guidance, if you would  
10 come back and say, yeah, these -- the public generally  
11 support these and we're going to pursue all of them.  
12 If they all make it into the rule then there are other  
13 things. There are clearance. There are very low-  
14 level radioactive waste. There are things that we  
15 talked about that are all on Greg's slides. That  
16 maybe you want to write a staff paper at the end of  
17 this and say, okay, is it really worth going back for  
18 any of these. Or maybe you don't. But it's really  
19 hard to answer that question right now. So Mike, you  
20 did a great job too. You did a great presentation.  
21 I'm going to wrap it up here in unit 6 or whatever it  
22 is.

23 DR. LEE: Let the record show we're doing  
24 our due diligence.

25 MR. MAGETTE: Understood. And I

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1 understand you didn't get relief on that point. And  
2 you got to check the box. The box is checked. I  
3 think we're headed for one rulemaking. That would be  
4 my comment, is let's make this -- let's do this one  
5 and done.

6 DR. LESLIE: Thanks Tom. Any other  
7 questions? Actually --

8 MR. DORNSIFE: I'm going to do what Tom  
9 just did. I have a quick question.

10 DR. LESLIE: Sure. Hold on one second  
11 Bill.

12 MR. DORNSIFE: I've got a question for  
13 NRC. The subsequent public meetings you're having,  
14 are they going to be the same format or are you guys  
15 going to put some pen to paper and have something to  
16 chew on?

17 DR. LEE: I think the intention was to use  
18 these slides as a standard presentation format for the  
19 subsequent meetings. We'd fine tune them as  
20 appropriate, based on some things that we heard. But  
21 I -- we have to kibitz on that unless management asks  
22 --

23 MR. PERSINKO: Let me just say something.  
24 You know, Greg and I have been sitting up here  
25 talking. Listening to some of the comments we've been

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1 hearing maybe a different format for a future meeting  
2 and we've actually been think -- that when we go back  
3 from this meeting we're going to get together and kind  
4 of assess what we need to do in the future. And one  
5 of the things we were talking about already was maybe  
6 one of those future meetings, maybe the July meeting,  
7 may be turned into a different format; more of a  
8 roundtable format instead of something like this. But  
9 right now the plan is -- like for the Dallas meeting  
10 right now is to continue with this kind of meeting.  
11 But we have to think about that because we may change  
12 the format in the future to a roundtable discussion.

13 MR. DORNSIFE: Well, when are you going to  
14 have something on paper?

15 DR. LESLIE: Hold on a second.

16 (Comment by audience off the microphone)

17 MR. CAMPER: What is it that you think  
18 we're supposed to have on paper now and for what  
19 reason, Bill?

20 MR. DORNSIFE: And, I think, you know --

21 MR. CAMPER: What is it that we're  
22 supposed to have?

23 (Comment by Bill Dorsife off the  
24 microphone)

25 MR. CAMPER: Bill, you got to be on the

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1 record.

2 MR. DORNSIFE: I don't want to be on that  
3 record. I just, you know, obviously, and I realize  
4 you got to -- my question is, when are you going to  
5 start the process where there is, you know, some  
6 proposals of what you're going to do with all this  
7 information that you're getting?

8 MR. CAMPER: All right. One of the  
9 reasons why I -- and by the -- before I answer that  
10 Bill. Tom, I want you on my staff because I am  
11 impressed by your uncanny ability to interpret  
12 Commission direction and determine which of many  
13 assignments you are actually to complete. I need you.

14 We need you. Now, part of the problem we've got here  
15 is -- and I tried to show it in my slides in the  
16 beginning. We got -- this is a complicated mosaic of  
17 many moving parts. I cannot, the staff cannot, pick  
18 and choose which Commission direction it decides it  
19 wants to focus its efforts on.

20 We have all of these assignments. And  
21 until they take something away, you have to continue  
22 to follow direction. Now, what they did do in this  
23 last direction was to tell us -- it's interesting on  
24 one hand, there's direction to continue to engage  
25 stakeholders to pursue the possibility of other risk-

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1 informed revisions to 10 CFR Part 61, outlined in  
2 SECY-10-0165. That's after we were told to limit the  
3 revisions to address the four issues identified. So  
4 we're trying to handle many assignments at the same  
5 time.

6 I mean, again, in SECY-10-0165, we went up  
7 and said these are the options. We did not make a  
8 recommendation and we said we would go and engage  
9 stakeholders. This is an efficient opportunity time  
10 to engage stakeholders. I don't know Tom, will there  
11 ultimately come -- will there be another rulemaking or  
12 not. I really don't know that. I do know that we  
13 have to focus upon the recent Commission direction.  
14 We've got to specifically look at those four line  
15 items. And then the reason we deal with the second  
16 bucket, which is what I addressed with John earlier,  
17 is because things have come up over the course of  
18 discussions in the last year or so. So it's a tangled  
19 web I agree and you may very well be right that there  
20 won't be a second rulemaking.

21 But at the moment we have three  
22 assignments on the table. Okay. And we have to do  
23 our due diligence in doing all of them while trying to  
24 stay focused upon what seems to be the primary one at  
25 the moment. What I perceive is the primary one at the

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1 moment. And that's being the site-specific  
2 performance assessment rulemaking which we were  
3 charged with getting completed in 18 months. So we're  
4 trying to do all things at the same time.

5 Now as far as Bill, your point. The next  
6 thing that we are working toward creating, in terms of  
7 a piece of paper, is the technical basis for this  
8 adjusted rulemaking. And then there will be a  
9 proposed rule. So those are the pieces of paper that  
10 are due down the pike.

11 MR. DORNSIFE: Okay.

12 MR. CAMPER: Is there something else that  
13 you think that we're supposed to --

14 MR. DORNSIFE: No.

15 MR. CAMPER: Okay.

16 MR. PERSINKO: Let me say something  
17 though. On the proposed rule, the last time --

18 DR. LESLIE: Can I remind everyone to keep  
19 the microphone and identify yourself.

20 MR. PERSINKO: Oh. Drew Persinko. I just  
21 want to add something. On the last rulemaking we did  
22 have a draft proposed rule language written and we had  
23 a meeting where that was shared in a meeting format --  
24 in a public meeting format. This time I'm not so sure  
25 we're going to do that because the time we have to

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1 complete this rule is very tight and if we had a  
2 public meeting after a draft proposed rule was  
3 written, we'd then have to go back and further refine  
4 it based on the comments we receive at that. And I'm  
5 not so sure that the time is going to permit that.  
6 The normal process for rulemaking would be that we  
7 have the meeting such as this. We'd take input. We'd  
8 prepare a draft rule. We speak to the ACRS and then  
9 we provide the proposed rule to the Commission and not  
10 have a public meeting on the proposed rule.

11 DR. LESLIE: Okay. Thanks Drew. And,  
12 okay, so I've got a couple hands raised. But I've got  
13 one first back here who -- first time speaker.  
14 Christine, could you identify yourself.

15 MS. GELLES: I'm so nervous. Christine  
16 Gelles, US Department of Energy. Larry, I completely  
17 understand everything that you just said and that you  
18 are following the assignments as given to you by --  
19 and your office -- by the Commissioners and I commend  
20 you for trying to keep it all together. But I also  
21 completely agree with what Tom Magette said. And I  
22 share his optimism that that long list of issues will  
23 largely be resolved if you go in the direction that I  
24 think we're all giving careful consideration to, which  
25 is the development of a great rule that guides site

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1 performance assessments and potentially leads to  
2 requirements for site-specific waste acceptance  
3 criteria. It will take care of the vast majority of  
4 the issues.

5 The one point that I do disagree with Tom  
6 on is that I do think that there will be some  
7 subsequent changes to Part 61 that will be required  
8 and that's why it's good to keep it on the Agenda for  
9 discussion. And one of the elements that we haven't  
10 even put on the table yet is any possible changes to  
11 Part 61 resulting from the greater-than-Class C EIS  
12 and any changes to the rule that are required to  
13 support our recommended preferred alternatives that  
14 result through that need to action. And perhaps when  
15 we take that up we can define a floor for low-level  
16 waste and that will take care of the clearance issue,  
17 which I agree is much too heavy of a burden to take on  
18 at this time. So agreeing with my colleague, John  
19 Greeves. So thank you.

20 DR. LESLIE: Thanks Christine. Got  
21 several people who have their hands raised. Lisa, Tom  
22 and John. Lisa.

23 MS. EDWARDS: I'm Lisa Edwards. Electric  
24 Power Research Institute. I kind of agree with Tom as  
25 well in that we're probably fundamentally considering

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1 a single revision and if that revision includes  
2 addressing the updated dose conversion factors,  
3 reanalyzing the intruder analysis and the 100-year  
4 institutional control period, and it addresses  
5 guidance relative to the phantom four, or what I call  
6 the phantom four --

7 MR. CAMPER: Can I ask you a question?

8 MS. EDWARDS: Yes.

9 MR. CAMPER: Do you mean -- all those  
10 things you just went through, do you mean --

11 MS. EDWARDS: Yes.

12 MR. CAMPER: --let me finish my question.  
13 Do you mean all those things get addressed within the  
14 ongoing site-specific --

15 MS. EDWARDS: Yes.

16 MR. CAMPER: --performance assessment  
17 rulemaking?

18 MS. EDWARDS: Yes.

19 MR. CAMPER: Okay.

20 MS. EDWARDS: That's why I limited --

21 MR. CAMPER: Got it.

22 MS. EDWARDS: --agreement with Tom.

23 MR. CAMPER: Okay.

24 MS. EDWARDS: The very low-level waste  
25 issue, I think is an extremely important issue.

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1 Clearly, I don't think it fits in the limited  
2 rulemaking. And because of that, I think on down the  
3 way we should still leave the door open for a possible  
4 revision. And I hadn't thought of the greater-than-  
5 Class C issue that Christine just brought up, but  
6 again, that would be an important one for on down the  
7 line.

8 MR. CAMPER: Well, let me just react to  
9 that Lisa. I mean, you went through a long laundry  
10 list of things that are not clear --

11 MS. EDWARDS: Four items.

12 MR. CAMPER: -- well okay. You went  
13 through four items that are not currently with, you  
14 know, in the site-specific assessment rulemaking. Now  
15 one of the things we had asked ourselves, you know,  
16 the Commission was very clear that if there, you know,  
17 recognizing the path forward and the issues outlined  
18 in SECY-10-0165 depending in part on the final content  
19 of a limited rulemaking, the notation paper providing  
20 the staff's recommendation on which, if any, of the  
21 risk informed provisions of that SECY should be  
22 implemented, should be submitted to the Commission  
23 after completion of the limited rulemaking. That  
24 doesn't say there won't be a rulemaking. That says,  
25 you'll do it after you complete this rulemaking if you

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1 do it at all.

2 Now I do think there is merit, however, as  
3 we go through this process and work our way through  
4 the site specific rulemaking and this is one of the  
5 reasons why we do need to talk about this topic in  
6 meetings just like this and all the public meeting.  
7 There may come a time, based upon feedback that we're  
8 getting, that says that there's no need to do any  
9 further revision to Part 61. What you accomplished in  
10 the site-specific assessment rulemaking will be  
11 adequate. You've done enough. Stop. Resources are  
12 tight anyway. You may get to that point. I just  
13 don't know that right now.

14 The other thing is while we have a very  
15 specific assignment right now that we need to be very  
16 careful to carry out and as Drew pointed out and he  
17 was interviewed and he and I were being interviewed by  
18 Sarah and he very pointed -- we have two rule  
19 assignments right now. One is the site-specific and  
20 the other is what are we going to do about SECY-10-  
21 0165? Do it later. That's the assignment.

22 Also we also have the waste  
23 classification, which has been delayed in budget space  
24 and now gets rolled into what we're going to do on  
25 SECY-10-0165. But, you know, the staff certainly

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1 reserves the right as we go about carrying out the  
2 Commission direction to go back to the Commission in a  
3 SECY and say, these are the things that we're hearing  
4 again and again that might be accomplished within the  
5 ongoing site-specific assessment rulemaking. There  
6 might be some things that you could do that would  
7 markedly delay your rule and if it did you might have  
8 to ask for more time. But we have to have this kind  
9 of interaction to determine if we want to go back and  
10 communicate with the Commission and say, here are some  
11 things that are coming up, could we modify your  
12 direction and buy a little bit more time and make it  
13 more comprehensive. We just don't know that yet. But  
14 we have to carry out the Direction we got while  
15 listening on all these fronts.

16 DR. LESLIE: Thanks Larry. And I've got  
17 to have Chris pulling up your timeline slide as well.

18 Because I think it goes to when is the appropriate  
19 time to provide the input on whether that additional  
20 rulemaking is needed. And I think the SRM and I think  
21 Larry stated it is after the limited rulemaking is  
22 completed, they're supposed to go back. So that's  
23 where they have, again, a time lag and it's important  
24 for us here today to unfortunately spend some time  
25 talking about this. But we are getting feedback, you

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1 know. Should we be spending a lot of time in  
2 subsequent meetings and maybe it just falls out after  
3 we've had the discussion on all the other things that  
4 are in the SRM. And so anyway. Hold on a second.

5 DR. LEE: One of the purposes behind  
6 having these public meetings is to serve as a forcing  
7 function and provide stakeholders and other interested  
8 members of the public an awareness of what we're  
9 doing. If you think as part of the rulemaking effort  
10 or initiative there are some other things we should be  
11 doing, you're free to write letters and submit those  
12 to the docket. Because we will evaluate the docket as  
13 we develop the rulemaking.

14 DR. LESLIE: Okay.

15 DR. LEE: And we have an obligation to  
16 report that information to the Commission as well.

17 DR. LESLIE: Okay. So, don't go too fast  
18 this time, Chris. Okay. Tom and then John Greeves.

19 MR. MAGETTE: Tom Magette, Energy  
20 Solutions. And now I'm really hungry. Okay. Larry,  
21 of course I would never ever thought even to be  
22 presumed as telling you how to do your job, especially  
23 in a public meeting, but now I'm going to tell you how  
24 to do your job. I understand what you're doing. I  
25 read the SRM. I see they said continue to engage,

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1 which you have done and that's fine. I just think the  
2 context for the engagement maybe is a little bit  
3 different now than it was, to go through the items  
4 that were listed in that document, because I think  
5 they're simply overcome by events. And so to go to  
6 two more public meetings and do it the same way, I  
7 would just offer the comment that probably you don't  
8 have to do that in order to continue to engage  
9 stakeholders and get their feedback.

10 So, and Greg has hit, I think  
11 comprehensively the list of issues that are hanging  
12 out there that you might want to go back to the  
13 Commission on and say, hey we think we want to throw  
14 this one in too. As I said in my earlier comment, in  
15 my view that list is pretty short. It's very short.  
16 Because that will simplify your lives and I think it  
17 will also satisfy the expectations of the Commission  
18 and we all know that you want to satisfy the  
19 expectations of the Commission.

20 However, having said that, I think  
21 Christine and Lisa both raised valid points. I'm not  
22 saying we should draw a line in the sand and say we  
23 don't want to come back to this. I'm just saying we  
24 don't know what we're coming back to yet. We can't  
25 talk about it really very thoroughly until we know

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1 what this one is. We can engage and say what do you  
2 think, should we do more and we can say, yeah, there's  
3 still things hanging out there like very low-level  
4 radioactive waste. Or Christine can say, hey, we've  
5 got this greater-than-Class C rulemaking out there,  
6 which is going to affect Part 61.

7 So there are things that will stay on the  
8 table I think. It's just not at all sufficiently  
9 clear what they are, I think, to do that engagement in  
10 any more than a general way, which I think will then  
11 have satisfied the direction of the Commission both in  
12 terms of continuing to engage and in terms of their  
13 direction, to postpone some substantive consideration  
14 of these issues until after the current rulemaking.  
15 Meanwhile understanding that the ones that are already  
16 on the table on Greg's slides will make it into the  
17 docket. So that's kind of where I'm at. Where I'm at  
18 is that, you know, here's what SECY-10-0165 says.  
19 Here's these things. What do you think about them  
20 now, especially when number four is pretty much in the  
21 SRM. Just I don't see why we're doing it that way.

22 One more thing I would, you know, much as  
23 it pains me, like, agree with Bill Dornsife. There  
24 are some things up there, particularly in Chris'  
25 slides where you laid out a lot of technical stuff,

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1 where for us to have no idea what you're really  
2 thinking and what might show up in a rule as opposed  
3 to what might show up in guidance in terms of how one  
4 does a performance assessment, there's a lot to think  
5 about there. And so if that's really what you want us  
6 to do is go off and look at the detail questions in  
7 your slides and give your comments by July, we can do  
8 that. But that's kind of a thing where I agree with  
9 Bill. I'm kind of wondering what it is I'm commenting  
10 on other than slides. Recognizing Drew, that to do  
11 preliminary -- put those rulemaking language in the  
12 schedule that you have might be tough. But somewhere  
13 in-between would be really helpful for us to know  
14 where you're headed in terms of just having more  
15 meetings like this.

16 DR. LESLIE: Thanks Tom. Anyone other  
17 than John have questions?

18 (Laughter)

19 DR. LESLIE: Not, no. It's just --

20 MR. GREEVES: I'm hungry but I got  
21 stamina. So and I'm going to say a lot and I'm going  
22 to come back after lunch and I'd actually like to hear  
23 what the NRC thinks about what I'm saying. So,  
24 anyhow. We're talking about SECY-10-0165 and since I  
25 no longer work for the Commission, I'm unfettered, I

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1 can interpret it anyway I want to. And here's my  
2 take.

3 One, it's a document that existed at the  
4 end of 2010 - December 27, 2010. And as once bigger  
5 Tom Magette pointed out, it's been overcome by events.

6 And here's the way it's overcome by events. It's a  
7 great paper. Mike, I think you were the author of  
8 this, but at the time it identified five options.  
9 I've got views on all five. And I'll go to the last  
10 one. The last one says, supersede direction of SECY-  
11 08-0147. And somewhere buried in the text, it was  
12 just good stuff, it says do nothing. Well, that last  
13 option's been completely overcome by events. You've  
14 had additional direction from the Commission that they  
15 already have superseded SECY-08-0147 at least twice.  
16 So and Larry's shaking his head and I'd be happy to  
17 come back after lunch and spend -- I have the  
18 microphone.

19 So I think that it has been superseded.  
20 You've got clear direction. Very clear from two  
21 Commissioners in the COM that you are to do the site-  
22 specific analysis and they did everything but say,  
23 there is no second rule.

24 The SRM's a little bit mushier. But even  
25 the SRM leads me to believe that there is the fond

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1 hope, like a lot of speakers have said here, that we  
2 don't -- there is no second rule.

3 Okay. I didn't think you'd try to take  
4 the microphone away from me. I didn't hear any time  
5 limits on this. Anyhow, nobody else has a question.  
6 So I'm going to keep going. The other approach is  
7 risk-informing the classification system. The  
8 Commission took that -- you can do that, I guess,  
9 after rule one if you want to but I think that one was  
10 pulled off the plate and I think it's for lots of  
11 reasons said earlier; it's a bad idea.

12 Second, comprehensive revision to Part 61.  
13 I don't subscribe to it and my recommendation is there  
14 is no rule two.

15 And third, the site-specific performance  
16 assessment, you've already got direction from the  
17 Commission after this document was written. They told  
18 you to go do site-specific waste acceptance criteria  
19 and I agree with that. But in here -- in your  
20 detailed you said, get rid of the concentration  
21 tables. I disagree with that. It's -- I think you're  
22 messing up the Agreement States if you take that set  
23 of tables away from them.

24 And then the fourth recommendation is the  
25 international alignment. I'm one of the contributing

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1 authors to that piece of work and I think it's - I,  
2 you're left to try and invoke that if anything else,  
3 so I'd say, no. Take that particular one off the  
4 table. So, and by the way, I've got a handful of  
5 comments on Greg's -- but I think you're probably  
6 trying to get -- to pry this microphone away from me.

7 But I'll have some more comments, for example on the  
8 codes that were used for Part 61, when I get the  
9 microphone back and so I'll stop at that point.

10 DR. LESLIE: Thanks John. Larry.

11 MR. CAMPER: Look, I don't want to turn  
12 this into a debate and anyone is free to make any  
13 comment about what your impression of the Commission  
14 direction is. That's entirely up to you. I respect  
15 your views, but I must tell you from my standpoint and  
16 on behalf of the staff, when the Commission says to us  
17 in an SRM, continue to engage stakeholders to pursue  
18 the possibility of the other risk-informed revisions  
19 to 10 CFR Part 61 outlined in SECY-10-0165, with all  
20 due respect, I do not interpret those words as game  
21 over on SECY-10-0165. I may have my own personal  
22 views about this matter but they are irrelevant. The  
23 words say what they say and they are staff direction.

24 Until such time as an earlier assignment is remanded  
25 or removed by the Commission in a written SRM, it

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1 continues to be real. This has become a very  
2 complicated mosaic that has developed over time and  
3 painful, I assure you. But it is Commission direction  
4 until such time as it's changed.

5 DR. LESLIE: Thanks Larry. Okay. I'm  
6 going to check in with folks -- lots of people have  
7 talked about hunger and food, but some of the people  
8 have said that they want to come back and have more to  
9 say after lunch. Given that there are people who are  
10 having to leave and realizing that there will be a  
11 transcript of this meeting and, you know, for those of  
12 you who want to come back and listen to John's  
13 comments, I encourage you and engage. And for other  
14 people who want to come back and add more. Because I  
15 know if you go out to lunch, you're going to have some  
16 good discussions. And those discussions won't be part  
17 of the record. So what I'm suggesting is that at this  
18 point I would like to break for lunch. We will reopen  
19 the meeting -- let me see how long we gave people for  
20 lunch. We gave people only an hour for lunch. Is an  
21 hour not long enough or is it long enough? Just  
22 right?

23 (Comments by audience off the microphone)

24 DR. LESLIE: Okay. So, how about an hour  
25 and come back at 2:30? Okay. So what we'll do is

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1 we'll close down the meeting for now. When we come  
2 back we'll continue the public comment period. For  
3 those of you who don't come back, I really appreciate  
4 your patience with me as I try to get as many of you  
5 to speak today as possible. But with that, let's go  
6 have some lunch, and thank you.

7 (Whereupon the proceedings went off the  
8 record at 1:24 p.m. and went back on the record at  
9 2:35 p.m.)

10 DR. LESLIE: We're still missing a few  
11 people. Keeping to the Agenda, which we said we would  
12 start right around 2:30, we're a few minutes past. So  
13 at this point I'd like the phone lines to be let back  
14 in and then we'll go ahead and get started on the  
15 meeting. So Ashley go ahead and reconnect them.

16 OPERATOR: Okay. The line is reconnected  
17 at this time.

18 DR. LESLIE: All right. So let me try to  
19 summarize where we're at and that will give people a  
20 few more minutes to wander back in. We had -- on our  
21 Agenda we were -- had made it through most of the  
22 presentations and we had finished Mike's presentation,  
23 which was a summary of SECY-10-0165. We had had quite  
24 a bit of discussion but everyone was hungry so we  
25 agreed to come back after lunch. We also agreed to

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1 have some good conversations at lunch so that we would  
2 have potentially multiple people talking who want to  
3 use the microphone and that way I can put time limits  
4 on how long people can talk, but -- me included.

5 So are there any other people who want to  
6 continue to provide us some feedback on the -- on  
7 Mike's presentation and the issues that were raised?  
8 John Greeves.

9 (Comment by audience off the microphone)

10 DR. LESLIE: Not yet. And John --

11 (Comment by audience off the microphone)

12 DR. LESLIE: --yeah. And what I'm going  
13 to do, is I'm going to give you five. We'll see where  
14 you are.

15 MR. GREEVES: I'm going to make you a  
16 deal. Just to give you some relief. I've got tickets  
17 to the game tonight. Suns playing the Clippers, and  
18 so I'm not going to go any longer than that.

19 (Laughter)

20 MR. GREEVES: Well I got my priorities  
21 together. Okay so, Mike Lee just -- nobody else seems  
22 to want to ask a question but -- I looked, you know,  
23 good slides, but. On number eight, you mentioned  
24 Sandia Code, going back and redoing Sandia Code. I'm,  
25 you know, I was there when they did those

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1 calculations.

2 DR. LEE: Let me --

3 MR. GREEVES: And my memory was Sandia was  
4 not involved in the calculations supporting the Part  
5 61. What it was, was impacts BRC, which Gary Roles  
6 and Oktay Oztunali did and that code I'm guessing is  
7 history. But --

8 DR. LEE: It could be a typographical  
9 error. What I did is I went back to the original  
10 presentation we made a year ago and pulled off some  
11 information. I'll be the first to admit I may have  
12 made a mistake. But I do recall very distinctly that  
13 Dr. Esh has pointed out that that code has been  
14 recompiled and is now running once again. Now, I'm  
15 not speaking for David. He's, you know, the  
16 suggestion was made in the context of the presentation  
17 a year ago. We could use that code and rerun it with  
18 updated dosimetry information but he's not suggesting  
19 that as a preferred alternative. These points were  
20 just argumentative.

21 MR. GREEVES: Could you be precise and say  
22 what code you're talking about? Is it IMPACTS?

23 DR. LEE: Yes, I believe so.

24 MR. GREEVES: Interesting. I -- you know  
25 Gary Roles is still around. Oktay passed and so --

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1 DR. LEE: Again, I mean, these points were  
2 just for discussion. The question, of course, under  
3 this particular issue is --

4 MR. GREEVES: But that had nothing to do  
5 with Sandia, per se. That was --

6 DR. LEE: I stipulate I could have made a  
7 mistake.

8 MR. GREEVES: Okay. And I'm probably  
9 repeating something I said earlier, but the option  
10 number five, no action, had the words "do nothing"  
11 behind it and so I think that I am sort of repeating  
12 myself. Where's Larry? He disagreed with me. Is he  
13 gone? That I think a number of speakers have said  
14 that the SRM, which I agree with has colored the 08  
15 SRM and I very much enjoyed the 2011 version of that  
16 COM in the SRM and I think that's what we should be  
17 focused on. And I look forward to further venues like  
18 this to discuss that. Thank you.

19 DR. LESLIE: Thanks John. And we do have  
20 one -- maybe more than one on the Webinar and so I'm  
21 going to turn it over to Chris Grossman. Just to let  
22 people know, we lost the web link on the Webinar but  
23 it looks like we've recaptured Jim Lieberman's  
24 comment. So Chris, if you don't mind going through  
25 that.

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1 MR. GROSSMAN: Okay. Thank you Jim, for  
2 re-posting. We had lost it. The computer shut down  
3 and dropped all the questions. Jim Lieberman's  
4 comment is, "If you lost my earlier comment regarding  
5 the question with Larry, I have great respect for the  
6 deliberative process the NRC goes through. However,  
7 sometimes the staff does not take advantage of  
8 opportunities to be more efficient. Senior management  
9 is in frequent contact with the Commission and can  
10 take advantage of these communications to revisit  
11 staff direction. I think that Tom Magette is correct.

12 The direction from the Commission is reasonably  
13 clear. What I think the staff should be doing is to  
14 develop the outline of the rule along the approach of  
15 a single rulemaking, to achieve 80% in order to get  
16 the job done and provide it to the Commission as a  
17 draft early on," excuse me, "to get the appropriate  
18 direction explaining why this is a more efficient  
19 approach. This can be done at the same time the  
20 public comment process is ongoing so time is not lost.

21 Frankly, given all the public comments that have been  
22 received in the past few years, the staff should be  
23 drafting a proposed rule now and making adjustments as  
24 it receives comments."

25 DR. LESLIE: Thanks Chris. I'm going to

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1 go here to see if there -- a couple more people have  
2 come back from lunch, to see if they've had some good  
3 lunch conversations and have other comments to make.  
4 I'll take a show of hands. Anyone else have any more  
5 comments on Mike Lee's portion or on other portions of  
6 the meeting? Okay. We'll get to the other portions  
7 here in just one second. I'd like to go to the phones  
8 to see if there are any other questions on Mike Lee's  
9 presentation before we get to another section for a  
10 second round of comments.

11 OPERATOR: Thank you. If you'd like to  
12 ask a question, please press \* then 1. One moment  
13 please.

14 At this time we have no questions on the  
15 phone line.

16 DR. LESLIE: Thank you very much. Okay.  
17 So what I'm going to do is I saw a couple people shake  
18 their heads or half raise their hands. So at this  
19 point we're going into kind of the last session of  
20 public comment, where we can kind of give you one last  
21 opportunity to get some good insights in and then  
22 we'll be wrapping it up with Larry kind of -- and  
23 myself trying to look at some of the parking lot  
24 issues and see if we got some ideas that the staff  
25 need to cogitate on before we meet with the public

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1 again. And so I saw Lisa and Tom. Tom wants to go  
2 first? Sorry.

3 MR. MAGETTE: Tom Magette, Energy  
4 Solutions. And I'm really full now. I asked a  
5 question in the last session, of Chris, regarding the  
6 notion of including a dose in the performance  
7 objectives, which was something that was part of the  
8 preliminary proposed ruling, which -- that came out of  
9 staff, which was in response, I think, to a lot of  
10 public comments telling you that you should do that.  
11 So I think that was certainly a good thing. It kind  
12 of begs the question of where it and other things that  
13 are new in the preliminary proposed rulemaking  
14 language are, in the context of the process that we're  
15 now going through.

16 And we were talking a little bit during  
17 the break and I think it's something that would be  
18 important for this and for the other public meetings  
19 for people to be able to understand, as you put it  
20 Drew, whether or not the starting point for this  
21 exercise is the rule that's on the books today or  
22 whether or not the starting point is the preliminary  
23 proposed rule language, which -- and what the  
24 Commission actually meant when it wrote the SRM.

25 And I think there probably are differing

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1 views about that and it's an extremely important point  
2 because I was busy looking for something that is  
3 between the SRM and the excellent presentation given  
4 by Gregory regarding the new issues and I think  
5 there's a whole suite of things out there; the  
6 robustness of an intruder barrier, the definition of  
7 long-lived waste, dose to an intruder, that are maybe  
8 presumed to be still on the table or maybe not to be  
9 presumed to be still on the table. So the question is  
10 where are they?

11 MR. PERSINKO: Well I'd like to say in  
12 response to that, you know, the way we've been  
13 interpreting it is that the SRM that we recently  
14 received was an SRM on the staff's draft proposed  
15 rule. And so the items that we had in the draft  
16 proposed rule is really what the SRM was directed at.  
17 It wasn't directed at Part 61 as it exists right now.  
18 It was meant as a direction to what we had already  
19 done on the draft proposed rule. And that's the way  
20 we're interpreting it.

21 DR. LESLIE: Lisa we'll get back to you.

22 MR. CAMPER: That's a good question, Tom.  
23 My good friend Sam Collins, who's now retired from  
24 the NRC, used to always say to us, "Where are you in  
25 the process? The process is your friend. If you're

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1 not traveling in the process, you don't have a wing  
2 man, you've got a problem." Where are we in the  
3 process?

4 That's a great question in this instance  
5 because we did not get to present the Commission with  
6 a proposed rule. What we did was we were already out  
7 of process by putting out the staff's proposed  
8 language for a proposed rule so we could get input.  
9 Well when we did that, then the Commission arguably  
10 reacted to what they saw and gave us further  
11 direction.

12 So in looking at what they have said, they  
13 want us to provide an expanded proposed rule. They  
14 had seen what we were going to provide them. Now  
15 they're saying expand it and they're saying the change  
16 is considered as part of this current rulemaking, the  
17 expanded rulemaking should be limited to the revisions  
18 addressing the four issues that we've been talking  
19 today.

20 So when you do a rulemaking and you hold  
21 the meetings like we have, if one goes back and looks  
22 at the direction that came out of SECY-08-0147 where  
23 we were directed to go do a limited rulemaking that  
24 was supposed to have focused upon the disposal of  
25 large quantities of depleted uranium, any time you do

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1 a rulemaking and you hold meetings like we held in  
2 Salt Lake City for example, or back in Washington, and  
3 things come up, like for example there was a  
4 recommendation by the folks in Hale, Utah that you  
5 should impose the 500 millirem dose standard for the  
6 intruder. There was the notion that the concepts  
7 section, 61.7.

8 I mean, the reason you go get input and  
9 have discussions, yes, your rule will change somewhat  
10 along the way because you'll hear things that people  
11 generally seem to think are worthwhile. You put it  
12 in. You send it to the Commission and the Commission  
13 can react. I mean, the Commission can do line item  
14 veto. They can accept it in whole. They can accept  
15 it part or they can cut line items, and so I think as  
16 Drew said, where we are now is we have this rule that  
17 we would have proposed. It's got a lot of good work  
18 in it. A lot of good stuff in it. And now we have to  
19 focus upon these four additional things. But I don't  
20 think we'll throw the baby out with the bathwater, if  
21 you will. Because a lot of good work went into that  
22 rule. And so I think that's -- I think you and I are  
23 saying the same thing Drew, just maybe in a little  
24 different way. Does that make sense? I mean, does  
25 that --

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1 DR. LEE: Just let me put a sharper focus  
2 to that. Later this summer we have an obligation to  
3 revise the technical basis, which is the foundation  
4 document for the rule. That, I believe, is due in  
5 September of this year. And I have every expectation  
6 that once we have finalized with the technical basis,  
7 which will lay out the foundation material for  
8 consideration in any revision to the existing rule -  
9 that technical basis will be publically available at  
10 some point.

11 DR. LESLIE: Okay.

12 DR. LEE: And then once -- then we'll re-  
13 convene the rulemaking team.

14 DR. LESLIE: All right. I'm going to go  
15 to Lisa and then maybe back to Tom and see if there's  
16 anyone else. Lisa.

17 MS. EDWARDS: Thank you. Lisa Edwards  
18 with Electric Power Research Institute. I would just  
19 go on the record with, first of all, I would not  
20 presume to override the SRM direction. If the  
21 direction, the way that Larry read it was pretty  
22 clearly written that you work on several different  
23 things at the same time. That didn't seem very  
24 ambiguous to me.

25 But I would go on the record that from our

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1 research, we think that if you address those four  
2 things in the latest SRM and perhaps add two or three  
3 other items that maybe are fairly small in their  
4 scope, that that may put you on a path to have to only  
5 do a single revision rather than both.

6 So if you can find a vehicle that takes  
7 that type of feedback and that vehicle allows you to  
8 get the staff direction modified, we would be very  
9 supportive of that and that may simplify your life as  
10 well as maybe the industry having a little clearer  
11 direction on which pie they're commenting on.

12 MR. PERSINKO: Lisa could you tell us what  
13 those two or three are, in your view?

14 MS. EDWARDS: Yes. I would update the  
15 tables to reflect the new dose conversion factors. I  
16 would also address the institutional control period  
17 and consider an alternative period. The third item I  
18 would include does not actually -- it's not actually  
19 contained in Part 61. I believe it's from 10 CFR Part  
20 20, Appendix G and it may be only a new regulation  
21 that has to be modified, but it's regarding the  
22 phantom four: the technetium-99, iodine-129, tritium,  
23 and carbon-14, that are manifested based upon LLD  
24 values. And I think artificially inflate the  
25 inventory, the declared inventory of a given disposal

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1 site.

2 And the reason, I think, even though it's  
3 not in Part 61, that it's directly applicable to this  
4 effort is because those nuclides in many instances  
5 drive dose scenarios and can actually dominate dose  
6 scenarios. So this over inflated estimate of their  
7 presence is quite impactful.

8 DR. LESLIE: Lisa, thanks for expanding  
9 upon that. I'll remind the NRC staff to make sure you  
10 identify yourself for the record. That was Drew  
11 Persinko and previously Mike Lee. Mike probably said  
12 his name. Tom you want to go again?

13 MR. MAGETTE: Tom Magette, Energy  
14 Solutions. I appreciate what you said in Larry's  
15 response too, in terms of what your starting point is.  
16 It's still not clear to me though what portions  
17 constitute the baby and what portions constitute the  
18 bath water. So I know you're talking about keeping  
19 some, but I don't know what some is. So, and it's not  
20 up here. It's not in the -- it's not, the Commission  
21 told us to give up these new expanded things. It's  
22 not up that these other things on the table that we  
23 might want to throw out that you guys have talked to  
24 us about. It's in the ether somewhere. And I think  
25 we need some specific clarification on that.

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1           For example, clearly period of performance  
2 is something that I would argue based on the  
3 preliminary proposed rule language that the Commission  
4 was responding to.

5           I presume there's going to be a change in  
6 response to the direction from the Commission. So  
7 that part of the new language isn't there. It's not  
8 on the table. It's the bath water. 500 mrem goes to  
9 intruder. That's the baby. Or part of the baby. So  
10 that's to me, except the answer that you gave as being  
11 a reasonable interpretation, sure, the Commission will  
12 have an opportunity to clarify if that's not what they  
13 meant for you. That they meant something else. But  
14 presumably that that's what they meant, that's a  
15 perfectly fine answer. It's just I still don't know  
16 exactly what it means. So short of even having a  
17 technical basis or a proposed rule to respond to,  
18 knowing which of those items are in that category  
19 would be very helpful.

20           DR. LESLIE: Tom, I put up a graphic and  
21 I'm hoping to try to capture for the staff kind of the  
22 concern, which is as people have said, that the draft  
23 proposed rule language had a bunch of comments or  
24 topics. Let's call them A, B and C. And then the SRM  
25 came out with four items. It'd be useful to see, well

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1 is A addressed by the SRM at all? If so, it's  
2 addressed by items two and four because it's a  
3 compatibility issue. You know, is that the kind of  
4 clarity that you're trying to get in trying to  
5 understand that? And I don't know if we can do that,  
6 but basically what I'm hearing is, you know, you had a  
7 lot of stuff in there before. How does the SRM impact  
8 it? Because that's basically -- the SRM said deal  
9 with these four issues. When the staff is trying to  
10 deal with those four issues, what are all the things  
11 that get impacted by that?

12 MR. MAGETTE: That might be one way to do  
13 it. I hadn't really thought of it that way. But I  
14 think you probably could go through there and pull out  
15 what's new. You could enumerate them on a slide and  
16 say these are the things that we had proposed. These  
17 are the things that we think we're still going to  
18 propose. And these are the things that we're no  
19 longer going to propose and/or are going to modify by  
20 virtue of the SRM. Maybe that's what you meant. Does  
21 that make sense?

22 MR. SUBER: Yeah. This is Gregory Suber  
23 from the NRC. Yeah, thanks. That makes a lot of  
24 sense. And we were sitting here as you were talking  
25 and that's something that we could do quite easily and

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1 we could also put it on the website so that before we  
2 even get to the next meeting, you know, you can go on  
3 the website. You can check and you can see what the  
4 delta is. You know, the things that may have changed  
5 or fallen out as a result of the SRM and the things  
6 that the staff believes are still relevant in spite of  
7 the SRM. So that is something, and thanks for the  
8 comment, that is something we could do relatively  
9 easily and we could also put it on the website so that  
10 anybody who's coming to the meeting will have that  
11 information so they can comment on the most recent  
12 information.

13 DR. LESLIE: Sure. Larry.

14 MR. CAMPER: I agree with what Greg just  
15 said. And I, you know, based upon my discussions with  
16 the Commissioners who initiated the COM, I've never  
17 heard any concern about much of the other things that  
18 were being addressed. Clearly, the period of  
19 performance. I mean, there's no question there was no  
20 satisfaction with 20,000 years. Very clearly. And we  
21 had very specific language about that. I think what  
22 we'll probably do is take all the other things that  
23 were in there as proposed changes and we'll probably  
24 do a Commissioner's Technical Assistants briefing and  
25 just go through this and, you know, then we can go

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1 back and say, okay, these are the things that we  
2 understand.

3 I mean, the Commissions Assistants can  
4 post their principles. And we'll come away with a  
5 pretty good idea. Okay. All these other things that  
6 we were coming up with, they're good to go presumably.

7 And then we can get that information out. But that's  
8 a fair question. Because we are, again, we're in a  
9 strange process from a process standpoint. I mean,  
10 that's the problem.

11 We put out something, you know, no good  
12 deed goes unpunished. We put out language and, you  
13 know, and then decisions were made before the proposed  
14 rule was actually up there. But they can do that.  
15 They can do policy anytime they want to do policy. So  
16 you're making a very good point though. We should  
17 seek to clarify that.

18 DR. LESLIE: So are there any other --  
19 yeah. I see we got one more hand. Make sure you  
20 identify yourself for the record.

21 MR. SHRUM: Dan Shrum with Energy  
22 Solutions. To go back to what Larry just stated. You  
23 are in a different place and so are we. We are used  
24 to you responding to our comments. And we haven't  
25 received that feedback yet either. So I'm going to

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1 pile on with what Tom just said. We're really -- we  
2 still are not sure where you are in your process.  
3 What you would like us to be responding to, providing  
4 information on because, you know, whatever the issue,  
5 I mean, the -- what was that, a draft proposed rule?  
6 It went out. We spent a lot of time with it. We made  
7 our comments. Normally you would respond back to  
8 those. We would know where you were -- where your  
9 thought process was with respect to those issues that  
10 we responded to. You know, the SRM has overridden  
11 that. We understand that. But we're not sure where  
12 you are, what your real next steps are going to be.  
13 That's my point.

14 MR. SUBER: Greg Suber from NRC. I  
15 understand that. Now, and I think what Larry was  
16 saying is that historically in a rulemaking we  
17 wouldn't put the proposed rule language out for  
18 comment. We did a lot of things this time because we  
19 knew that the public was very, very engaged and very  
20 interested in the topic. We did a lot of things this  
21 time that we would not normally do. And so people had  
22 an opportunity to comment on the proposed draft rule  
23 language.

24 Typically, what would happen is the staff  
25 would prepare a technical basis document and from that

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1 technical basis document we would propose a draft rule  
2 and we would send that draft rule to the Commission  
3 and after the Commission votes on that rule, it would  
4 go out for public comment.

5 And so with our process, we allowed the public  
6 to comment on a process far in advance of sending it  
7 to the Commission, which is not what we usually do.  
8 You know, we -- as Larry says, no good deed goes  
9 unpunished. We were trying to have increased  
10 interaction by sending out the draft rule language.

11 Now as Drew was indicating earlier, I  
12 don't think we're going to have that luxury this time  
13 due to our time table. Because number one, it's out  
14 of process. And number two, it will add significantly  
15 to the time that we have to process this rule.

16 So what we can do is we can update our  
17 webpage as frequently as we can with relevant  
18 information. We can communicate that information at  
19 the public meetings that we attend, too and you can  
20 engage the staff as to, you know, how -- the progress  
21 on the how the review is going. But it's doubtful  
22 that we'll be able to issue the proposed draft rule  
23 language once again for public comment and still meet  
24 the expectations of the Commission.

25 DR. LESLIE: That elicited three comments

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1 and then I'll go -- I'll go across the room from John  
2 Greeves over back to Tom Magette, but Chris, can you  
3 also see if there's anything on the Webinar in terms  
4 of comments?

5 MR. GREEVES: Dan seems to think his  
6 comment is timely with -- I'll yield to Dan. Is that  
7 okay?

8 DR. LESLIE: Sure.

9 MR. SHRUM: Don't misunderstand what I  
10 said. We appreciate everything that you've done. And  
11 I know what you have to do going into the future. But  
12 I also see that you have six opportunities for  
13 additional input. All my point is, we still don't --  
14 we haven't received back from you what you think of  
15 our previous input, so were we successful? How would  
16 you like us to proceed in the future? We appreciate  
17 you opening this up so that we can provide comment.  
18 It's just that -- it's like we hit the ball across and  
19 it never came back. And we're, you know -- pardon --

20 (Comment by audience off the microphone)

21 MR. SHRUM: Why do I feel that way?

22 MR. CAMPER: We had meetings. Staff put  
23 out its proposed language before it was a proposed  
24 rule. The language that you saw that we put out was  
25 going to the Commission pretty much as it was in the

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1 document we put out. In other words, we did engage.  
2 We did listen. We did create draft language. You  
3 might not have liked certain parts of it. For  
4 example, 20,000 years. But you knew what it was going  
5 to say. So I don't understand why you say you didn't  
6 know what you got.

7 DR. LESLIE: Let me try. Larry.

8 MR. CAMPER: Help me out with that.

9 MR. GREEVES: John Greeves. I was going  
10 to make my original comment but I'll digress for a  
11 minute. The small example, Larry, is, you put out  
12 something called a proposed rule. It had that 20,000-  
13 year number, which was the lightning rod. And lots of  
14 comments came back in but we never saw the official  
15 response from the staff because you never got a chance  
16 to give it to the Commission. So we haven't actually  
17 seen that.

18 MR. CAMPER: That's because you never got  
19 a proposed rule to the Commission.

20 MR. GREEVES: Correct. We're in line.  
21 But that's what Dan's trying to say. We never really  
22 saw the answer to those comments. So, I'll separate  
23 from that, but make the comment I was going to make.

24 Bret made a wonderful recommendation that  
25 a next meeting that -- and I'd like to have it happen,

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1 that the proposed draft rule, which had a bunch of  
2 items in it, including 20,000 years, if there's a way  
3 you could let us know what you think the SRM four  
4 items did to color that --

5 MR. PERSINKO: We said we would.

6 MR. GREEVES: --that's what you said you  
7 were going to do.

8 MR. PERSINKO: We said we would do that,  
9 right?

10 MR. GREEVES: You can avoid calling it a  
11 proposed rule as far as I'm concerned. I don't care  
12 what you call it. But give us some insight because  
13 there were a few items in that proposed rule that were  
14 lightning rods. And for us to help you, we need some  
15 feedback on what do you think the SRM did to those  
16 items and we can have a useful engagement. Just don't  
17 call it a proposed rule. And by the way, I think you  
18 did the right thing by putting that thing out that you  
19 called a proposed rule. Because it has engendered a  
20 really good dialogue.

21 MR. PERSINKO: I think we could, you know,  
22 we could identify in that -- oh, yeah, this is Drew  
23 Persinko. We can identify what we think the SRM  
24 affected in that draft proposed rule but I don't think  
25 at this point we can say which way it -- did it change

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1 it this way or that way. Because that would be  
2 considered as part of the rulemaking process.

3 DR. LESLIE: John Greeves.

4 MR. GREEVES: I would hope that the 20,000  
5 number is moved back towards 1,000 years.

6 DR. LEE: Well -- this is Mike Lee. We  
7 don't have a number in mind right now. And part of  
8 the motivation behind having these public outreach  
9 meetings is to get some sense from stakeholders and  
10 other interested members of the public, should there  
11 be a number? If so, what should that number be? And  
12 we're trying to use these public meetings as an  
13 opportunity to get your views on how we should go  
14 about reconstructing the technical basis to support a  
15 rule, consistent with the Staff Requirements  
16 Memorandum.

17 MR. PERSINKO: And let me add that there's  
18 going to be -- we're going to have two additional  
19 meetings on this. I mean, this is the stakeholders in  
20 this meeting. But there may be additional  
21 stakeholders in the future meetings that are not  
22 present today.

23 DR. LESLIE: Okay. I saw Linda and then  
24 I'm going to get back to Tom here.

25 MS. SUTTORA: Linda Suttora, DOE. I

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1 think, as everyone else has said, doing the  
2 preliminary proposal was excellent and very helpful.  
3 And I just personally don't want to start writing more  
4 letters and inundating your mailbox with new comments.  
5 And I think that's -- there were five of us at lunch.  
6 We had five different ideas of where we're starting  
7 with now. And each person heard a different thing.  
8 And so I think it was just that level of confusion.

9 I certainly do not want you to respond to  
10 our comments at this point. Because as a bureaucrat,  
11 I know what hell that is. And to get it through the  
12 system and get it signed out would be just a huge  
13 project. So that's what I don't want.

14 But what we've discussed since then is the  
15 idea of just giving us bullet points of where we are  
16 now would be just fabulous. That's all we're trying  
17 to -- because I don't want to generate more paper and  
18 I don't want to attend any more of these meetings than  
19 I have to and I don't want to start flying all over  
20 the country to catch up with you and make sure that my  
21 points are heard again and again. That's not the  
22 point.

23 DR. LESLIE: Thank you Linda. Tom.

24 MR. MAGETTE: Thank you. Tom Magette,  
25 Energy Solutions. I appreciate your response to my

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1 question and comment. I think you have captured it.  
2 I do not intend to re-plow the ground. I think that  
3 will work. I would like to say, as the previous three  
4 commenter's did though, I don't want you to feel like  
5 this falls into the category of every good deed goes  
6 unpunished because I think it's a really improved  
7 process to do it that way.

8 I don't know how much you guys are  
9 involved in some of the other things that are going on  
10 like I'm involved in some of the other things that are  
11 going on, but you know, there's a lot -- Part 110,  
12 changes to import and export in particular as they  
13 relate to sealed sources or problems. But a proposed  
14 rule -- final rule process was not able to highlight.  
15 We made comments after we saw the SECY. OIP didn't  
16 want to pull the SECY back with the proposed rule.  
17 They wanted -- said make them on the proposed.  
18 They'll go into the final. The other people hadn't  
19 seen them and now there's a lot of fallout in terms of  
20 trying to address some things in the new BTP and you  
21 guys are probably aware of that.

22 And Part 21's in the realm right now if  
23 they're contemplating some changes, which would have  
24 very dramatic impacts. There's a lot of back and  
25 forth with the industry. They're contemplating

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1 something like the preliminary proposed rule. It  
2 would be a really good idea.

3 So as process goes, if process is your  
4 friend, that's your best friend. Because otherwise we  
5 get into this level of formality, which is really  
6 difficult to work through it sometimes. And so I  
7 would really hate for you to hear the comment, and I  
8 told Mr. Borchardt [NRC's Executive Director for  
9 Operations] the same thing, that's a really, really  
10 good thing. You should do more of it, not less.

11 DR. LEE: This is Mike Lee, NRC staff.  
12 I'm not trying to put words in anyone's mouth but is  
13 the suggestion that if we move a little slower with  
14 what we're thinking or may ultimately come up with the  
15 proposed rule, there's an advantage to getting some  
16 stakeholder feedback on that sooner rather than later?  
17 Because right now we're committed to this 18-month  
18 schedule. I mean, that's really what this is coming  
19 down to. Is how much we can get done in the time that  
20 we've been given. And if I'm hearing -- at least this  
21 is my interpretation of what I'm hearing. Is you'd  
22 prefer to get a better appreciation for what the staff  
23 may do when it does it sooner to allow a more  
24 efficient rulemaking process to take place later on  
25 down the road rather than sending us another round of

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1 comments.

2 MR. MAGETTE: Tom Magette with Energy  
3 Solutions. Maybe not. You know, it's a hard  
4 question, Mike, because generally speaking I would  
5 favor that approach but, you know, as the Chairman  
6 pointed out in his vote sheet, you know, we're years  
7 into a process and tacking on 18 months and I  
8 understand your review cycles are what contribute a  
9 lot to that time scale and, you know, people could go  
10 home and work something up a lot quicker than they get  
11 it through the system. It might be that it would bear  
12 some thinking about.

13 I think what you've proposed goes a long  
14 way. You were actually doing it before frankly. I  
15 mean, John and Dan are right. We didn't see something  
16 like a SECY with a proposed rule, but you had made  
17 some changes to that language and posted them on your  
18 website when we were talking about the complication of  
19 an intruder barrier lasting 20,000 years. And you  
20 were able to clarify that as you were going along and  
21 we were able to see that. So we would see what you're  
22 thinking. Right now, there is a grey area where we  
23 don't know what you're thinking. And aside from the  
24 fact that, yes, other stakeholders will say other  
25 things, I think what Gregory and Drew have been

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1 talking about is going to help an awful lot.

2           Ideally, yes, I would love to see what a  
3 draft rule looks like before it goes to the Commission  
4 in a SECY. Every time I would love that. But at some  
5 point in this particular process where, you know, how  
6 long are we going to take? And I don't think there's  
7 any health and safety implications in the meantime.  
8 And I think there are other issues going on in terms  
9 of the waste streams that kicked this off that are  
10 going to be able to be disposed or not disposed  
11 depending on other processes that are going on.

12           So I don't think it's necessarily holding  
13 it from that perspective, it may very well be better.

14           But, you know, at some point in time we -- I think I  
15 want to get this one pushed further along. It's a bit  
16 of a trick question, Mike.

17           DR. LEE: Yeah. And I'm not -- this is  
18 Mike Lee. We're not suggesting that this is a burden  
19 to perform. All I'm trying to acknowledge is that the  
20 three legs of project management - they are time,  
21 resources, and product. And we can only do so much  
22 within the constraints that we've been given, which  
23 right now is primarily time.

24           DR. LESLIE: John.

25           MR. GREEVES: John Greeves. Not to beat a

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1 dead horse, but emphatically no. Don't slow this  
2 thing down. You can get this done in 18 months. You  
3 can get it done in less. The issue that I think a  
4 number of people were identifying is that to the  
5 extent you make obscure where you're going, you're  
6 going to get less real feedback from us. So we very  
7 much appreciate it -- the proposed rule language. It  
8 gave you a chance to see where the heartburn was. And  
9 so we want you to do that again. You don't have to  
10 call it a proposed rule. Just call it anything and  
11 then we could smoke out the real issues and you can  
12 get this thing done in 12 months instead of 18.

13 DR. LESLIE: All right. Chris --

14 MR. PERSINKO: I would just like to point  
15 out that the rulemaking people we deal with have  
16 assured me that 18 months is tight.

17 DR. LESLIE: While Chris is looking on the  
18 --

19 MR. PERSINKO: Drew Persinko by the way.

20 DR. LESLIE: Very good Drew. By the very  
21 end of the meeting we'll have you trained. At this  
22 point I want to go to the phones to see if there are  
23 any final questions. I think the energy is fading  
24 here in the room, and so are there any further  
25 questions at this point from the phones?

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1 OPERATOR: And once again, to ask a  
2 question press \*1.

3 I'm showing no questions.

4 MR. GROSSMAN: She said no questions.

5 DR. LESLIE: Okay. I'm going to start a  
6 little recap and give a Larry a second or two to think  
7 about some of his closing comments. You know, we had  
8 a lot of good questions on technical issues. I  
9 captured a few things on the parking lot that are more  
10 process related. We spent a lot of time talking about  
11 what the people need to understand. What's changed.  
12 And as I went forward and so one of the things was --  
13 and I think the staff heard that fairly clearly. Is  
14 how best to engage the stakeholders in both the  
15 meetings but also in how they can share information in  
16 the interim to get a little more clarity on going on.

17 I think the staff really understands that  
18 in terms of dealing with the fourth issue on  
19 compatibility and how it impacts those other portions  
20 of the rule, you have to have the right players. I  
21 think, you know, they're going to go back and think  
22 about what the best way is, a roundtable or whatever.

23 But I think one of the other things that  
24 may fall out of that is when the staff -- because a  
25 roundtable is only a good forum if you have the right

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1 people and the people know what they're supposed to  
2 talk about. What the topics are. So to the extent  
3 that the staff can kind of again let the people know  
4 what things have changed or how, you know, what the  
5 SRM has impacted, I think that would prepare people  
6 for any type of a public meeting to be better prepared  
7 to come in and engage a little more productively. Not  
8 that -- none of -- I mean, all of this was productive  
9 today and I'm speaking as a facilitator. That it was  
10 helpful to hear the concerns, both the technical and  
11 procedure. Because both are necessary to get to a  
12 better answer.

13 Larry, do you want to have any final  
14 comments or closing comments?

15 MR. CAMPER: I put this slide back up  
16 again that shows you the meetings that are coming up  
17 in the near term. One of the things we will do is go  
18 back, given what we heard today, and reassess the  
19 format for the meeting. The meeting that we have in  
20 Dallas or the meeting we have back in Washington, most  
21 of the same people will be there. But there may be  
22 more members of the general public that might attend  
23 those meetings than were here today.

24 This meeting might have been better served  
25 by a different format. But we'll reassess the

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1 approach we're using, given what we heard today, and  
2 would encourage you to, to the extent you can, try to  
3 make those meetings.

4 And then I want to go back to this one  
5 again because as I pointed out, if you look at the  
6 black part of the bar on the SSA [Part 61 site-  
7 specific analysis rulemaking] line, that's the  
8 timeline that we have to complete the revised  
9 technical basis so that we can get a proposed rule to  
10 the Commission by the 13<sup>th</sup> of July. And right now we  
11 have a drop dead date, i.e., 18 months. So there's  
12 not a lot of time to get that done. But it's a  
13 constraint we have to work with.

14 Just a few things. We had a lot of  
15 dialogue in the last few minutes and John was pointing  
16 it out in particular, that is, you know, is concerned  
17 about the 20,000 years. I think it's reasonably safe  
18 to say that the 20,000 year period of performance is  
19 not -- or time of compliance is not going to survive.  
20 I mean, there's no doubt in my mind when I talk with  
21 one of the Commissioners and there was a preference  
22 not to express any time and you have direction in a  
23 SRM that, you know, talks about establishing a period  
24 of compliance that covers the reasonably foreseeable  
25 future. I mean, it's pretty clear to the staff there

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1 wasn't satisfaction with 20,000 years. You know, I  
2 think the staff did a very fine job in developing the  
3 period of compliance and I think there was some good  
4 science behind it. But we got a clear signal from the  
5 Commission. There's no question about that.

6 In terms of what survives in the rule  
7 given the recent Commission direction, that's a very  
8 good comment. And we appreciate that. We will -- I  
9 want to go meet with the Commissioners' Technical  
10 Assistants. I don't want the staff to go out on a  
11 limb without, you know, full Commission support.  
12 Because we had a change late in the game. The  
13 Commission can change policy or create policy anytime  
14 they want to. But it's important from an efficiency  
15 and resource standpoint that we know we're in the  
16 right place. So we will do a Commissioners' Technical  
17 Assistants briefing and then we will strive to get the  
18 information out on the web. We may be able to even  
19 talk about it at the next meeting like this, what  
20 survives.

21 We've had some interesting suggestions  
22 about things that might be added to this particular  
23 rulemaking that could negate the need for yet a second  
24 rulemaking. And I know that at least one organization  
25 intends to communicate with the Commission about that

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1 based upon a lunchtime conversation. And so that's  
2 good.

3 I think that I mentioned to you before, on  
4 one hand we have very clear direction. Focus upon  
5 these things. Continue to gather comments. Time  
6 certain and so forth. But a question that we have  
7 asked ourselves is what things come up during these  
8 meetings that might cause us to want to communicate  
9 with the Commission and say here's a handful of things  
10 that have surfaced that might be readily dealt with.

11 You're not going to readily deal with  
12 items like, don't have Part 61 built around the waste  
13 classification table. Don't have the intruder  
14 protected. Those are not easy issues that can readily  
15 addressed. But some of these other things, perhaps.  
16 And so we'll think about that and ponder the need to  
17 communicate further with the Commission.

18 There's a lot of interest in favor for  
19 maximum flexibility with regards to the use of ICRP  
20 methodologies. I think that came through pretty  
21 clear. There seems to be a sense of generally putting  
22 a number for the period of compliance in the  
23 regulation. It seems that 1,000 years was probably  
24 talked about more than any other number.

25 A lot of interest in the question of

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1 compatibility. And the process for interacting with  
2 the Agreement State regulators. I mean, we have a  
3 process we go through in establishing compatibility,  
4 but my sense was there's some interest in perhaps the  
5 agreement state regulators that have the sites, you  
6 know, being involved in a forum perhaps that's public  
7 where that can be talked about.

8 There seems to be a great deal of interest  
9 in retaining the tables in Section 61.55 but to update  
10 them bringing to bear the latest dose conversation  
11 factors. Again, some comments about compatibility and  
12 the role that trans-boundary issues influence  
13 compatibility.

14 Some comments about being careful to avoid  
15 unintended consequences and making sure that you  
16 optimize and achieve the desired outcome.

17 I mentioned the format for future meetings  
18 we'll reassess.

19 And let me say that even though, as I said  
20 during my comments, we were charged with continuing to  
21 explore the SECY-10-0165, I think that the views that  
22 have been expressed today in terms of perhaps that has  
23 been overcome or we don't need to focus as much upon  
24 that as before, given the recent Commission direction.

25 I understand what you're saying. I hear that. But

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1 it's complicated. We do have several assignments  
2 simultaneously and we want to make certain that we  
3 don't assume anything other than to follow the  
4 Commission direction and then present to the  
5 Commission ultimately a proposed rule that the  
6 Commission will react to.

7 So I appreciate all your comments,  
8 spirited at times. And that's okay. That's part of  
9 the process too. But good comments. Good input. And  
10 again, I want to thank you for staying over the extra  
11 day. Taking the time to be engaged and to help  
12 influence the outcome. We appreciate all of your  
13 input. Thank you.

14 DR. LESLIE: And Larry, thank you both the  
15 audience and the staff members on their preparation.  
16 And for the people on the Webinar and the phone, these  
17 are the closing comments. Again, thank you for  
18 allowing me to move the schedule around so that you  
19 could be engaged. And don't forget there are meeting  
20 comment summary forms out there. So if you have  
21 questions or suggestion on how we can improve our  
22 meeting process, we'd be happy to have them. And with  
23 that, I'm going to close the meeting. Thanks again.

24 (Whereupon the proceedings in the  
25 foregoing matter were adjourned at 3:23 p.m.)

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