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

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FRIDAY,

MARCH 20, 2015

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

PRESENT:

CHIP CAMERON, Facilitator

LARRY CAMPER, NMSS

STEPHEN DEMBEK, NMSS

DAVID ESH, NMSS

GREGORY SUBER, NMSS

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P R O C E E D I N G S

(8:35 a.m.)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

And we're going to accept comments 120 days from the date of publication. According to the Federal Register people, this is another one of the slides that just changed, that close date is July 24, 2014. So that's the 120-day period. You have got to have your comments into us by then.

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

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

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

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

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

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

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

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

Okay, now I'll shift and talk about the

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

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

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

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

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

an outline of what's different.

First of all, you see the first bullet, the docket number is different. We have a different docket number, but you can go to the federal rulemaking website at www.regulations.gov and as long as you put this docket number in, you can comment on the guidance. And you can mail comments in. So we don't have any many options for the guidance document. You can mail comments in and it's a different mail address. This goes to our Office of Administration. The rule comments go into our Office of the Secretary at the NRC.

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

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

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

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

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

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

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

MR. SUBER: I can add a little bit more

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

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

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

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

Dan, do you have a follow up on this?

MR. DEMBEK: I think it will be --

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

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

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

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

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

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

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

MR. CAMERON: Okay, thanks, Tomi. John.

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

I'll get closer.

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

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

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

Mr. <Carter.= Thank you, John. And everybody will just have to speak into the mic so that we can get it.

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

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

MR. CURILLI: Yes, it does.

MR. DEMBEK: Okay.

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

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

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

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

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

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

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

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

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

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

What you will find now is we have a

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

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

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

Anyway, that's the context for the analysis time

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

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

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

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

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

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

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

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

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

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

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

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

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

better reflect what's going on at your site.

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

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

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

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

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

Defense-in-depth though could be an

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

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

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

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

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

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

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

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

We tried to provide a lot of examples,

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Just please introduce yourself to us.

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

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

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

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

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

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

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

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

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

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

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

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

to come up with your own.

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

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

MS. EDWARDS: Yes.

MR. CAMERON: All right.

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

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

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

MR. CAMERON: This is Larry Camper.

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

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

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

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

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

part of the table.

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

MS. EDWARDS: Yes. Thank you.

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

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

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

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

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

And then if you aren't in a good place, well then, see, you can sharpen pencil and make a good argument for some alternative scenarios. MR. CAMERON: Thank you. Thank you, Dave. Thank you, Larry. This is John Greeves.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. CAMERON: Chris? And please introduce yourself.

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

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

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

Thank you.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

So there's no on there?

OPERATOR: We have one question in queue.

MR. CAMERON: Okay.

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

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

MR. ESH: Hi, Roger.

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

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

MR. CAMERON: David, comment?

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

given technical and economic considerations.

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

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

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

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

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

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

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

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

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

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

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

objectives.

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

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

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

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

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

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

MR. CAMERON: Okay. Thank you, Linda.

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

OPERATOR: I'm showing no other questions

in queue.

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

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

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

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

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

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

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

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

MR. ESH: Right.

MR. SCHRUM: So that's all B?

MR. ESH: Right.

MR. SCHRUM: Everything that --

MR. ESH: Isn't it?

PARTICIPANT: We got to get you on --

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

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

through this process.

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

(Laughter)

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

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

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

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

MR. ESH: Right.

MR. SCHRUM: And then I'm --

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

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

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

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

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

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

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

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

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

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

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

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

MR. ESH: No.

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

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

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

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

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

Chris, do you remember?

(No audible response)

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

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

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

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

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

MR. ESH: Right.

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

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

MR. GREEVES: Yes.

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

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

MR. ESH: -- because --

MR. GREEVES: -- voice the --

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

MR. GREEVES: Just as a place holder --

MR. ESH: Right.

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

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

their mind and expand their facility, take more inventory.

MR. GREEVES: Right.

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

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

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

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

We did discuss this grandfathering concept

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

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

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

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

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

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

Larry, you heard the concern.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. ESH: Right.

MR. ROBERTSON: Hopefully they're doing

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

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

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

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

MR. CAMERON: Okay. Lisa?

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

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

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

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

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

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

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

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

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

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

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

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

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

Yomi, is there anybody on the phone?

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

MR. CAMERON: Okay.

MR. SUBER: Chip, can I --

MR. CAMERON: Go ahead.

MR. SUBER: say something --

MR. CAMERON: Go ahead, Gregory.

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

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

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

(No audible response)

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

OPERATOR: No questions in queue.

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

MR. SUBER: Yes, we can do that.

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

Gregory Suber, Branch technical position.

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

confused, make that clarification.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

FACILITATOR CAMERON: Bob? Bob Halstead.

MR. HALSTEAD: Thank you.

Bob Halstead, State of Nevada.

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

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

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

FACILITATOR CAMERON: Okay. Chris?

Are we going to Chris on this one?

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

(Laughter.)

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

(Laughter.)

I will defer to my counterparts in DOE.

FACILITATOR CAMERON: Okay. And just please introduce yourself.

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

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

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

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

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

FACILITATOR CAMERON: Do you want to add? Okay.

MR. HALSTEAD: Thank you.

FACILITATOR CAMERON: You got it, Bob?

MR. HALSTEAD: Thank you.

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

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

FACILITATOR CAMERON: Yes.

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

It sounded like I had a question, but okay.

FACILITATOR CAMERON: Just for everybody's information.

Lisa?

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

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

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

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

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

application of the alternative approaches.

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

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

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

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

(Laughter.)

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

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

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

OPERATOR: There are no questions at this time.

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

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

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

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

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

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

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

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

MR. MILLER: Sure, sure.

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

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

those requirements.

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

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

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

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

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

for activity.

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

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

Thank you.

MR. SUBER: Okay. all right.

FACILITATOR CAMERON: Thank you, Clint.

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

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

MR. MILLER: Because Part 37, it is

requiring perhaps more precision on our part than we would have in a regular waste classification and shipping typification.

FACILITATOR CAMERON: Okay.

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

FACILITATOR CAMERON: Okay. Good.

Let's go to Tom Magette.

MR. MAGETTE: Thank you.

Tom Magette, Pricewaterhouse Coopers.

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

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

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

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

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

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

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

Thank you.

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

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

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

MR. SUBER: Did you want to handle it?

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

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

FACILITATOR CAMERON: Yomi, anybody on the phone?

OPERATOR: We are showing no questions in queue.

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

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

Okay, let's go to this gentleman.

MR. NOLAN: Mike Nolan, Energy Northwest.

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

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

FACILITATOR CAMERON: All right. Anybody?

(No response.)

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

OPERATOR: I am showing no questions in the queue.

Participants, I would remind you, please

press *1 and record your name if you would like to ask a question.

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

Did anybody respond to that, Yomi? Anybody on?

OPERATOR: No questions at this time.

FACILITATOR CAMERON: Okay.

Larry?

MR. CAMPER: Thank you, Chip.

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

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

Since we are on the record, I want to make a few comments in closing. I always like to kind of share with you what I hear coming from the Division Director perspective, but also it is important because others will read this transcript. Members of the

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

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

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

Speaking of the Commission, clearly, there is a great deal of interest in this rulemaking by the Commission and, for that matter, I would say there is a great deal of interest by the Commission in waste issues in general. We get asked a lot of questions by the Commission offices. The Commission deliberated on this rulemaking extensively. I mentioned in my opening comments we got three sets of direction from the Commission. So, the Commission is aware. The Commission is interested. I know some of you do

drop-in visits with the Commissioners. So, do know that it is on their minds.

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

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

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

And that assignment was to update the waste

classification scheme, bringing to bear current ICRP methodologies and, in particular, to determine the class of waste for depleted uranium.

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

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

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

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

also need to examine the concentration averaging BTP that was recently finalized that Greg just shared with you in his comments.

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

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

Ultimately, as Greg said, part of our plan is to make certain modifications to the manifest that accompanies the disposal of waste as part of our finalization of this rule. We will also, then, update NUREG/BR-0204. The RIS dealing with the Phantom 4 was an interim step, so that there could be guidance out

there, particularly guidance with regards to the use of scaling factors to address accounting for those four radionuclides.

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

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

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

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

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

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

This rulemaking, similarly, will fully protect the inadvertent intruder by requiring an assessment and by imposing a dose limit. Protection of the inadvertent intruder has always been there at 61.42, and sites are designed to protect the inadvertent intruder. What this rule does is make it explicitly clear, not implicitly present.

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

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

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

Given that they are the states that actually have the operating sites, it is very, very

important they provide comments to the staff and that they fully understand the contents of the rule. And so, we will specifically reach out and interface with the agreement states.

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

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

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

It is a big year. It is a very big year

for what we do on the waste front. Part 61 rulemaking, concentration averaging BTP implementation, GTCC, Greater Than Class C waste, and the communication that we will be having with our Commission in the May/June timeframe.

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

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

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

MR. SUBER: June or July.

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

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

ago, and I was very pleased to see that the work that our staff had done did align with the analyses that had been performed by EPRI. And so, we got a scientific gut check there, if you will. That is a good thing.

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

Thanks for coming today.

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

Thank you for your input.

(Applause.)

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

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