Title: Very Low-level Radioactive Waste Scoping Study and Greater than Class C Waste Public Meeting

Docket Number: (n/a)

Location: Rockville, Maryland

Date: Thursday, February 22, 2018

Work Order No.: NRC-3535  Pages 1-173

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

+ + + + +

VERY LOW-LEVEL RADIOACTIVE WASTE SCOPING STUDY AND
GREATER THAN CLASS C WASTE PUBLIC MEETING

+ + + + +

THURSDAY

FEBRUARY 22, 2018

+ + + + +

ROCKVILLE, MARYLAND

+ + + + +

The Meeting convened at the Nuclear Regulatory Commission, Two White Flint North Auditorium, 11545 Rockville Pike, at 9:00 a.m., Daniel Mussatti, Facilitator, presiding.
NRC STAFF PRESENT:

DAN MUSSATTI, NRO, Facilitator
STEVE DEMBEK, NMSS
MAURICE HEATH, NMSS
KELLEE JAMERSON, NMSS
TIM McCARTIN, NMSS
CHRIS McKENNEY, NMSS
CARDELIA MAUPIN, NMSS
JOHN TAPPERT, NMSS
GREGORY SUBER, NMSS
HARRY FELSher, NMSS
SARAH ACHTEN, NMSS
JANELLE JESSIE, NMSS
HAIYONG JUNG
HANS ARLT, NMSS
DAVID ESH, NMSS
IAN IRVIN, OGC
BOBY EID, NMSS
MICHELLE SAMPSON, NMSS
MARIA ARRIBAS-COLON, NMSS
PRIYA YADAV, NMSS*
ADAM SCHWARTZMAN, NMSS*
ANGEL MORENO*
BERNADETTE BACA*
CYNTHIA BARR, NMSS*
NRC STAFF PRESENT (CONTINUED):

DON LOWMAN*
GARY PURDY, NSIR*
GARY COMFORT, NMSS*
KATHY MODES*
MELANIE WONG, NMSS*

ALSO PRESENT:

AMANDA SPALDING*
AMBER IGOE*
AMEESHA MEHTA-SAMPATH*
ANDREW PARK*
ANDY ZACH*
BEN WISHERT*
BETSY FORINASH*
BETSY RIVARD*
BOB SKOWRONEK*
BOBBY SMITH*
BRAD BROUSSARD*
BRET LESLIE*
BRYAN BAKER*
CHARLES YARD*
CHRISTINE ANDRES*
DARRELL LILES*
DAVID MARTIN*
DAVID HASTINGS*
ALSO PRESENT (CONTINUED):

DAVID ASSELIN*
DAVID KANIA*
DAVID PICKETT*
DAVOOD ABOUDARDA*
DAWN CINQUINO*
DENNIS MEIER*
DEREK BRICE*
DONALD OESTERLE*
EARL FORDHAM*
ED LEDUC*
ELIZABETH ZIMMER-LLOYD*
ERIC SKOTAK*
GARY FORSEE*
HANS WEGER*
HEATHER THACKER*
HOWARD SHUMAN*
JAMES SHAFFNER*
JANET JODLOWSKI*
JAY JONES*
JEREMY HOOPER*
JESSI SNOOK*
JESSICA HERNANDEZ*
JIM RICKMAN*
JOHN MITCHELL*
ALSO PRESENT (CONTINUED):

JOSEPH SULLIVAN*
JUSTIN MARBLE*
JUSTIN JENSEN*
KATHLEEN HARKNESS*
KEITH SMITH*
KENNETH FUREY*
KEVIN SIEBERT*
KEVIN MILLER*
KYLE MOONEY*
L. ROBERT GREGER*
LARAINNE KOEHLER*
LARRY HARISIS*
LAWRENCE MILLER, III*
LEE LINE*
LESLIE MARCH*
LISA MATIS*
MARVIN LEWIS*
MELANIE SNYDER*
MICHAEL ALBANESE*
MICHAEL KEEGAN*
MICHAEL KLEBE*
MICHAEL AULT*
MILTON HUFF*
MOHANNED KAWASMI*
ALSO PRESENT (CONTINUED):

NICK EMME*
NICOLE TRAPHAN*
PAUL BESSETTE*
PETER LEOMBRUNI*
PHILIP EGIDI*
RICARDO MEDINA*
RICHARD McGRATH*
ROGER SEITZ*
ROY GRANT*
RUSTY LUNDBERG*
STEPHANIE WEIR*
STEVEN LOFTUS*
TAYLOR GRABNER*
TED BUCKNER*
TODD LOVINGER*
TOM PEAKE*
TOM SCHNEIDER*
TONY GONZALEZ*
VAISHALI TENDOLKAR*
ROB BLACK*
LARRY CAMPER, Talisman International*
KAY CUMBOW, Citizens for Alternatives to Chemical Contamination*
DIANE D'ARRIGO, Nuclear Information and Resource
LISA EDWARDS, Electric Power Research Institute*
RICH JANATI, Pennsylvania Department of Environmental Protection*
THERESA Kliczewski, US Department of Energy
MARVIN LEWIS*
TOM MAGETTE, Talisman International
MS. MICHEtti
CLINT MILLER, Pacific Gas and Electric
JANET SCHLUETER, Nuclear Energy Institute
DANIEL SHRUM, EnergySolutions
DOUG TONKAY, US Department of Energy
GLEN VICKERS, Exelon
JOE WEISMANn, US Ecology, Inc.*
ELIZABETH ZIMMER-LLOYD*
DAN SCHULTHEISz
ALICE CARSON
JOSEPH RUSTICK
HILARY LANE
CHRIS SHAW
TIM SMITH
DAVID HAUGHT
*Present via teleconference
MR. MUSSATTI: Good morning.

As you can possibly see on that screen up there, we have 38 attendees that are online with us in the webinar. We'll have a handful more that are on our telephone call line and we've got everybody here in the room, and those of us that are still coming that are probably stuck on the Metro.

My name is Dan Mussatti. I am with the NRC’s Facilitator Corps.

I want to welcome you to this public meeting for two important topics, the very low-level radioactive waste and the draft technical analysis for the greater than Class C waste. Those have been prepared by the Office of the Nuclear Material Safety and Safeguards, NMSS.

And my role is to help ensure that this meeting is on time, that it’s informative for the NRC to be able to understand what the issues are that come from the public, and to just sort of make sure that all of the cats are herded in one direction and traveling in unison.

With regards to getting around the building, as long as you have your ID badge, your guest
badge visible, you have full access to this auditorium, the foyer out in front of it, the next floor up, and the entire main floor from where you checked in this morning all the way down to the cafeteria. So, there seems to be a change in the policy here and we don't need to be providing adult supervision to get you to the cafeteria or to the coffee shop, and those sorts of things. You've got a little bit more freedom.

If you leave the building by the revolving door in the back, you're welcome to do that. But if you do that, you have to go out by the guard shack where the cars come in, all the way around to the front of the building, and enter again and go through security one more time. They don't have enough people here to be able to handle letting people back in through the back-end and doing the screening and everything for it. But you do have the ability to exit from there if you need to.

To get to the restrooms, that's very easy, out through these doors, straight across the foyer to the far side. The ladies room is on the left; the men's room is on the right.

If we are asked to evacuate this building, please follow the instructions of the folks that are
up here with NRC and with our security staff that's outside. We will exit through the revolving door right back on the next level up and we will gather over by the guard station over there where the cars come in.

And when you get there, please don't wander away because we're going to want to take a head count to make sure that everybody got out safely. Which reminds me, we need to make sure that you get signed up on the sign-in sheets here because that's the only way we know that you are here and we didn't leave your head in the building when we evacuated.

So, take a moment at the break, whether you're NRC or a guest coming into the building, to sign that list for us. It's kind of a safety thing, and that's what we're all about around here.

Today's meeting is a Category 2 meeting, which means it's held with "a group of industry representatives, licensees, vendors, and nongovernmental organizations, and we use a facilitator to ensure that issues and concerns are presented, understood, and considered by the NRC." That's a direct quote.

We have provided an agenda for you and invite your comments and questions at the designated
points in the meeting. This is not a free discussion back and forth. We have specific periods of time when these comments are being collected.

For people in the room, we ask that you please turn off anything that buzzes, rings, speaks to you, or anything like that, all of those devices, so that we have as minimal a distraction as possible.

This gentleman over here is trying to transcribe this meeting for us, and those sorts of things are a distraction, and, also, for people that are speaking in the room.

There are many of us that have jobs that require us to have our phones on all the time. Some of us are emergency response here with NRC. Some of us are just really important people in the real world.

And if you have to take a phone call, I ask that you just head out to the foyer before you actually start the conversation, so you minimize the disruption in the room.

We have a court reporter. That's Charles. He's going to be transcribing this meeting. To ensure we get a clean transcript, we need to have only one speaker at a time, no interruptions, these sorts of things. Please do not be rude. If you need to have
a sidebar conversation in the room, resist as much as
you can, but if you have to have a sidebar conversation
on something that's technical that's related here that
you may have a question later on or something else
that's important, could you please take it to the
outside the foyer there? And remember that we can still
hear you, so use your inside voice when you're out there.

One last thing about the transcript.
Sometimes what you say isn't what you think you're
saying, and sometimes what we hear isn't what you wanted
us to hear. It would be a good idea, if you make a
comment on the microphones here that you follow that
up by sending us an email that has your comment written
down. That way, you can craft that language a little
bit better to make sure that you have got it exactly
the way that you want it, and we'll have less chance
of miscommunication.

This meeting is being webcast, and we'll
have the presentations posted on the website
afterwards. If you're participating by the internet,
we strongly urge you to not use the speaker and the
microphone on your computer to communicate with us.
We ask that, instead, what you do is you call into the
bridgeline number that we have and use the telephone.
The bandwidth issues that we get when we're trying to use GoToMeeting or one of these other webinar communication techniques, that bandwidth problem can be a little bit tricky when we're trying to send images and at the same time we're trying to gather or send audio.

So, the phone number, if you are on your computer and need to switch over to the telephone, the phone number is 1-800-857-9840 and the passcode is 4975456. I'm going to repeat that again in case I caught somebody by surprise and they didn't have a pencil. 1-800-857-9840, and the passcode, 4975456. Okay. If you folks on the phone didn't get that, please raise your hand. All right.

Also, to ensure that we have a clean transcript, when you make your comments by telephone, not through the webinar, speak slowly and clearly, and if your last name is something that is a little bit hard to guess the spelling on, you might provide us with the spelling of your last name as well. For the record, my last name is spelled M-U-S-S-A-T-T-I.

We have an operator on the line that is going to help us with the telephone people that want to call in. Would you like to explain to us how to
do that now?

OPERATOR: Yes. If you would like to ask a question during today's presentation, you may press *1. Please unmute your phone and record your first and last name clearly when prompted. To withdraw your question at any time, please press *2. Once again, to ask a question during today's presentation, you may press *1.

MR. MUSSATTI: Thank you very much.

Okay. We want this meeting to be casual, open, and comfortable. We don't want to go to Robert's Rules of Order so that we can maintain order. And that means we have to have a couple little basic rules just to make sure that we get things right and we don't wind up with things getting out of hand too much.

When we get to the question-and-answer section, a lot of times somebody is going to ask a question, and when they get the answer, that's going to compel a follow-up question. That's not a bad thing. When the follow-up question is answered and it compels a second follow-up question, or a third follow-up question, it stops being a question-and-answer and starts turning into a conversation. We don't have time for that today. We've only got five hours, and for
the question-and-answer section of this thing, we've got nine questions that we specifically want to ask and have answers for, and we're going to have to roll through those as fast as we can and just get the high points of what everybody's concerns are.

So, what we would like to have you do is think about your question ahead of time, ask it quickly and concisely. You're welcome to have a follow-up if you really need that. But let's try to avoid that conversation thing where I have to play bad cop. And if you have further questions, you can always tackle one of these guys out in the hallway and ask them later on. You can communicate with them by email, anything like that, but we want to make sure that we get as many questions out as possible from as wide a group of people as possible.

For the NRC staff that are attending in this room, the people that are our guests have come here from a long ways away. They've changed their schedule. They've had to travel to get here. We just walk down from our offices and we can do that anytime we want to, so we really don't need to be asking questions necessarily because we can catch you in the cafeteria or we can go to your office, these sorts of
things.

If you have a question that you think is important, could you please hold off until you see there is a lull in the questioning and we're kind of reaching the end of everybody else asking a question before you start asking a question? That way, we've maximized the ability of the people that have come to visit us having an opportunity to participate in the meeting.

I need to point out that we need to be careful not to discuss any proprietary information here. And although we intend to have an open dialogue, please take note that we will not discuss any ongoing reviews, and neither industry nor the NRC will make any regulatory commitments during this conference.

To that end, I would also like to point out that all of these microphones used to be standing straight up in the air. That's because they're always hot. These are always hot as well, which means, if you're talking with somebody on a technical issue that could be confidential, industry-sensitive, these sorts of things, if you're standing by a microphone, everyone is going to hear it. And that's not as fun as when Joe Biden used to do that sort of stuff. Some of that could be kind of critical. So, please remember that
these are hot microphones at all times and stay away
from them as far as possible if you're going to have
a discussion, so that everybody else doesn't hear your
grocery list, or whatever it is that you're talking
about.

As you can see from the agenda, we've got
a lot of stuff to cover today and a short time to do
it. And I've taken up a lot of time already. So, I
want to get started.

Today we have with us John Tappert,
Director of the Division of Decommissioning, Uranium
Recovery, and Waste Programs, and he's going to make
a few opening comments and get this ball rolling.

John?

MR. TAPPERT: Good morning and welcome.
I want to thank people for coming to this meeting and
dialing in on the phone.

The purpose of this morning's meeting is
to really get feedback from you. So, I'll be brief.

Kellee is going to give a short presentation to tee-up
the topic, but I just want to make a couple of quick
points before she does that.

First of all, the NRC currently has a
regulatory framework for low-level waste that
accommodates the disposal of waste streams with very low levels of radioactivity, which is fully protective of public health and safety.

So, kind of as a first principle, we have an effective system today and don't necessarily feel the need to change that. However, the NRC seeks to be a learning organization, and if there is a better way to build a mousetrap and if people have ideas about how we can strengthen and enhance and improve our efficiency and effectiveness in a regulatory framework, that's what we really want to hear. So, we really want to hear from the stakeholders where they see are opportunities for us to do better in the future.

We have a number of questions that we've asked. That's to kind of spur or seed the conversation, but it is not an indication that the staff has any specific proposals or agenda at this time. Really, we're seeking input from you to help us think about this issue to determine if any changes might be appropriate in the future. And if those changes are appropriate, then that will go through a very deliberate process with further stakeholder engagement and with the Commission as well.

So, we're looking to those informed
stakeholders, the kind of stakeholders who come to public meetings on low-level waste and read and respond to Federal Register notices. So, I'm very much looking forward to the conversation this morning.

And I guess the second point I'd make is that we're talking about disposal in our regulatory context, which means -- I'm paraphrasing -- but it's, essentially isolation from the human biosphere in a land disposal facility. And while we certainly want your ideas, and I often say there's no bad ideas, if the idea does not involve isolation from the human biosphere in a land disposal facility, it would be out of scope of today's discussion. So, just keep that in mind as we're going through this.

So, that's really all I wanted to say to kick this off. I look forward to the conversation and your active participation as we go through this.

And with that, I would like to turn it over to Kellee.

MS. JAMERSON: Good morning.

My name is Kellee Jamerson, and I'm a Project Manager in the Low-Level Waste Branch in the Division of Decommissioning, Uranium Recovery, and Waste Programs.
Next slide, please.

So, as you can see from this figure, the NRC's Low-Level Waste Program continues to be very active. Our focus for this presentation today is very low-level waste, and greater than Class C and transuranic waste will be discussed this afternoon.

To provide a little background, in 2007, due to developments in the National Program for Low-Level Radioactive Waste Disposal and changes in the regulatory environment, the NRC conducted a strategic assessment of the Low-Level Radioactive Waste Program. Of the 20 tasks identified in the assessment, three of those were related to low-activity waste which is now termed very low-level waste.

Those three tasks were to coordinate with other agencies on consistency in regulating low-activity waste disposal, develop guidance that summarizes disposition options for low-end materials and waste, and to promulgate a rule for disposal of low-activity waste.

Given the constantly evolving nature of low-level waste issues, a programmatic assessment was conducted in 2016. One task identified as a medium priority was to perform a Very Low-Level Waste Scoping
Study. This task combined the three tasks above from the 2007 Strategic Assessment.

The other task from the programmatic assessment which was deemed a high priority was to finalize the guidance for 10 CFR Section 20.2002, Method for Obtaining Approval of Proposed Disposal Procedures. Revisions to this guidance document are currently in process.

Currently, very low-level waste can be disposed under the provisions of 10 CFR 20.2002. With more decommissioning waste anticipated, the volume of very low-level waste is also expected to increase.

Next slide.

So, why perform a Very Low-Level Waste Scoping Study now? Although originally listed as a medium priority in the programmatic assessment, the Very Low-Level Waste Scoping Study has increased in priority. Changes in the timing of nuclear power plant decommissioning has elevated the importance of evaluating more risk-informed and performance-based approaches for the management of very low-level waste.

The staff also recognizes the potential opportunity to improve regulatory efficiency and effectiveness by considering other options for very
low-level waste disposal that might create less of a regulatory burden on licensees.

Lastly, there is an opportunity to explore closer alignment with the International Atomic Energy Agency standards and other international practices.

The purpose of the Very Low-Level Waste Scoping Study is to identify possible options to improve and strengthen the NRC's regulatory framework for the disposal of very low-level waste, including the potentially large volumes of very low-level waste associated with a radiological event, such as the use of a radiological dispersal device.

Secondly, and to reiterate the previous slide, the Very Low-Level Waste Scoping Study will evaluate more risk-informed and performance-based approaches for the management of very low-level waste.

The Very Low-Level Waste Scoping Study will consider disposal of waste, as defined by 10 CFR Part 61. As such, the Scoping Study will not address non-disposal-related disposition pathways, including unrestricted release, clearance, reuse, or recycle of materials.

In addition, the NRC intends to evaluate regulatory options that would define the conditions
under which very low-level waste, including mixed waste, could be disposed of in Resource Conservation and Recovery Act hazardous waste facilities.

In initiating the Very Low-Level Waste Scoping Study, the NRC staff has considered lessons learned and available information from a variety of sources, some of which are shown here. Staff will consider the efforts of other entities and government agencies, such as the Environmental Protection Agency's 2013 Advance Notice of Proposed Rulemaking and studies conducted by the National Academy of Sciences and the Electric Power Research Institute. Additionally, staff will consider learnings from other countries with respect to very low-level waste disposal as a benchmark and other factors to inform the NRC staff's recommendation to the Commission for addressing very low-level waste. In light of this, the staff has developed questions, which you will see momentarily, where we desire additional input from our stakeholders.

At the conclusion of the Very Low-Level Waste Scoping Study, results of the staff's assessment as well as staff recommendations will be presented to the Commission in a SECY paper. Potential results of the Very Low-Level Waste Scoping Study include:
promulgating a rule that would define the conditions under which very low-level waste could be disposed; developing guidance that summarizes disposition options for low-end materials and waste; the need for additional coordination with other federal agencies regarding very low-level waste disposal; the need for further analysis; or no action. I would add that there may be other possible outcomes and we welcome your feedback on other potential results.

The NRC staff published in The Federal Register on February 14th, 2018, a Notice of the Very Low-Level Waste Scoping Study and Request for Comment. During the Very Low-Level Waste Scoping Study, the NRC staff wants to hear from stakeholders to understand their concerns and to gain their input and perspectives on very low-level waste.

Within The Federal Register notice, the NRC staff requested comment on a number of questions, which we will go through at this time. We will go through each question on the following slides.

Now I will turn it over to Mr. Mussatti.

MR. MUSSATTI: Okay. Thank you.

There are nine questions that were posed in The Federal Register notice, and we would like to
go through them one at a time now and take no more than
about 15 minutes apiece for them. I'm not going to
time this, but if we can be sensitive to that, let's
try to see how fast we can get through these.

Here's the first question: "The United
States does not have a formal regulatory definition
for very low-level waste. What should the NRC consider
in developing its own regulatory definition? Is there
another definition for very low-level waste that should
be considered? Provide a basis for your response."

I'm open to comments from the floor.

Okay. Thank you. Please state your name
first.

MS. D'ARRIGO: Diane D'Arrigo, Nuclear
Information Resource Service.

No, you should not make this category.

MR. MUSSATTI: Okay. That was short.

Is there anybody else in the room?

(No response.)

Mr. Operator? I've forgotten your name
already. I'm sorry.

OPERATOR: Not a problem. It's Brandon.

MR. MUSSATTI: Okay. Do we have anybody
on the line?
OPERATOR: I'm currently showing no questions or comments at this time.

I would like to remind participants on the phone that you may press *1 to ask a question or leave a comment.

MR. MUSSATTI: Okay. We also have no questions on the webinar, but we do have somebody standing by a microphone.

Yes, sir?

MR. MAGETTE: Hi. My name is Tom Magette. I'm with Talisman International.

I would suggest that you should have a category for very low-level waste today, because of some of the things that Kellee mentioned, in particular, the disposal under 20.2002. Essentially, we have a de facto category, and it would be much more rigorous, I believe, to have a formal category. I think it would also be more risk-informed.

There are multiple ways that you could do it. One might be to set a percentage of the radioisotope limitations given in the tables in 61.55. Just, for example, 10 percent, not suggesting that that would be the right percentage, but that would be a way to formalize a definition.
Another way would be to use something analogous to what's going on in the proposed rulemaking right now for Part 61, whereby you would prepare a performance assessment and back-calculate waste acceptance criteria, which would, then, have the effect of a regulation for that site, to a different standard, a much lower-dose standard, obviously, than the 25 millirem; maybe 5 millirem. But, here again, not so much proposing a standard here, as just suggesting a way to get there.

But I think, also, for the reasons that Kellee mentioned, you need one because of the large volumes of waste that are going to come out of these decommissioning sites. It's been suggested that 20.2002 is an adequate way to manage that. I don't think that's the case. While that has been used to manage some of these large-volume disposals, there's also just an inherent disincentive in the notion that I have to file a case-by-case application. You have to treat each one of these as an individual licensing act, so to speak, if it's going to go to a site.

So, preparing a PA, these things have taken years in some cases to do. So, that's not really an efficient way to think about moving a million cubic
feet of lightly contaminated soil or rubblized concrete. So, it doesn't really provide a valid alternative, in my view, for disposing of these large quantities of waste.

I think there's a lot of reasons that you do want a standard. It would be defensible from a public health and safety perspective. It would be manageable from an industry perspective.

Thank you.

MR. MUSSATTI: Does anyone at the table wish to ask for clarification, comment, rebut?

(No response.)

Okay. Anybody else in the room?

There. Thank you.


The definition that you've got for what you're going to do with very low-level waste, if you were to make such a category as to isolate it from the human environment or from the food chain of man, in order to isolate it, putting it into regular landfills and industrial landfills, most of which have or will leak, is not isolating it.

So, what our organization and what
organizations that have opposed below-regulatory concern over the decades have called for is the continued isolation of the radioactivity from nuclear power. Nuclear power generated this waste. Yes, it is a very large volume, but it's also including very long-lived radioactivity. There's not a safe level.

I mean, I know that some people want to advocate hormesis. But, until that becomes the law of the land, we need to try to prevent exposures, rather than disperse the radioactivity.

Also, I would point out -- it might come up in a later question -- that women are 50 percent more likely to get cancer from the same dose as men, according to the BIER VII risk numbers. And so, protecting for a man's environment is not protecting women or youth, other parts of our fuel chain. I know that's 10 CFR 20, but that needs to be considered when we're talking about massive, routine generic release of radioactivity from the nuclear power complex.

MR. MUSSATTI: Thank you very much.

I believe we've got a question online? Why, yes, I would like you to read it.

MS. ACHTEN: "EPRI has published two public reports investigating very low-level waste as
a separate waste category, how the concept is already practiced in the U.S. and how it is applied in other countries. It also provides a generic technical approach on how it might be defined." This is from Lisa Edwards.

MR. MUSSATTI: Okay. Thank you. Thank you.

All right. Let me check with the telephones one more time, and if not, I think we're going to move on to the next question.

OPERATOR: Yes, we do have a question on the phone line from Marvin Lewis.

Your line is open.

MR. LEWIS: Thank you.

Look, I don't know if I'm coming in at the right time or I'm coming in a little late. A little problem with muting the phone. Anyway, I appreciate the chance to approach this subject.

Now we're asking about, yes, you were asking about how you define this stuff. And I agree. I sure had a problem reading your definitions. But, then, again, I happen to be a very good reader, according to the testing.

And I don't really like the idea that, when
you're defining very low-level waste, you're really taking the volume and the total out of the equation. We have waste all through the nuclear fuel cycle that's completely ignored or just eliminated from calculation. For instance, we have like 30,000 uranium mines in Australia, over 10,000 in Canada, probably just as many in the United States.

And when we look at radioactivity going into the biome, the air, the water, the foods, the soil, it just doesn't register. It doesn't register on anybody. It doesn't register on you. It doesn't register on me. Well, it does register on our organs.

And I want to point out that, since the 1940s, when the background was measured at 40 millirems per year, now the NRC, Department of Energy, EPA, alphabet soup, is calling out the background radiation at 360 millirems per year now.

MR. MUSSATTI: Sir? Sir?

MR. LEWIS: Yes?

MR. MUSSATTI: We're starting to wander a little bit off-topic here. We don't have a great deal of time. I don't know how long it took you to get on the phone line, but we've stressed that there's a lot to cover in a short amount of time. Can you
summarize --

MR. LEWIS: And that's what I'm afraid of. Your right to coverage is not my right to cover. My right to cover is what's going on out here. And you, sir, aren't interested in it.

MR. MUSSATTI: Thank you.

MR. LEWIS: Now if you want to stop this comment --

MR. MUSSATTI: Mr. Operator, could you turn that microphone off, please?

MR. LEWIS: Thank you.

MR. MUSSATTI: All right. I'm sorry about that.

We had one comment from up on the panel?

MR. HEATH: Yes. Thank you. This is Maurice Heath from NRC, for those on the phone.

Going back to the comment, I believe, from Lisa Edwards, and the question, we are aware of that EPRI publication. We have reviewed it. And the purpose of this meeting is also to get other publications that have been put out public or some organizations have done, because we're trying to gather comments. So, we appreciate that report, and we would like to have other reports or documents that have been
involved with very low-level waste. And we would take that into consideration when we're going through the Scoping Study.

MR. MUSSATTI: Okay. I believe that's pretty thorough.

Is this very brief?

MS. D'ARRIGO: Yes. Are the EPRI documents public?

MR. MUSSATTI: Okay. The EPRI documents should be public. Most of them are.

MS. D'ARRIGO: No, actually, a lot of them are not.

MR. MUSSATTI: Oh, yes, I did misspeak right there, but that one there I do believe is.

MS. D'ARRIGO: Okay. So, if those could be provided to the public, if that's part of your consideration? And we'll also provide documents about why we don't want this to happen.

MR. MUSSATTI: Okay. Thank you.

Let's move on to the next question.

"The EPRI has published two public reports investigating very low-level waste as a separate waste category, how this concept is already practiced in the U.S. and" -- okay, yes, the EPRI reports are public,
Okay. Question No. 2: "The existing regulatory framework within 10 CFR 61.55 divides low-level radioactive waste into four categories, Classes A, B, C, and greater than Class C. Should the NRC revise the waste classification system to establish a new category for very low-level waste? What criteria should NRC consider in establishing the boundary between A and very low-level waste?"

Anybody in the room?

(No response.)

Anybody on the telephone that doesn't want to holler at me?

OPERATOR: Yes. Larry Camper, your line is open.

MR. CAMPER: Very good. Can you hear me?

MR. MUSSATTI: Yes, sir.

MR. CAMPER: Very good. Thank you.

I had a quick comment on the previous question. Somehow I couldn't get on.

But the fundamental answer to your first question is risk. The classification should be driven by risk.

In terms of other sources, you have the
EPA low-activity waste activities several years ago. You have the IAEA criteria. You have what's taken place in the State of Texas which addresses exemption for disposal of low-level waste at approximately the lowest 10 percent of Class A. And you have the agency experience with 20.2002. So, there are a number of things to draw upon.

With regards to the question of "should you establish a category for various low-level waste", my personal view is, yes, you should. I believe it would be more clear if you did that. It would eliminate the need for exemptions, which is the current process. And I think by establishing a regulatory criteria via rulemaking would subject it to the awareness of the public that is warranted. Comments could be gathered and the like.

In terms of establishing the boundary between Class A and VLLW, currently, of course, there is no lower threshold for Class A waste. If you're going to establish a category of VLLW, then there would need to be a clear line of demarcation. In the final analysis, that will be a policy matter. It will have to be selected. In the case of the disposal of the waste in Texas, for example, approximately 10 percent
of the low in a Class A waste was chosen as that benchmark. It's a good benchmark. It's not the only benchmark, but it's certainly well worth consideration. The work that's been done by EPRI in terms of its risk analysis for the very low end of Class A waste is a useful resource as well.

But, yes, there would need to be a clear line of demarcation between Class A waste and very low-level waste if you proceed with the rulemaking.

Thank you.

MR. MUSSATTI: Thank you, Mr. Camper.

Could we have No. 2 up on the screen again?

Is there anybody else who has a comment on Question No. 2?

MS. D'ARRIGO: It's Diane D'Arrigo.

I'd like to know what you think it would cost to enforce a new category. If you're going to bother to verify the distinction at a lower level, at this point -- okay, if you're going to bother to make a distinction at a lower level, how is that going to be enforced?

A concern that we had with the whole below-regulatory concern policies was that it was based on dose, and there's no way to verify dose. Any amount
of radioactivity could be calculated to be a dose. How are you going to prevent dilution from Class A down to this VLLRW class? It's, I think, going to cost more than it's going to provide value, at least from the public perspective. And we would like to be protected, not have people who don't think that low doses are harmful decide that the risk is so low that we can be exposed. We oppose that.

MR. HEATH: Yes, Diane, you make a good point. We do have a question, actually, coming up to deal with cost. That's something that we're trying to get more information or experience from folks, from our stakeholders, if they've seen that.

One distinction for very low-level waste is we are talking about disposal. And we want to get ideas to figure out, if we decide to or if the result is that it comes up that we need to make a separate category, we would do a cost analysis as part of that, if we go a rulemaking route. That's if we go that route.

But we're just trying, right now, to just gather the information to understand just from our stakeholders the issues, and we have a question later on to talk about cost.

MS. D'ARRIGO: Well, when the
below-regulatory concern policies were under consideration, we looked at verifying. And as the Department of Energy moves to clear radioactive materials from its site, it's extremely expensive and difficult to actually detect at those levels. It doesn't mean there's no harm, just because the detectors aren't able to detect. It takes a really long time to scan. I mean, when we looked at how the Department of Energy was supposedly clearing its materials, they had to scan items very, very slowly. So, I mean, procedurally, what's obviously going to happen is that a whole category of decommissioning waste is just going to be treated as rubble and garbage, and the assumptions are going to be made, based on whatever assumptions. And the reality is that there's not going to be verification.

And also, as I mentioned before, landfill disposal/incineration is not isolating the waste. Landfills, the majority of landfills do leak. Mixed-waste landfills have hazardous wastes. So, you've got synergistic effects. What kind of effects are going to happen if these materials are put into hazardous or regular leaking landfills? Incinerators disperse radioactivity.
I'll stop, since you look like you want to move on.

MR. HEATH: Diane -- oh, I'm sorry -- but one thing to point out, I would appreciate it if you would actually submit that and any reports that you have. Just submit those to the comments section that Dan will lay out later. If we could get those, we will consider every comment and every report.

MS. D'ARRIGO: And you've received that comment over and over and over for the last 32 years, but I will be glad to do it again. And we will do it again, and we will get more people to do it again.

MR. MUSSATTI: All right. Do we have another comment on the floor here?

MR. VICKERS: Yes, Glen Vickers, nuclear power generation.

So, the current Class A, B, and C limits are concentration-based limits and they're easy for licensees, regulators, and the public to measure and understand. As was previously noted, some of the 10 CFR 20.2002, applications can become complicated as they involve environmental analysis, et cetera. That may not be within the skill sets of the licensees. That may be difficult for the public to understand.
So, I think a concentration-based system would be easy for all stakeholders to validate the thresholds.

That's all.

MR. MUSSATTI: Thank you.

I'm going to go to the phones one more time.

OPERATOR: I'm currently showing no further comments on the phone line.

MR. MUSSATTI: Okay. Thank you very much.

And we have nothing on the webinar as well that I can see.

Does anybody else in the room wish to speak?

(No response.)

We're doing well on the time. We're just a few minutes ahead of that 15-minutes-apiece pace that I had suggested that we use. So, we don't need to worry.

We've got one more talker here.

MS. SCHLUETER: Janet Schlueter, Nuclear Energy Institute.

I have more of a process question when it comes to the current system, and so forth. And that is, what is NRC doing to reach out to the Agreement States, the Compact Commissions, the waste site operators? Because, as you know, this ultimately becomes an Agreement State, Compact site issue, and
compatibility-level issue, of course.

MR. DEMBEK: Hello. My name is Steve Dembek. I work in the Low-Level Waste Branch, and I'm a Part 61 Project Manager in the Low-Level Waste Branch.

And I did not work on the 2007 Strategic Assessment, but I did work on the later one for 2016, the Programmatic Assessment. In those assessments, we did ask for public comment, and we did receive comments from the Compacts and the Agreement States.

And the same will be in this case with this Very Low-Level Waste Scoping Study. We are going to look for comments from those facilities.

And we understand that every time -- let's say very low-level waste is instituted and it saves some companies a lot of money. But every time some company is saving a lot of money, there's another company or another facility that is losing that money.

So, we consider that.

If the Compact, for instance, says we're depending on this money coming in from some of this low-level waste and we'll have to change the way we're doing business if we're losing this money, certainly that is a legitimate comment we would have to consider.

And we want to hear those kind of comments and we want
to consider those comments and make our judgment based on hearing from the public, hearing from the states, hearing from the Compacts, hearing from the industry, hearing from the industry groups, et cetera.

Does that answer your question?

MS. SCHLUETER: No.

MR. HEATH: Can I add onto what Steve said also? And this gets to both points. We do reach out to other federal agencies as well. We contact our Agreement State regulators. And also, coming up, we will be doing presentations at other public events or some meetings at waste management. We will, because we want to get out and communicate well with all different types of stakeholders across the country. So, we are making an effort to make sure that we involve all stakeholders and try to reach everybody, our co-regulators, the public, industry, everybody.

MS. MAUPIN: I would just add -- this is Cardelia Maupin. I'm with the Low-Level Waste Branch and a former member of Agreement State Programs.

Even in preparing for this meeting, we informed the Agreement States and others as part of the CRCPD OAS monthly telephone call. And we also sent out the all Agreement State letter that informed them...
of The Federal Register notices about these meetings.

So, I've got calls from the Agreement States already yesterday about these issues. So, we are thoroughly engaging them on these various issues.

MR. MUSSATTI: Thank you very much.

While all this conversation was going on, our fabulous web master over there has helped out somebody by the name of Lisa Edwards to try to figure out how to get on the phone line. And I'm going to ask if she has been successful in getting the attention of our operator.

OPERATOR: Yes.

And, Ms. Edwards, your line is open.

MS. EDWARDS: Good morning, everyone.

This is Lisa Edwards with EPRI.

The way I would respond to this question is that I think we have a good place to start by looking both at home and looking abroad in terms of how the 20.2002 exemption process determines acceptability now for disposal in RCRA facilities.

Agreement States have also licensed various processes that allow some waste that would be similar to what is proposed here to go into alternate disposal facilities from the normal low-level waste
facilities.

And multiple countries abroad have developed this waste category, and they have definitions and approaches that they use. I think the NRC could investigate all of those as a basis for how to define this category in the United States.

Thank you.

MR. MUSSATTI: Okay. Thank you, Lisa.

Okay. I'm sensing the need to move on to Question No. 3. I really want to apologize for having to rush through these, but we want to make sure we get all nine. And we're right about on pace right now.

So, the Question No. 3 is: "The NRC's alternative disposal request guidance entitled "Review, Approval, and Documentation of Low-Activity Waste Disposal in Accordance with 10 CFR 20.2002 and 10 CFR 40.13(a)," which is undergoing a revision, allows for alternative disposal methods that are different from those already defined in the regulations and most often used for burial of waste in hazardous or solid waste landfills permitted under the Resource Conservation and Recovery Act, RCRA. Should the NRC expand the existing guidance to include very low-level waste disposal or consider the development of a new
guidance for very low-level waste disposal?"

And we'll start with the gentleman standing at the microphone.

MR. MAGETTE: Thank you. This is Tom Magette, Talisman International.

So, as to the first question, I would say no. As to the second question, I would say this isn't really a guidance matter. You have guidance that directs how to implement 20.2002 disposal actions on an individual exemption-by-exemption basis, as Larry Camper pointed out.

More guidance isn't necessary to do that. Guidance won't create a new category of waste. That would require regulation. So, I really don't see how guidance is applicable here, other than at some point you're going to have guidance in terms of, if you have a new regulatory standard, you have acceptable ways to meet that standard, which is a typical guidance function.

But, in this case, I don't see that this is a guidance matter. If you're talking about a site being able to accept a category of waste, then you need something that's more definitive and more robust than guidance, which would be a regulation. For example,
something like surety, which doesn't apply to 20.2002 waste exemptions, even if they go multiple times to the same site.

So, you would, I think, want to look at that question, what's the surety that's required for a VLLW site? Should you have that as a separate site from other categories of waste?

So, no, I don't think guidance is really the answer here. I don't know how that would help.

MR. MUSSATTI: Thank you.

MS. D'ARRIGO: It looks to me that this question is suggesting -- and maybe I'm misinterpreting -- that the 20.2002 and 10 CFR 40.13(a), which are case-by-case, that this is possibly going to be somehow transitioned into generic.

In other words, at this point it requires the applicant to make analyses, and this looks like one other approach that the NRC is making to justify generically clearing radioactive waste.

And so, we would oppose that and, also, question the basis for the "a few millirems," that is used for 20.2002. My understanding is that it's based on the old Reg Guide 1.86, which was based on the level that the radiation detectors were capable, the levels
of detection that were technically possible in the 1960s and the early seventies, when that 1.86 guidance was developed at the Atomic Energy Commission for a completely different purpose, not for case-by-case, large clearances and not generic clearances. But that's how the NRC has been using it since the BRC policies were overturned in 1992.

MR. MUSSATTI: Okay. Another question from the floor here?

MR. VICKERS: Glen Vickers, nuclear power generation.

I think a process of concentration-based limits could replace 10 CFR 20.2002. As was previously noted, many licensees don't have the internal skill sets to do complicated environmental analyses, et cetera. The burial site, you could give them a dose objective, and they could do that analysis. And then, once again, it would be easy for licensees, regulators, and the public to verify compliance with the concentration-based limits. So, I think there may be an opportunity to replace 20.2002 with something that's more easy to comply with.

MR. MUSSATTI: Okay. I sense some motion in the seats among people. Is anybody interested in
speaking?

(No response.)

No?

Let's go to the phone lines.

OPERATOR:  One moment, please, for our first comment.

MR. MUSSATTI:  Go ahead. There's nobody there?

OPERATOR:  Joe Weismann, your line is open.

MR. WEISMANN:  Thank you very much.

And thanks, NRC, for the opportunity to have this type of public meeting.

A lot of the conversations that are going on between these questions kind of weave in between each other. So, I think what I'm going to at least comment on is probably going to touch a little bit on all nine of the questions in some regard.

I fundamentally agree with what some of the previous commenters have said, that we do need an improved system. 20.2002 has worked for industry the past, but it is less than optimal. And as Tom Magette mentioned, it does disincentivize some licensees from using it because of the time requirements.
Whether or not the NRC chooses to pursue a rulemaking or not, I don't think that's the only answer here. There are opportunities in guidance, I believe, to vastly improve how 20.2002 is currently administered. For example, for a site like our Idaho facility, which has undergone 15 approvals under 20.2002, the NRC knows our site very well. We have performance assessments. There are opportunities for the NRC to, for lack of a better term, preapprove or advance approvals for certain facilities that meet the risk-informed and performance-based criteria that they regulate on. So, that's just one example.

A rulemaking, though, could be advantageous for industry, as long as it also is a performance-based standard. So that, in order for a site to qualify to be a VLLW site, it has to meet all kinds of requirements that the NRC would find. And that would include site-specific performance assessment and WAC.

And I've heard from the previous caller here about making it easier for industry. Once that approval is granted, then that information would be made available to the industry and they would know, just like they do now with Class A sites, what each
site can do. And I don't see that it has to be fundamentally different for a VLLRW site.

So, those are my comments. Thank you for the opportunity.

MR. MUSSATTI: Thank you.

Is there anybody else in the room?

(No response.)

Okay. We don't seem to have anybody on the webinar.

So, let's move on to No. 4.

Oh, a quick question? A quick comment here.

MS. D'ARRIGO: Yes, I want to point out that at your previous meeting that you had a couple of months ago on 20.2002 and 40.13(a) that there was strong encouragement of using those regulations to reuse and recycle radioactive waste. And now, you're talking about using this as a potential avenue into creating a new category which you're claiming is only going to be for disposal, and in the meantime that other regulation -- and I completely object to recycling and reusing radioactive waste under 20.2002 or any other way -- but you're looking at using 20.2002 and 40.13(a) as a slide into generic, as the previous speaker said,
that that should just be preapproved.

And yet, 20.2002 is potentially for releasing, recycling, and reusing radioactive materials. And you're trying to provide assurance to the public, which I think is a completely false assurance, that once it's cleared for this other type of alternative disposal, that under the very low-level category that it's not going to be used for recycling and reuse. And then, you're going to -- I can just tell you what your next step is -- you'll wait until you get that approved and, then, you're going to use your risk assessment to say, "Oh, well, it's okay for this; let's do it for that, because the risk is totally the same and it's totally acceptable." And I'm telling you that it's totally unacceptable in all of these scenarios.

The nuclear industry made this waste. It's part of the cost of doing business for the nuclear industry to isolate it.

MR. MUSSATTI: Okay. Comment?

MR. DEMBEK: Can I ask Diane a followup question?

Diane, on your answer to the first question we pose, and just what you said in this question, you
keep talking about the nuclear industry.

MS. D'ARRIGO: Uh-hum.

MR. DEMBEK: So, are you only concerned with radioactive waste from nuclear power plants or, like in the beginning of this discussion, we talked about a radiological dispersal device issue, maybe sources that we're trying to dispose of, or other things. I'm just trying to clarify what is your specific concern.

MS. D'ARRIGO: Preventing unnecessary exposure to the public, involuntary exposure to ionizing radiation. And primarily, we see the nuclear power fuel chain, nuclear power and weapons fuel chain is the source of this. It's true that there's radioactivity in medicine. Most of the medical isotopes for treatment and diagnosis are very short-lasting. But the iodine-129 from nuclear power has a 16-or-17-million-year half-life. That's a lot different when you're releasing that. It's an irreversible decision for the future.

So, we're concerned, especially with long-lasting. But, then, if you've got routine short releases -- I think sealed sources should be better regulated. I don't think there should be general
licenses for high-exposure sealed sources, but that's
a separate discussion for a separate day.

We're talking now about what you've said
at the beginning, the massive volumes of radioactive
waste that are going to be coming from the
decommissioning of the nuclear fuel chain. And we're
just as concerned about the weapons facilities as the
nuclear power facilities and all the shared fuel chain
facilities along the way routinely releasing
radioactivity.

The caller earlier mentioned the uranium
mines and the radioactivity from that. I mean, that's
not being factored in. The NRC, in calculating this
1 millirem a year, or whatever you're trying to say
would be the allowable -- or a few millirems a year -- is
not taking into consideration that more and more of
this is happening all over the place, and we're going
to have multiple exposures from multiple sources. And
that's not calculated in.

It's clear that the NRC's goal is to relieve
the liability of the nuclear power industry and the
nuclear generators and convert that risk, put that risk
on the public. You refuse to incorporate any cost for
health effects. You deny health effects other than
certain cancers. And yet, these are costs that the public bears.

So, when you're talking about risks and the public hears you're doing risk-based, when we don't trust your assessment of risk, it's very difficult to support any kind of risk-based determinations.

I don't know if that answers what you were getting at.

MR. DEMBEK: Yes. Just a further clarification in that area. As I'm sure you're aware, all of our bodies have naturally occurring radioactive material in them, and that 1 millirem per year is on the order of magnitude that our bodies emit.

MS. D'ARRIGO: But it's in addition. It's in addition, and it's in addition many times.

MR. DEMBEK: Your concern is the additional? Your concern is with the additional amount?

MS. D'ARRIGO: I'm not asking you to clean out the potassium from the bananas or scrub the granite. I mean, I would prefer not to have granite countertops routinely giving off radon and gamma rays in every new home. But there's obviously a distinction, but just saying that there's a certain amount of naturally
occurring radioactive, which is also a certain kind of radioactivity, various certain kinds, does not justify manmade radioactivity.

Plutonium is not naturally occurring except for some little place in Africa where it possibly had a spontaneous formation, but, in general, we don't have a lot of these radionuclides natural in nature. And so, it's not fair, it's not acceptable to justify additional manmade exposures to remove liability from the nuclear waste generators.

MR. MUSSATTI: No, no. I'm going to try --

MS. D'ARRIGO: I'm just answering his question.

MR. MUSSATTI: I know, but we're off-topic.

MS. D'ARRIGO: Okay.

MR. MUSSATTI: And part of what I need to do is to pull us back on-topic.

MS. D'ARRIGO: Okay.

MR. MUSSATTI: So, I think I'd like to move on to the next question.

MS. D'ARRIGO: So, natural exposures don't justify unnatural additional exposures.
MR. MUSSATTI: We're going to move on to the next question now. No. 4, please. "If the NRC were to create a new class category for very low-level waste in 10 CFR Part 61, what potential compatibility issues related to the approval of very low-level waste disposal by NRC Agreement States need to be considered and addressed? How might defining very low-level waste affect NRC Agreement State regulatory programs in terms of additional responsibilities or resources?"

We kind of started talking about that the last time. I'm sure there's somebody in the audience that would like to stand up. There you go.

(Laughter.)

MR. MAGETTE: This is Tom Magette from Talisman International.

I think certainly, if you're going to modify Part 61, and if you're going to have a new line in the tables in 61.55, that it's only appropriate that it be Compatibility Category B because that's what 61.55 is today. And I think it would be wise to be consistent. I think, frankly, sometimes the NRC goes too far in slicing and dicing within an individual regulation to get some of it B, some of it A, some of it C, some of it D, some of it -- et cetera. So, I really don't think...
there's any reason to put it anywhere than in Compatibility Category B if it's a new waste category defined in the regulations.

MR. MUSSATTI: Okay. Is there anybody on the phone?

OPERATOR: Larry Camper, your line is open.

MR. MUSSATTI: Go ahead.

MR. CAMPER: Yes. Good morning. Can you hear me?

MR. MUSSATTI: Yes, we can hear you.

MR. CAMPER: Yes, I think that I would agree totally with what Tom Magette just said. It should be Category B, as is the existing waste classifications contained in Part 61. I can't imagine why it would be anything else but that.

As far as what the impact would be on the Agreement States, I think that certain of the Agreement States, the State of Texas in particular, has taken leadership in addressing the disposal of VLLW, if you will, via the RCRA cell for the WCS in Texas. So, I think their view would be paramount for consideration as the NRC moves ahead in considering this matter.

Thank you.
MR. MUSSATTI: All right. Thank you, Mr. Camper.

I believe we have a comment on the floor here.

MS. D'ARRIGO: It's Diane D'Arrigo.

There are a number of states, in the range of 14 states, that passed laws that require continued regulatory control over radioactivity materials, even if the federal government decides to deregulate in some of those, if other states decide to deregulate. So, it would be important not to try to supercede existing state laws and regulations.

MR. MUSSATTI: Thank you very much.

Any comments from the panel?

(No response.)

Back in the room?

(No response.)

Nothing on the webinar?

(No response.)

If we don't have anybody on the phone, I'm going to take advantage of the shortness of this comment response and try and gain some time for us.

Okay. Let's move on to No. 5. Please feel free, if you have an "aha moment" and think of something
from No. 4 in the future here, you can bring it up because we've gained quite a bit of time here.

"Following the Low-Level Radioactive Waste Policy Amendments Act of 1985, states formed regional Compacts for the disposal of low-level radioactive waste. If the NRC were to create a new waste category for very low-level waste, does it fall within regional Compact authority to control very low-level waste management and disposal? How might defining very low-level waste affect regional Compacts in terms of additional responsibilities or responses?"

It's kind of a deja vu there at the end, but a difference.

Yes, sir?


I chose to speak on this particular topic because, actually, Tom and I have a bit of a disagreement, and for us to disagree on something, I think you're going to be walking into somewhat of a gray area on this specific issue.

So, if you go back to Question 2, should there be a new category, A, B, C, greater than C -- oh, I'm sorry, you don't actually have to go back. If you
have a very low-level category and it falls under Part 61 -- I don't speak on behalf of the Compacts, but I do deal with all of them -- they may want to or feel obligated to regulate very low-level waste. I think that would fall within their purview or they may consider that that falls within their purview.

So, it's just something to consider as you go about making this rule. If you decide to pull very low-level waste out and place it in some other regulation, which would also be difficult, that might remove the Compacts from their belief or their desire to regulate it. Again, I don't speak for the Compacts, but I do know that they are very concerned or they do discuss very low-level waste and how it will impact and what authority they have over waste coming into their states. That's my comment.

MR. MUSSATTI: Okay. Thank you. Good position.

Comment from the panel?

(No response.)

There doesn't seem to be anybody online that's asking a question.

On the telephones?

OPERATOR: There's no comments on the
I would like to remind participants, if you would like to leave a comment, then please press *1.

MR. MUSSATTI: Okay. Back to the room.

(No response.)

All right. We may be having a little longer lunch than we were anticipating if we keep going at this pace.

OPERATOR: Sir, it looks like we have a comment on the phone.

MR. MUSSATTI: Good. Good.

OPERATOR: Okay.

Marvin Lewis, your line is open.

MR. LEWIS: Thank you.

Yes, I admit I was hollering before, and I think deservedly so, because the NRC doesn't seem to listen to anything it doesn't want to hear, nor does the industry. The industry, I have to admit back in the day, 1979, the industry did listen to me, and Three Mile Island No. 1 is operating with hardened vents, which I put into a contention. And it was accepted, making my intervention moot. But I got what I wanted like that.
Now here we are with another situation, another situation where the NRC is doing its best to make it a cheap power source and a cheap source of nuclear materials for the nuclear arsenal. I find that just about every question here is aimed at reducing costs to the industry and reducing costs to the military, the nuclear arsenal.

MR. MUSSATTI: Okay. Are we bringing this around to the topic at hand?

MR. LEWIS: I would like to see a little more honesty out of the NRC.

Thank you.

MR. MUSSATTI: Thank you very much.

Okay. Where are we? Up to No. 6 by now?

Okay. Question No. 6, "The Environmental Protection Agency imposed waste analysis requirements for facilities that generate, treat, store, and dispose of hazardous wastes that are different in 40 CFR Parts 264 through 270. How would NRC incorporate and apply waste analyses requirements for very low-level waste at RCRA Subtitle C and D facilities? Should the NRC impose concentration limits and/or treatment standards for very low-level waste disposal?"

Our concentration level expert may have
something to say on this in a moment, but do we have any comments from the floor?

Yes?

MR. MAGETTE: This is Tom Magette.

So, I guess I would start with asking the NRC a question on this one. Because there's already significant volumes of waste going to Subtitle C and D facilities under 20.2002, my question is, have you consulted with EPA on those exemption applications so far?

MR. HEATH: Well, Tom, this is Maurice again.

I want to ask you something in return to your question. Are you saying, are you referring to a 20.2002 that would go to a RCRA facility? Is that what you're saying?

MR. MAGETTE: Yes.

MR. HEATH: When NRC does 20.2002s, we are involved if it's in a non-Agreement State such as Idaho, as someone has mentioned previously. And we work with the state as well as the utility submitting the application to us. So, that's how the process works. So, are you referring to is there a separate communication with EPA regarding that?
MR. MAGETTE: Yes. I mean, this kind of raises the question that, hey, maybe we'll go ask EPA what they think we should do with waste going into these kind of sites. And wastes like this is already going into those kind of sites. So, I'm kind of wondering, is the question just now coming up or is it something that you do as part of all these individual exemption applications? Is this new or not new?

MR. HEATH: No, this is not new.

MR. MAGETTE: Okay.

MR. HEATH: And we are; we've reached out to EPA at the beginning of the Very Low-Level Waste Scoping Study. And we are working with other agencies during this effort. But, previously, with that, we make sure when we get in these requests that we follow the rules that have been set per the RCRA permits. So, we make sure that what is trying to be disposed in that facility meets the waste acceptance criteria that has been developed through those RCRA permits and what the EPA has for that RCRA Subtitle C facility.

MR. MAGETTE: Okay. So, it seems to me that there are a couple of differing points here. One is, obviously, I would expect the EPA to comment on its own behalf, if you were to promulgate a rule in
this regard, and speak to whether or not this is something that could be categorized in order to go into those sites, or if there would continue to be some necessary consultation.

But it seems to me, if you create a VLLW waste category, then the answer would be, no, you don't need that. I do think you need concentration limits or risk-based. You know, if you're going to do, as I commented earlier, a back-calculated waste acceptance criteria from a PA, I think that would be fine. But I think you need some sort of specificity around the limits.

As for treatment, I don't think that you need treatment standards for something that is a lower risk than the waste that today doesn't have a treatment standard. So, unless you're talking about a waste stream that, in order to comply with some regulation for some reason, requires treatment -- I mean, mixed waste comes to mind, for example -- I don't think VLLW as a category merits a treatment standard. So, concentration, yes, or risk-based, but some level of concentration, whether it's in the reg or whether it's derived, yes; treatment, no.

MR. MUSSATTI: Okay. Thank you very much.
We have one commenter on the line.

MS. MAUPIN: I don't know if Maurice -- this is Cardelia Maupin -- if Maurice wanted to mention that we do have, you know, sometimes have conference calls or discussions with EPA. And also, most of the Agreement State programs are either in their Department of Health or in their environmental quality department of the state. And some states are, as you know, EPA-designated states where they have entered into an agreement with the EPA that they will carry out the EPA requirements within their state.

Okay. Thank you.

MR. MUSSATTI: Okay. Yes?

MS. D'ARRIGO: It's Diane D'Arrigo.

Would treatment allow for dilution? In the whole low-level waste scheme over the decades, originally, it was not permitted for waste to be down-blended or made from Class C to go to Class A. However, then, those regulations changed or the guidance changed.

So, with this, you're talking about potential treatment. Would one of the treatments be allowing higher contaminated waste to be diluted to meet -- or would you just do a calculation, an overall
averaging over a much larger amount, and then, allow
all of that stuff in the same vein that it's supposedly
going to go into the EnergySolutions site in Utah and
go above Class A levels by averaging? Could this, then,
happen with this very low-level category?

The other concern is, and I would
ask -- it's part of the next question as well -- what
is the NRC doing with regard to risk of synergistic
hazardous and radioactive combined stressors on health
effects in determining allowable release levels or -- I
don't know if you're calling them "recategorization
levels".

MR. MUSSATTI: Thank you.

We had a question?

MR. HEATH: Well, let me address the
comment, Dan?

MR. MUSSATTI: Yes, sure.

MR. HEATH: Diane, just what you were
saying about, you were referring to mixing, and we're
not talking dilution when we're talking treatment.
We're trying to get comments on treatment. The
question is -- and maybe I should clarify this for
everybody -- the question is design, just to get
feedback on things that we should look at if we're
talking with these type of wastes.

And we recognize currently how disposals are. We earlier talked about 20.2002 and these RCRA Subtitle C hazardous waste facilities. So, we're just trying to get comments on things that we should consider when we're looking at, you know, if we develop a very low-level waste category or not. We're just looking for feedback. We're not trying to make any decisions or imply that some decision has been made through this slide. So, I just wanted to make sure I clarify that with you.

So, we're looking here --

MS. D'ARRIGO: So, maybe I'm --

MR. HEATH: -- for feedback.

MS. D'ARRIGO: Oh, I'm sorry.

So, maybe I'm moving into Question 7 about unintended consequences, but it looks like there are a lot of ways that the promise that it's not going to get into reuse or recycling, or that statement that's in The Federal Register that it's not going to be used, that very low-level waste will not be reused or recycled, how is that going to be enforced when sometimes solid waste facilities do subsequently separate out and allow for reuse and recycling of
materials that are there? I know several specific facilities that do that.

It's unrealistic to expect that the kinds of protections are going to be provided that you are claiming. Once this stuff is no longer considered radioactive and it doesn't have radioactive controls, it's no longer radioactively controlled, and you can't trust some other hazardous or solid waste regulations to protect us from the radioactive component.

MR. MUSSATTI: We have one more question on the floor, and I think we had a comment that was on the webinar.

MR. VICKERS: Glen Vickers, nuclear power generation.

So, we already have a required list of radionuclides we have to routinely analyze for. I think that works as a good, fundamental set for any category.

I also recognize that a disposal facility in a specific state may have to have another nuclide such as radium for water treatment residuals, et cetera, or their limits may be lower than Class A, B, or C. But I think we already have a list of analyses that are required by Part 61 that would aid in consistency.
and getting a new rule off of the ground.

MR. MUSSATTI: Okay. Thank you.

I wish you folks that were on the phone and on the webinar could have seen the staff here, the scrambling to try to turn this comment from tech-speak into something we understand.

Would you like to read that comment?

MS. ACHTEN: It's for Question 5.

MR. MUSSATTI: It's for Question 5?

MS. ACHTEN: Yes.

MR. MUSSATTI: I think we've still got time to do that, and that will clear it up. I think we're pretty well done with 6 here in a minute. Go ahead and read this comment.

This comment is related to Question No. 5. That's what all that discussion was about.

MS. ACHTEN: The question on the webinar is, "The Low-Level Radioactive Waste Policy Amendment Act of 1985, Section 3(a)(1)(A), establishes Compact authority over low-level waste as low-level waste was defined of January 26, 1983. You would need to change the Act to alter the authority of the Compact Commissions."

MR. MUSSATTI: Okay. Good
considerations.

Back to 6. Do we have any other comments?

Anybody on the phone?

OPERATOR: Yes. We have a comment from Joe Weismann.

Your line is open.

MR. WEISMANN: Thank you very much.

As far as Question No. 6, the relationship between NRC and EPA is very well understood and has been working, I would say, very well since the institution of the Memorandum of Understanding on mixed waste. So, I don't see any issues with the NRC extending that type of interpretation and regulation, if they were to create a very low-level waste category in Part 61.

Us as RCRA operators, our primary objective, if we want to take low-activity waste, is it has to exit out of NRC regulatory space first. Then, the material is, then, accepted into RCRA regulatory space.

And in our State, in Idaho, we have a robust regulatory scheme for radioactive materials as part of our RCRA permit. So, contrary to what some of the commenters have said, once the NRC releases regulation
of this material, it's not like it fails to be regulated after that. It's just regulated under a different scheme. And depending on the state and the type of regulation they choose to enact, they can also be very rigorous.

So, for going forward on this, I don't see No. 6 as being a particularly difficult issue to overcome, considering the NRC and EPA's history and how the wastes are currently regulated now.

Thank you.

MR. MUSSATTI: Okay. Thank you.

One more comment?

MS. D'ARRIGO: I just wanted to know if Joe Weismann is with US Ecology. I don't know who he is, and he's been commenting. I would be interested to know his affiliation, the person that just spoke.

MR. MUSSATTI: Okay. Our friend, the operator, could you find out what the affiliation is of the gentleman that we just talked to?

OPERATOR: Yes. And actually, his line is still open.


MR. MUSSATTI: Okay. Thank you very much.
That also helps our court transcriber.

Remember, when you introduce yourself, to
give your affiliation. That's very helpful for us.

At this time -- this has been a lot. We've
like been drinking from the fire hose here this morning,
a lot of information and a lot of discussion -- I would
like to take about a 10- or 15-minute break and come
back, give everybody a chance to decompress a little
bit.

According to up here, it's now 10:29.
Let's be back by 10:45 and we'll finish out the morning.

(Whereupon, the foregoing matter went off
the record at 10:29 a.m. and went back on the record
at 11:45 a.m.)

MR. MUSSATTI: Okay. This is how the
second half of this morning's session is going to go.
We've got Questions 7, 8, and 9. That's only three
of them. And we've got quite a little bit of time to
take care of them.

So, once we've gone through all these last
three questions, we've got time to go back and revisit,
kind of at will, any one of the nine questions that
you've got a comment that you hadn't made before and
that you would like to make now or to expand on the
scope just a little bit beyond the narrow scope that we have on the questions.

We're not going to go to lunch early and come back early and start early because we've made a promise to the people that are on the webinar and on the telephones that we would start at one o'clock in the afternoon for their topics. And if it's something that's important to them and we've started early, they could miss out on something that they feel important, you know, very strongly about. So, we're going to start back at one o'clock, even if we do wind up finishing early here. And that just winds up being a bonus to you folks.

You don't necessarily have to sample the cuisine of the NRC. You would have a little bit more time and flexibility to wander off-campus, remembering that you've got to come in through the front doors like normal, but you'll have your badge with you. So, that might help.

With that, let's get on to Question No. 7. "Are there any unintended consequences associated with developing a very low-level waste category?"

And, yes, sir?

MR. VICKERS: Glen Vickers, nuclear power
I think we already have a lot of experience at RCRA facilities that you could refer to when handling low levels of radioactive materials.

MR. MUSSATTI: Okay. I'm going to go to the phone to give people in the room a chance to take a few more notes as to what they want to say. Do we have anybody interested?

OPERATOR: As a reminder, please press *1. One moment.

MR. MUSSATTI: We changed operators.

OPERATOR: One moment for our first question.

MR. MUSSATTI: Somebody's on the line?

OPERATOR: Our first question comes from Janati.

Your line is open.

MR. JANATI: Okay. Thank you very much. Rich Janati, Pennsylvania Department of Environmental Protection.

One of the unintended consequences could be the potential impact on the existing low-level waste disposal facilities as it relates to the amount of waste that they have been receiving. If we have a separate
category of very low-level waste, then what would be the impact on the existing disposal facilities? This should be a consideration.

MR. MUSSATTI: Okay. Is that all? We have somebody on the panel?

MR. HEATH: This is Maurice, NRC. Rich, just a clarifying question to you.

MR. JANATI: Yes.

MR. HEATH: When you are referring to disposal facilities, are you specifically just talking about low-level waste, Part 61?

MR. JANATI: That's right, low-level waste disposal facilities --

MR. HEATH: Okay.

MR. JANATI: -- because of the amount of volume that they will be receiving could potentially, you know, increase substantially. So, from an economic point of view, it will be a potential impact on the existing facilities. And I'm particularly talking about Part 61 facilities.

MR. MUSSATTI: Okay. That cleared it up for you, Maurice?

MR. HEATH: Yes. Thank you.

MR. MUSSATTI: Okay. All right. Thank
you very much for that comment.

Larry, I see that you've made a comment online. So, you tried to get on for Item No. 6. After we get done with Item No. 9 here on the list, I think I'll jump right back to you. So, consider yourself almost on deck.

Is there anybody in the room that would like to comment on this unintended consequences question?

Okay. There we go.

MS. D'ARRIGO: So, I guess I wanted to clarify, are the comments that we're making here verbally part of the official comments or this is just a discussion?

MR. MUSSATTI: Yes, these are official comments and these are going to be part of the transcribed record. They're going to go into ADAMS.

MS. D'ARRIGO: Okay. So, I don't know whether the consequences are intended or not, but I do think that the materials, the waste, could get out into commercial products and into recycling. Even though you're writing in your Federal Register notice that you don't want them to, the possibility is that, once they're released from radioactive controls, that
they could become reused and recycled, especially in light of the fact that NRC is encouraging, under 20.2002 and 40.13(a), to reuse and recycle radioactive waste.

MR. MUSSATTI: Thank you for that comment.

MR. HEATH: Diane, I just want to address that. Thanks for that comment. But I just wanted to make it clear that just today we're talking about very low-level waste and we're talking about disposal. We're not discussing anything, we're not talking about any kind of release criteria or anything to that nature. We're specifically just talking about disposal at a regulated facility.

MS. D'ARRIGO: And this question is, what are the unintended consequences of that? So, that's where it goes beyond what you want to keep the limits. I'm saying that you can't guarantee that and an unintended consequence is that it gets out beyond your scope here today.

MR. HEATH: Oh, okay. Understood. Thank you.

MS. D'ARRIGO: But I think there's also the unintended consequence that people will be exposed. Landfills leak. Solid waste landfills leak. In 20 or 30 years -- they do have liners; liners leak.
There's not an economic way to monitor. I mean, the drinking water in this country is not routinely monitored for radioactivity. So, the leachate from landfills is not going to be routinely monitored for radioactivity. But, if more and more radioactive materials go into solid waste facilities, which already do leak, then radioactivity is eventually going to be leaking out. We're dispersing the radioactivity from the nuclear power and weapons complex.

MR. MUSSATTI: Thank you.

We have another comment here on the floor?

MR. SHRUM: Dan Shrum with EnergySolutions.

Through that comment it made me think of something, and you responded. But it should be very clear that, if a release standard is developed for very low-level, so that it can go to a facility that can receive it, that only applies for disposal. That's what you're saying, correct? This release will not apply to other items that may not go for disposal?

MR. DEMBEK: Yes, that's correct. What we're talking about for the Very Low-Level Waste Scoping Study is to discuss and consider how we could change, possibly change, the regulatory limits, possibly change
the guidance to talk about material that is on the low end of the radiation, say, Class A, low end of Class A, and can go into another disposal facility, such as municipal waste facility or a RCRA facility. We're not talking about changing the 20.2002 process, which could talk about disposal of even lower levels of radioactive material and possibly recycling or release.

So, that is the procedure on a case-by-case basis that could talk about releasing this material, recycling this material. We're not talking about doing that in the Very Low-Level Waste Scoping Study.

MR. MUSSATTI: Okay. That clarifies that.

More?

MS. D'ARRIGO: Yes. I would like to have a scenario of, say, a large amount of radioactive metal that goes to some disposal facility. Once it is cleared or determined to be so very low-level that it doesn't need radioactive labeling or protection, how is that going to be kept out of the recycling stream? Are you only going to let it go to facilities that guarantee that none of their solid waste gets recycled?

MR. HEATH: Diane, what we're talking about is simply disposal.
MS. D'ARRIGO: I know.

MR. HEATH: So, to address your scenario, with the Very Low-Level Waste Scoping Study, if the material is contaminated, we are talking about in a package and disposal to keep it separate, as we said earlier, out of the biosphere. So, we are talking about in a package, disposed at a regulated facility. That's what we're addressing. We're not talking about anything about any clearance or cleared material. We're talking about metal in a package being disposed at a regulated facility. That's the intention. That's what we're --

MS. D'ARRIGO: At a regulated facility?

A regulated facility?

MR. HEATH: Yes, that is correct.

MS. D'ARRIGO: What kind of regulated facility? It sounds to me like you're saying you're going to send it to a solid waste, a RCRA C or D facility. So, RCRA C or D facilities are not regulated for radioactivity.

MR. HEATH: Now we are talking about a regulated facility and --

MS. D'ARRIGO: Radioactive regulated?

What kind of regulated?
MR. HEATH: And RCRA Subtitle facilities are hazardous waste, but do take constituents that are low concentrations of radioactivity. They are regulated. And so, we're making that -- I'm sorry.

MR. DEMBEK: Yes. This is Steve Dembek. Just to follow on to what Maurice is saying, we're talking about a regulated disposal facility. So, it's going to be isolated from the public, and it's going to have that barrier from the public. It's going to be disposed of with other potentially hazardous material in those facilities and isolated from the public in that manner.

And getting back to your point about the contaminated metal, basically, all steel after the atomic bomb, atmospheric atomic bomb explosions is contaminated. So, I'm not sure where you're trying to draw the line there as far as what could be, what has to be buried at one of these facilities or what doesn't. If you can clarify that for me again, that would be helpful because --

MS. D'ARRIGO: It's my understanding that steel has lower background radioactivity than other materials. But the point I'm trying to -- the question is, what are unintended consequences? I am saying that
I believe you have every intent in this discussion to only send it to a specific landfill, incinerator, solid or hazardous waste facility, licensed under RCRA C or D by the EPA. That sounds to me like you're limit on your discussion. I'm saying that I know of situations where those facilities allow some of their materials to not necessarily just be disposed.

MR. MUSSATTI: Okay. I think what we want to do is we want to hear from somebody else.

MS. D'ARRIGO: I'm trying to understand how you're going to prevent the --

MR. MUSSATTI: I understand. I understand, but what we need to do is probably get another voice in here that can explain somewhat.

Yes?

MR. McKENNEY: This is Chris McKenney. I'm the Chief of the Performance Assessment Branch.

And, Diane, exactly that type of scenario needs to be evaluated and addressed on how that would not occur if we were to go forward in a rulemaking. What are the constraints? What are the other things to avoid those type of scenarios? Those would have to be evaluated because that wouldn't be our intent, is to allow a situation that would allow for the stuff
to be sent to a landfill with the intention for disposal, but, then, it be redirected into another situation. But those would have to be things.

So, thank you for bringing up that scenario and those comments.

MS. D'ARRIGO: So, you are staff that's dealing with this potential rulemaking?

MR. McKENNEY: Yes, I am. I am. I am.

MS. D'ARRIGO: Okay.

MR. McKENNEY: We don't have a rulemaking at this time.

MS. D'ARRIGO: I said "potential".

MR. McKENNEY: Right. This discussion --

MS. D'ARRIGO: We hope doesn't happen.

MR. MUSSATTI: Okay. I hope that answered some of your concerns, that they are actually looking into these things for you, or for us, all of us.

Are there any other comments from the floor?

(No response.)

Anything on the webinar?

(No response.)

Our operator, do we have anybody that's online or on the phone lines?
(No response.)

I have lost my operator?

OPERATOR: Oh, I'm sorry, I was on mute.

Jay Cumbow (sic), your line is open.

MS. CUMBOW: My name is Kay Cumbow.

And, yes, I agree with Diane. The scanners -- you're also talking about municipal landfills. At least that's what it says in The Federal Register notice. And many municipal landfills do not possess scanners, and if they do, they're not used as well as they could be. They also are gamma radiation scanners. So, they don't scan for alpha and beta. And so, things like plutonium and americium, neptunium, and many, many others don't show up if you're scanning for them.

And they're going to outlast any liner of landfill, and landfills leak. In Michigan many, many landfills have leaked into groundwater or into nearby communities. So, if you've got stuff that's going to outlast a liner, then it's going to get into the food chain and, yes, it's going to be a problem downline.

We're surrounded here in Michigan by water, by the Great Lakes. I think you can go anywhere in Michigan and be eight miles away from water. So, it's
a very serious, it's a very serious concern.

MR. MUSSATTI: Okay. All right. Thank you for your comment.

Could you please tell us if you're affiliated with an organization?

MS. CUMBOW: Oh, sure. I did when I first signed on here. It's Citizens for Alternatives to Chemical Contamination.

MR. MUSSATTI: Okay. Thank you very much.

Did I cut you off in the middle of your comment or were you coming to an end when I broke in?

MS. CUMBOW: Well, I just think that, once it's released into a regular landfill, that there's not going to be any controls. If something looks like it's something in good shape, and it's not labeled as radioactive, people are going to use stuff. They do all the time.

MR. MUSSATTI: Okay. Thank you. I appreciate that comment.

We have another commenter in the room.

MR. MAGETTE: Hi. This is Tom Magette.

So, I think Diane and the last commenter actually raise a really valid point, and it probably goes to my assumption. Yes, I think it's something
like that. So, my assumption is we're talking about a licensed site. We are talking about a waste stream that's profiled and manifested. In other words, it's regulated like a Part 61 waste stream is regulated today. It's just a different hazard level and a different category.

Now that's probably not necessarily a reasonable assumption for me to make. So, that probably goes back to -- I don't know -- Question 2 or 3 as to what is it that you should do; how should you regulate this waste?

So, I think the way to properly control it, and to demonstrate to the public that you are properly controlling it, should have those protections built in. So, if you're going to talk about a lower activity level, it's not been, to my understanding -- and Dan asked for clarification a while ago, and Steve gave it to him -- it's not about clearance. It's not about a release standard. It's not about a scanner at the gate of a disposal site. It's not about gamma emitters only, or at least it shouldn't be, I think.

It's reasonable to say that there are lower-hazard waste streams that are going into Class
A disposal facilities that don't need to. The level
of protection provided by those facilities isn't
necessary. That's not saying, therefore, just throw
it in the trash. That's not my expectation.

So, understand that unintended consequence
of how you define these things could be that, all of
a sudden, there's another escape hatch, so to speak.
But, if you're profiling a waste stream and you're
manifesting it, and you're sending it to a site that
has been analyzed, shown to be acceptable, and is,
thereby, licensed, then those are the kind of
protections that need to be built into this system,
so that those consequences, in fact, don't occur.

Thank you.

MR. MUSSATTI: Okay. We did have a
comment from Lisa on the webinar that's saying that
she's having a hard time hearing people. If you would
turn the microphone up towards your mouth a little bit
closer when you speak, I think that would be very
helpful.

And they're having trouble hearing the
operator, if you've got a volume control.

We have one more comment from the floor
on this issue.
MS. D'ARRIGO: How much plutonium are you envisioning is going to be allowed in the very low-level waste category?

MR. HEATH: Right now, this is the beginning of this Scoping Study. We're just trying to get comments from everybody. We haven't made any type of decision or determination on anything, any values or anything to that nature. We're just in the beginning phase. So, we're just trying to get comments from everybody.

MR. TAPPERT: John Tappert, NRC staff.

So, just to reinforce what Maurice just said, this is very much early days. I mean, there's not a proposal that we're advocating for any changes at all. And we just really want to get the perspectives of the stakeholders. And so, I think this has been very beneficial to hear people's comments about the values of concentration basis, concerns about dilution and the availability of some of these RCRA cells or others, how well they can isolate. So, that's kind of the feedback and comments we're looking. I think that's very helpful.

But I just want to say again that we're not advocating a certain position. So, we don't have
concentrations that we're proposing. We don't have controls, how we would implement those controls to ensure the full disposal.

So, it's early days to think about, are there alternatives to isolating this waste for disposal, not recycling, not for reentering into the commerce chain? And so, I think all these thoughts and perspectives are helpful.

Thank you.

MR. MUSSATTI: Okay. You're just going to provide additional information or is this going to be --

MS. D'ARRIGO: It's another question.

MR. MUSSATTI: Okay.

MS. D'ARRIGO: So, what I meant by the previous question specifically with plutonium, my point is that I'd like to know if there is some consideration of limiting which materials could be subject to the very low-level category. Class A has plutonium. It has iodine, long-lasting. It has got everything. It's got all of the isotopes in it.

So, if you're talking about just taking a slice out of the bottom of the Class A category, it sounds to me like you're taking a slice out of the whole
alphabet soup of radionuclides. Is there any consideration to only allowing very short-lasting radioactivity that couldn't leak before it's exceeded its 10 half-life decay period?

It seems like the way the 10 CFR 61 runs is that we've got all of the isotopes in most of the categories. I mean, I realize B and C have some distinctions. But I'm wanting to know what thoughts are being given to that very low-level. Would it include materials that should by no means be released?

MR. DEMBEK: Yes, this is Steve Dembek again.

To respond to that, yes, we want to hear comments like that. We want to hear comments that some things in the waste classification tables may not be appropriate to put into these very low-level waste facilities or some other materials that aren't on the waste classification tables are appropriate for putting in there or not putting in there. We also want to hear any comments on if the waste classification tables need to be expanded to include additional radioactive material. And any kind of comment like that are the comments we're looking for. We're very early in the Scoping Study at this point and we do want to hear
comments like that. And we want to thoroughly consider comments like that.

Because there were a couple of comments saying we could use the current waste classification tables, but do they need to be expanded? If the set of materials that are proposed to go into these facilities is a lot more than what was proposed back in the 1980-1982 timeframe when Part 61 was created, then maybe we need to consider that, consider changing that. So, we want to hear all those comments and consider all those comments.

MR. MUSSATTI: This is a good segue for me. This is exactly why we want you to follow up anything that you say in here with written comments that are emailed in or sent back to us through whatever vehicle we have available, because this is all important information. We don't want to lose any of it. And we want you to be able to expand upon what it is that you've said.

But I want to move on to Question No. 7.

Wait. We've got something here? We had a question on the webinar. And as soon as you find the "on" button --

MS. ACHTEN: This is from Elizabeth
Zimmerman on the webinar. "What contingency plans will be in place in the event of an unintended consequence?"

MR. MUSSATTI: Well, that's a real broad question. Do you care to talk about the scoping process one more time?

MR. HEATH: Well, sorry, I didn't catch the first name of that person who gave the question, but --

MR. MUSSATTI: Elizabeth.

MR. HEATH: Elizabeth, thank you for that question.

We're in the early phase. So, we have not begun any type of evaluation. We're just trying to receive comments on ideas and things that we should look at during this Scoping Study.

MR. MUSSATTI: Okay. We're going to move on to Question No. 7 now.

MS. D'ARRIGO: Can I just -- you said a minute ago that we could email our comments in.

MR. MUSSATTI: Yes.

MS. D'ARRIGO: And I would like to have an email address for comments. There is not one in The Federal Register, and we would like to have an email address.
MS. JAMERSON: That information will be provided after we discuss the questions.

MS. D'ARRIGO: You're saying that there's possibly going to be an email address provided?

MS. JAMERSON: It's on the back of the agenda as well, the methods for providing comments.

MS. D'ARRIGO: Right. Which doesn't include an email option. It's regulations.gov, and it's paper snail mail.

MS. JAMERSON: There's email addresses for contact information.

MS. D'ARRIGO: But not for official comments. I'm asking for --

MS. JAMERSON: Not for email submission for --

MS. D'ARRIGO: -- an email for comments, and the facilitator here said we could email our comments in. And I'm reaffirming that we would love to be able to email our comments in, and we would like an email address.

MR. MUSSATTI: We'll get you one.

Question No. 7, "Are there any unintended" -- didn't we just do that? Eight. I'm sorry.
MS. MAUPIN: Excuse me. We just noticed that Larry Camper had a comment on No. 6, before we go to 7.

MR. MUSSATTI: We've already talked about that.

MS. MAUPIN: Oh, okay.

MR. MUSSATTI: When we get one, we're going to circle back and pick Larry up. I was hoping he was online to hear that. We've acknowledged that --

MS. MAUPIN: Okay.

MR. MUSSATTI: -- he tried before desperately to raise his hand, but nobody saw him.

MS. MAUPIN: Okay. Great. I just wanted to make sure.

MR. MUSSATTI: Okay. Larry, hang on.

No. 8, "What analytical methods/tools should be used to assess the risk of disposing very low-level waste at licensed low-level waste disposal facilities or RCRA Subtitle C and D facilities; i.e., generic or site-specific?"

And, please.

MR. SHRUM: Dan Shrum with EnergySolutions.

The only thing I would like -- I've got
kind of a cold, so maybe that has something to do with it. For this specific question, I would like you, as
you go through your rulemaking, to limit the analysis
to only packages as received, as opposed to as averaged
over the entire facility. So, treat it the same way
the Part 61 packages are received today, A, B, or C.
And so, by package, not by averaging over the entire
facility.

MR. MUSSATTI: Okay. That's a good point.

Anybody else?

(No response.)

Is there anybody on the phone?

OPERATOR: Yes.

Marvin Lewis, your line is open.

MR. LEWIS: Thank you. Another bite of the apple.

Look, this unintended -- are we still on 7 or have we gone to 8? I don't even know.

MR. MUSSATTI: We are No. 8 now, sir.

MR. LEWIS: Ah, all right. Well, then,

I'm out of order. I should be waiting at the end then.

Would you like me to do that?

MR. MUSSATTI: I'd invite you to talk now,
since we've got you on the phone.
MR. LEWIS: Oh, okay. Look, what analytical methods? Now this is the problem, and it's not the method. It's not putting it down on paper. It's not putting it into the computer. The problem is that, at some point, the boss can come around and tell a technician like Harold Hartman to put down a certain number or to bubble up the hydrogen, or whatever. And you don't get a representative number representative of the actual system or problem, or whatever. You just get something that's put down by somebody because the boss told them to do it.

And I don't see anything in any of the things that I've been attending. I don't see anything out there in the field. The guidance goes around and picks up samples. I have been the bench chemist for many years who's done this analysis and who's watched as his input to the computer is changed by other people who I don't know.

MR. MUSSATTI: Okay. Thank you very much.

MR. LEWIS: And I just wanted to point that out. It's very, very nice to have good analytical methods, but that doesn't tell me that is really representative.

Thank you.
MR. MUSSATTI: Okay. Thank you very much.

What you've been discussing right here is what's called an allegation. If this actually were to happen, that would be something that you could report to the NRC. The NRC would take that under consideration and they would investigate to see if there was anything there that was wrongdoing. And it sure sounded from your scenario that that's what it was. So, we do have a process in place for that, and I hope you're sensitive to that.

MR. LEWIS: What makes you think I haven't done all that?

MR. MUSSATTI: No, I remember you talking that you had done all that, but there is a process in place.

Thank you for --

MR. LEWIS: That process in place is worthless. Thank you.

MR. MUSSATTI: Okay. We have a question in the audience?

MR. VICKERS: Glen Vickers, nuclear power.

I think there are already some mature methodologies out there for complying with 10 CFR 20.2002 and existing RCRA facilities. Now the RESRAD
is a common industry code. Now perhaps there is an opportunity to maybe come up with a Reg Guide or a NUREG to make it a more standard process perhaps. I don't know if there's an opportunity to do that. But, that way, you would come up with a standard analysis methodology, whether it be a state or federal facility.

MR. MAGETTE: Hi. This is Tom Magette. I was going to make a similar comment.

I think you have tools. You're using tools today. You have NUREGs. You have a new one that you're working on to go with Part 61 that outlines appropriate analytical methods.

I don't think there's a need for a change. I think the tools should be similar to what you're using today. Kind of like my previous comment in terms of the standards for the system, in order for the system to be robust, it has to have these components to it. And so, I think from a tools perspective you have them. You don't need new ones or different ones, nor do you want to be prescriptive, "Use this model," right? That's guidance. That's guidance space, is to make sure that the tools meet a certain expectation, but that's not a regulatory standard.

MR. MUSSATTI: Okay. Thank you.
Nothing on the webinar?

Anybody online, on the phone line?

OPERATOR: Yes.

Larry Camper, your line is open.

MR. CAMPER: Thank you very much.

We're discussing No. 8 now, yes?

MR. MUSSATTI: Yes, sir.

MR. CAMPER: Okay. I tried to raise some comments on 7 also, but seemed to be unsuccessful in getting in.

So, let's focus upon No. 8 for a moment.

I agree with what Tom Magette just said.

Oh, I'm with Talisman International, Larry Camper.

I agree with Mr. Magette's comment that the existing methods and tools are acceptable. If I look at the question, when it goes on to say "disposal at RCRA C or D facilities, should it be generic or site-specific?", my answer to that is it should be both.

If, for example, the NRC were to create a VLLW category, presumably, that category would, then, follow the same kind of analyses that have been in place to establish the existing classes of waste in 61.55.

Rather, some component Class A waste could become,
in theory, VLLW. And therefore, some concentration values would be set forth in the regulation that would allow disposal of these materials just as is the case today for Class A waste.

With regards to site-specific, the ongoing rulemaking that's being prepared by the staff and the Commission contains an "or" provision. Waste may be disposed of using the classification tables in Part 61 or through the use of a site-specific performance assessment. That will not change. It should not change.

And it's important to note that RCRA facilities regulated by the states through EPA delegated authority also have a requirement that the operator contained, utilized a waste acceptance criteria, a WAC. So, yes, reactive material going into a RCRA facility must satisfy the waste acceptance criteria. That is site-specific. That should not change.

Thank you.

MR. MUSSATTI: Okay. Thank you, Larry.

Are there any other comments on Question No. 8?

(No response.)
Well, let's move on to 9 because, then, we're going to move onto a little bit more organic of a discussion here. Question 9, "How should economic factors be considered in the Very Low-Level Waste Scoping Study?" And I'm sure that we're going to have some comments on that from somebody in the audience.

Yes, sir?

MR. VICKERS: Glen Vickers, nuclear power.

I think we had mentioned before particularly the 20.2002 process is lengthy and quite costly for licensees to perform. And so, a clear compliance table would eliminate that unnecessary cost.

Thank you.

MR. MUSSATTI: Okay. Thank you.

Anybody else in the room?

(No response.)

On the webinar?

(No response.)

No?

Anybody on the phones?

OPERATOR: Yes.

Ms. Michetti, your line is open.

MS. MICHETTI: Well, I was on the phone from Question 7. So, I don't know how that got delayed.
But I do have concerns that low-level, very low-level waste includes things that I have always considered to be inappropriate, such as long-lived isotopes. And I do think that long-lives isotopes need to be taken out of very low-level waste. That includes uranium, plutonium, some of the iodines, things that harm people and are going to totally destroy our earth and food supply and our ability to live, our food and water, if it gets out.

MR. MUSSATTI: Okay. Thank you very much for that.

All right. I'm going to add a 10th question here. What I want to do is, in asking nine very specific questions and trying to hold the answers to nine very specific, tunnel-vision type of answers, so that we can go through all of them, what we've lost is the organic nature of this discussion.

The overall question, if you were to try to condense all nine of these down to one thing, would be, what should the NRC do to put together a very low-level waste management program that will work? And these are all the different aspects, the economic of it, the unintended consequences. What are things that we can do? What should be excluded? All of this.
But let's just open up the floor to the question, what should we do, and have that as a conversation, instead of having these very narrow questions where we're afraid to say, "I'm sorry, you're out of scope, but on the next question you could answer that."

First of all, we should probably go back to Larry, if Larry's available, because he had a comment on No. 6, and I promised him we would start there.

Mr. Camper, are you available?

MR. CAMPER: Can you hear me?

MR. MUSSATTI: I can hear you.

MR. CAMPER: Okay. Very good. Thank you.

I tried to get in several times and have not been able to. So, please bear with me. I have a couple of comments to make.

Regarding Question No. 6, I think it's important to put on the table the fact that the regulations in 40 CFR 264 through 270 are rather extensive in nature. And those regulations would continue to be brought to bear upon any VLLW category that would be authorized for disposal in a RCRA facility.

I think the NRC should coordinate
extensively, however, with EPA because the EPA, several years ago, actually conducted its own regulatory initiative to create a category called low-activity waste. They withdrew those actions for a number of reasons, not the least of which was the changing of Administrators at the EPA to coincide with our various elections. But the staff has from time to time spoken to the NRC about resurrecting that idea. So, I think that a good coordination with EPA would be in order.

With regards to the question imposing concentration limits, I think the answer is yes. Clearly, concentration limits should be clearly articulated if there is to be a category of VLLW. But, with regard to treatment standards, I would agree with some of the earlier comments that the treatment standards are in place, well-established, and are currently brought to bear for Class A waste. So, I don't see the need for a new treatment standard there.

On Question 7, if I may, since I have the floor, about the unintended consequences, one caller earlier raised the question on a point about unintended consequences to the industry. There would be significant, potentially significant, unintended consequences economically to the industry for the waste
operators that currently operate commercial low-level waste disposal facilities.

If you look at the EPRI data and other analyses, you come to realize that a very large percentage of Class A waste that is currently disposed of in a Class A disposal facility could, in fact, be disposed in a RCRA-type facility, a very large percentage. The numbers vary, but I've read numbers and seen numbers of analyses that range from 50 to 70 percent. So, the potential for an economic impact is rather significant.

The economic factors, how should they be considered? Obviously, NRC is concerned about safety, based on risk- and performance based approaches. However, that economic impact would need to be articulated in any regulatory basis document in the classical manner. And so, that's how that unintended consequence would be articulated, explained to the public.

I'm sorry, now what was the general question you asked?

MR. MUSSATTI: My general question?

MR. CAMPER: Yes.

MR. MUSSATTI: Just basically
incorporating all of the different levels here, what should we be doing? What advice would you give us as to how to put together this very low-level waste program?

MR. CAMPER: Well, from my perspective, if I may while I have the floor, for the longest time we have, as an industry, disposed of, arguably, what is called VLLW in this discussion via the 20.2002 process, via the process that's now in place in the State of Texas. It's being disposed of safely.

But that process is case-by-case and it involves an exemption. It strikes me as being a better approach that, if there were to be a category of VLLW that could be set forth in regulations and subjected to the regulatory process, that individuals could comment upon, express their concerns, and so forth, that's a better course of action than continuing to dispose of this lower-risk Class A waste through an exemption process. Therefore, I personally advocate the use of a rule rather than the existing process, although it is certainly safe.

I think that if we are not, if the NRC is not going to create a category, then the earlier question about should guidance be enhanced, I should
say the answer to that, in my mind, is clearly yes. And I think guidance, for example, as to how the industry meets the requirements of 20.2002(a) through (d) should be more carefully articulated, and especially (d) with regards to how the dose assessment is to be conducted.

So, if rulemaking is not the ultimate outcome, I don't think a no-action alternative is very good, and certainly guidance would need to be enhanced.

Thank you.

MR. MUSSATTI: Thank you very much.

We've got a comment to be sent back to a lady named Lisa who tried to get in earlier and was not able to. And we told her that we would get to her next on the phone lines, once Larry Camper is complete. And I think you're about as complete as you're going to get for a minute.

So, Operator, can we go to Lisa?

OPERATOR: Yes.

And, Lisa Edwards, your line is open.

MS. EDWARDS: Hi. This is Lisa Edwards.

Thank you for that.

I guess I'll kind of answer the last, more general question as best I can. The NRC has expressed interest in moving more toward a risk-informed and
performance-based regulation, and a necessary part of that conversation is proper characterization of the hazard.

EPRI's role is to provide a sound technical and independent analysis and research that addresses these types of questions. And in an effort to technically inform this discussion surrounding very low-level waste, we undertook a couple of different research projects on very low-level waste. That research indicates that both operating and decommissioning plants do, in fact, generate volumes of radioactive waste, such as building rumble and lightly contaminated soils, which are characterized by much lower levels of activity than are typically associated with the more common low-level waste streams, such as resin or filters or even more highly contaminated dry active waste which is composed of cloth and metals and plastics.

So, when we looked at the waste itself and saw that, in fact, there is this rather large volume of waste that has these very low levels of activity, we said, how else do other people handle this? So, in recognition of the lower hazard that is presented by this category of waste, that recognition we found
was recognized both domestically and abroad. The IAEA calls it out as a separate waste category. Many countries around the world have recognized this waste category and a most recent report we looked at did. We looked at six different countries. The U.S. was one of those six and was the only country that did not have very low-level waste or was piloting very low-level waste.

So, the category itself is recognized around the world, and it is, in fact, recognized here at home, just not called the same name. The 20.2002 exemption process and other Agreement State license processes, more or less, apply this same concept.

So, when you look at a disposal system, it's complex. It has to consider both the hazard and the disposal requirement. And generally, what we see done in any disposal situation is to consider and characterize the hazard, then develop and impose requirements that are suitable to that hazard.

So, what we did is we said, well, how have other people looked and approached this hazard, and do the RCRA disposal facilities in terms of very low-level waste, how do they compare to the disposal requirements that other countries have imposed on the
waste streams that they call very low-level waste? That analysis provides very useful insight in terms of how other people grappling with the same question have defined those requirements, and we used that information along with traditional approaches that are currently used in low-level waste facilities to develop a generic technical basis for how one might go about defining very low-level waste categories.

And it hinges on what is the hazard you're trying to prevent. If you look at most countries, they consider a dose limit. So, they look at the mixture of radioisotopes that are present in the waste stream and they provide limits for the resulting dose that could be anticipated via various intrusion scenarios.

And we applied that same concept in our technical approach. We didn't expect this approach to be the all-defining definition of very low-level waste. It, instead, was undertaken so as to offer an example or a template of the considerations that we thought were important to go into defining this waste stream, and was really meant to be a starting basis for others to improve upon.

So, I'm very glad that we're having this conversation, and we hope that the technical work that
we have done at the Electric Power Research Institute helps inform this discussion.

Thank you.

MR. MUSSATTI: Thank you. That was very informative.

Do we have anybody on the floor who is looking to speak first?

MS. EDWARDS: That was all.

MR. MUSSATTI: My microphone is off?

Sorry about that.

Is there anybody on the floor that would like to speak?

MR. MAGETTE: Hi. This is Tom Magette. I'd like to address Question 10.

And I think the answer to that is that there should be a rulemaking. I think you should define VLLW by rule. That will help address some of these other concerns. But I think it's important that you regulate the waste stream and that you regulate the site.

And if you put it in a Part 61, and those other components are inherently a part of that section of the regulations -- you have the siting section. You have these other issues addressed as to the extent you have
to deal with the site stability. It's simply a lower
risk, so it would be a lower standard, but it would
be regulated, not done by exemption, and it would be
formal.

I think it's a mistake to permit large
volumes, millions of cubic feet kinds of volumes, to
go to a given site under 20.2002, even if the site is
appropriate, because it's simply not been analyzed in
a way that would adequately justify that. So, I think
you'll end up using some of the sites, but you should
have a regulatory basis for that. So, I would encourage
a rule.

I appreciate what we're doing today, and
I certainly echo what Lisa just said. It is very much
a useful conversation, and I appreciate the idea for
us to help formulate what a rule might look like.

My fear, my unintended consequence fear
is that, you know, I could spend the next 10 years of
my life standing at microphones talking about very
low-level waste, which I don't really want to do.

Part 61 has been a very good process. I
like the idea of the preliminary proposed rulemaking
language, but I don't want to see this taken to an
extreme. I don't want to see a technical basis next
and, then, an Advance Notice of Public Rulemaking, and, then, a proposed preliminary rule language and, then, a proposed -- you know, really, I think we know an awful lot here. We can learn a lot from the EPRI work. You can learn a lot from what you've done for Part 61. And if you agree, if you write a report here that says that your inclination is to write a proposed rule, then I would encourage you to write a proposed rule next.

Otherwise, I think we'll be tortured to death by the process, not to be overly dramatic.

Thank you.

MR. MUSSATTI: Okay. We had one comment that was on the webinar that we need to get to here.

MS. ACHTEN: The webinar comment is from Earl Fordham on Questions No. 7 and 9. "The State of Washington is concerned about continued economic viability of the existing sites if very low-level waste is diverted to other sites."

MR. MUSSATTI: Okay. If you're still on the line there, Earl, thank you for that comment. We've got people taking notes furiously at the head table here.

Back in the room, is there anybody else that would like to make a comment? Okay. Thank you.
MR. DEMBEK: I have a followup question for Earl. Hopefully, he's still online.

If we can get more specifics about the economic viability issue, for instance, will the disposal site be forced to go out of business or will the disposal site be forced to raise the price for the regular Class A material and the Class B and C material, such that the utilities might not gain that much because they're paying more for this material or they're paying less for the other material? So, if it's possible, if we can get more specific details on what the economic concerns are, that would be helpful to us as we make our decisions.

MR. MUSSATTI: Good point. That kind of input would be very helpful.

Yes, please.

MS. D'ARRIGO: I think there should be some kind of provision for the public to have the ability to do independent monitoring to verify the implementation of whatever results. At this point, we're in a complete, in a position of complete, having to have complete faith in the Nuclear Regulatory Commission and, then, in the state regulators and, then, in the industries to fulfill the commitments. And in
order to enhance public confidence, it would be helpful to have some kind of independent verification. And that is an economic concern because I have in the past tried to verify, to identify the levels that were being cleared by the Department of Energy, for example, and a multi-channel analyzer that can identify the specific radionuclides, not just the counts per minute or the millirems per hour, or whatever, is in the range of $15,000, or at least it was several years ago. So, in order to be able to verify and enforce, I think there needs to be — it’s time that provisions be made for the public to have the ability to do independent monitoring and verification.

MR. MUSSATTI: Okay. Sir?

MR. SHRUM: Dan Shrum with EnergySolutions.

In 2007 I was given the opportunity to address the ACRS on this specific issue and presented some of the differences. Because, actually, we operate a low-level cell. We operate a mixed-waste cell which combines the RCRA rules with the NRC rules for low-level waste.

And one of the things as you go through this process, I agree with Tom, I think rulemaking is
essential. This cannot be done with a guidance document. It should be B, compatibility Category B.

But one of the things that concerns me is, when you start to cross between what the NRC does and what EPA does -- and we've got some EPA representatives here, and I don't mean to speak for you -- but the EPA is very prescriptive: you will put in a liner. You will put in another liner. You will have three feet of clay that's compacted to 10 to the minus 6. You know, just making this stuff up, but that's what it says. It's very, very prescriptive.

As you take what you do wherever you're going to do it, be it in Part 61 or possibly Part 20, of how you're going to take this material and either remove it from license space or exempt it through a specific process, and then, make sure that you coordinate with these folks that like to have things very, very, very prescriptive, they are not so much into the modeling. They like all of the waste codes and things like that. So, as you go through this process, again, rulemaking will be essential. I would prefer that you do it your way.

There's some performance objectives that need to be met. We would prefer that as opposed to
specific requirements. But just make sure that
coordination happens there. So, when you say, yes,
it can go to their facility, they say, yes, this can
come to one of our facilities because it can also meet
our prescriptive rules.

Okay.

MR. MUSSATTI: Okay. Yes, please.

MS. D'ARRIGO: I think another important
provision would be that the liability for this material,
this waste, remain with the generator, regardless of
where it is disposed.

MR. MUSSATTI: Okay. Is there anybody on
the phone that has a question?

OPERATOR: Yes.

Elizabeth Zimmer-Lloyd, your line is open.

MS. ZIMMER-LLOYD: Yes, I would like to
go back to Question No. 7, which leads up to the economic
factors, considering. Again, I agree with the others
about the law. I agree that something should be put
in place or written as a law that would require, as
she said, the generators of this material. I mean,
traditionally, it seems to have been passed on in
negative cost to the local municipality and surrounding
area where it may be put in place.
And in the unintended consequence of a leak, who's going to be responsible? And as far as it being called management, I mean, once it's put in place, who's managing it? Who's monitoring it? That concerns me.

I live eight blocks from St. Clair River and a mile and a half from Lake Huron. And I'm surrounded by water here in Michigan. It just is a concern of mine that, once it's put in place, it's just going to sit there. It's not being monitored. Again, these liners within 30 years aren't going to be too protective from this potentially leaking into the water that I drink and I give my grandchildren.

MR. MUSSATTI: Okay. Thank you very much. Operator, we've got a comment from a guy named Joe who says *1 on the phone isn't working, Joe Weismann.

OPERATOR: Oh, yes, he's in queue. I have his line now open.

MR. MUSSATTI: Perfect. Joe?

MR. WEISMANN: I'm sorry, this is Joe Weismann. Did you want me to go now?

MR. MUSSATTI: Yes, please.

MR. WEISMANN: Oh, thank you very much.
My apologies, I had to step away from the call for a while. So, if I'm reiterating what others have said, my apologies.

But, given the summary opportunity for this call and for the public information session, I would just like to kind of summarize some of our thoughts about the NRC's activities and some of what our recommendations would be, I would say.

So, we're not opposed to a rulemaking as such for the NRC versus continuing with guidance, but would urge the NRC to continue in the vein of what they're doing for Part 61 and the movement toward site-specific performance assessments, and treating these sites for the performance that they do show.

Publishing concentrations as part of a rule would be treating all sites as a one-size-fits-all position. That is one thing that Part 61 tables back from the eighties have shown. Although they're protective, they don't necessarily represent what the industry can perform for generators and for licensees.

So, we've learned a lot over the last 34 years. We're continuing to learn about our sites, and that we would like the opportunity to continue to do that through site-specific calculations and risk
assessments. I think it would benefit industry, in
general. It would benefit licensees. And it would
ensure that the waste is going to the most appropriate
places.

How the NRC chooses to do that, we don't
really have an opinion. It's just we think that the
NRC is on a good regulatory path as far as learning
the processes that have gone on with the Part 61
rulemaking and what we've learned collectively as part
of 20.2002 over the last 15-20 years. So, there's a
lot of collective knowledge to be examined and to learn
from, but I think we're starting from a very good place
and there are opportunities for the NRC to make real
good movement here and at the same time be able to serve
the industry and generators in the way that they need
to be served.

So, thank you very much for your time.

MR. MUSSATTI: Thank you very much for that
comment.

Anybody else in the room?

(No response.)

On the phones?

OPERATOR: Yes.

Clint Miller, your line is open.
MR. MILLER: Good morning. Clint Miller from Pacific Gas and Electric Company.

My comments range on previous questions about effects on the low-level waste Compacts and, also, the tracking of this material. First of all, if you're looking to manage something, you need to be able to measure it. And really, we're talking actively now with three programs, if you will, driven by the states.

The State of Tennessee has their Bulk Survey for Release Program, which should really be called the Bulk Survey for Alternative Disposal Program. The State of Idaho, in concert with NRC, has a program at the US Ecology site. It's been mentioned. And there's the RCRA facility that WCS Texas operates in Andrews County, which is a RCRA cell for the State.

There is already for low-level radioactive waste, and commercial, a national database that tracks the low-level waste disposal that's manifested. That's done by the DOE, the Manifest Information Management System, or MIMS. That system does not track -- only collects data from the licensed low-level waste disposal sites. It is not collecting any data from Tennessee on Bulk Survey for Release disposal, US Ecology Idaho, or the RCRA cell in Texas.
So, it may be prudent in the Scoping Study for NRC to assess and evaluate and get in touch with DOE to say, you know, what additional funding would DOE need to include the collection of data from the alternate disposal sites and put that into MIMS? So, that's comment one.

As far as impact to the Low-Level Waste Compacts, the power plant in California, the Southwest Compact, we've since 1980 had to submit export permits to the Southwest Compact. The Tennessee program has been running since the 1980s. Historically, the Southwest Compact has never been interested in any quantity of material that could meet that alternative disposal in Tennessee.

The Compact does collect fees based on our export permits, which have a projected disposal volume. And so, as the advent of other alternative disposal options came up, US Ecology up in Idaho at a RCRA cell and the disposal of RCRA in Texas, as someone pointed out, that really is sort of a diversion of material that otherwise would have gone to a Class A disposal site. And so, the Southwest Compact was interested in knowing about those quantities, I believe to some extent to know that they were still getting their
revenue stream as far as the Compact.

    So, anything that we would send that gets diverted from what had been a Class A site to a RCRA site, we will report those quantities to the Compact to show them that we've paid sufficient funds for an export permit to cover that material independent of where it was disposed of.

    But, again, there's sort of a line of demarcation. The disposal material in the Tennessee process has never been of interest to the Southwest Compact. The higher-tier material, if you will, a little more radioactive, at Idaho or Texas is at least of interest to them at this point in time.

    MR. MUSSATTI: Okay. Is that about it?

    MR. MILLER: Yes. That's my input on that you should reach out to the Compacts to see what their interest is.

    MR. MUSSATTI: Okay. I appreciate that.

    We've got about 10 minutes left, and we've got about three or five minutes of housekeeping to go before we can let you go.

    But we did have a Rich Janati who is on the webinar and has been trying to get on the phone line. And I'm wondering if --
MR. JANATI: Yes. Can you heard me?

MR. MUSSATTI: I can hear you now.

MR. JANATI: Okay. Very good.

I have just a couple of general comments that I would like to make at this point.

First of all, I think that is for the NRC. The first thing you need to do is to provide a justification of why there is a need for a new classification of waste. I mean, this is a very good meeting, but I really didn't see a lot of comments from NRC staff on why we're even taking on this new initiative, a justification such as, obviously, the volume, expected volume from the decommissioning of nuclear power plants and RDD events, high disposal cost, Part 61 facilities, and impact on smaller licensees or generators, things in that nature. That would have to be explained very early on in the process.

My second comment has to do with benchmarking with other countries who have already implemented a very low-level waste classification program, lessons learned.

The other comment, a third comment has to do with economic viability of the existing disposal system. And I raised this before. In order to do that,
obviously, you really need to have some idea as to how much this waste, of low-level waste, is going to be classified as very low-level waste. And in order to do that, obviously, you're probably going to have to know what the concentration limits are going to be for very low-level waste. So, some ideas as to a projection as to what is going to be considered very low-level waste. Otherwise, you're going to have a difficult time with the economic impact on existing facilities.

A couple of other comments. My concern is, from some of the comments that I heard from individuals who attended the meeting on the phone, obviously, it seems to me that there's a lack of familiarity with the RCRA Type C landfill requirements, as well as RCRA Type B. I mean, most people who are in the radioactive waste business, they don't know much about RCRA Type C and RCRA Type B requirements. So, NRC, you really need to do some, require some educational work here as well to describe what those requirements are.

And finally, as far as the impact, again, the economic impact, I would recommend that you talk to the existing disposal facilities. And then, obviously at some point in the future, some direct
interactions with the Compact Commissions would be highly recommended.

    Thank you very much.

    MR. MUSSATTI: Thank you. You have successfully used up all of my wiggle room.

    I'm going to turn the meeting over to Kellee now, who's got a few more slides for us to go through.

    And then, I'll give you a couple of quick reminders for things. And then, we'll break for lunch.

    And I guess next slide.

    MS. JAMERSON: So, just a few final things.

    As you know, the Scoping Study was noticed in The Federal Register. Our comment period is 90 days and will end on May 15th, 2018.

    We are having a public meeting, this one scheduled for today, and we have another scheduled for March 23rd, which will be in Phoenix, Arizona. This meeting will be announced on our public meeting notice system. So, stay tuned for those details about how you can participate.

    Next slide.

    Lastly, on how to provide comments, we do have the designated federal rulemaking website, and the docket ID for the Scoping Study is NRC-2018-0026.
Comments are accepted there as well as via mail, also referencing the docket number. The address is provided on this slide as well as in The Federal Register notice. And if you picked up an agenda at the sign-in table, information is also located on the back of that.

To ensure that your comment is considered, we ask that you formally submit all of your comments through the methods that are provided in the FRN. However, since we were not able to produce a resource email inbox, we will accept your comments via email per the contact information listed on the paper as well as on the next slide. And we'll be sure that it's added to the docket.

Again, the comment period will end on May 15th. This is where you can find additional information about the Very Low-Level Waste Scoping Study. There is a page dedicated for the very low-level waste on the NRC's public website. You can contact myself, Kellee Jamerson, or Mr. Maurice Heath. The phone numbers are there.

Thank you. I'll turn it back over to Dan.

MR. MUSSATTI: Okay. Thank you.

We had promised to give you addresses for you to be able to send in comments. There are three
of them up on the board. Well, two of them here and
one on the previous slide. There's two actual email
addresses, one for Maurice and one for Kellee. And
the regulations.gov is an official site that collects
all of our comments for us. And if you go to the
NRC-2018-0026, you will go right to where you get a
hot link right there and you can put your comment in.

So, I think we have taken that off of the parking lot
and we can consider that done.

We've had a pretty informative morning.

MS. D'ARRIGO: So, can I just clarify?
You're saying that for the very low-level waste
comments, they can go to rulemaking.comments@nrc.gov
if the subject line has "NRC-2018-0026"?

MR. MUSSATTI: Yes.

MS. D'ARRIGO: Thank you.

MR. MUSSATTI: Yes.

MS. JAMERSON: No. That email inbox is
specifically for the greater than Class C and
transuranic waste. It does not accept comments for
the Very Low-Level Waste Scoping Study.

MS. D'ARRIGO: What email can be used for
that?

MS. JAMERSON: For the Very Low-Level
Waste Scoping Study, use either myself or Maurice for the contacts, the email addresses for very low-level waste.

MS. D'ARRIGO: In order to submit official comments? You will, then, provide them to the docket?

MS. JAMERSON: We will be sure that it's placed on the docket.

MS. D'ARRIGO: Okay.

MR. MUSSATTI: Yes, I'm sorry about that. I was making an assumption, and you're not supposed to do that.

Okay. When you leave here to go to lunch, remember to have your visitor badge visible the whole time that you're in the building. This floor, the next floor up inside the auditorium area, and the main floor of the One Building, the building that you came in this morning, you can move around on that freely without having to be escorted. You cannot get anywhere further than that guard station that's for the Two Building over there by the cafeteria. To get passed that, you would be going into where our gymnasium is and those sorts of things or you would be heading to the elevator bays, and both of those are kind of forbidden. So, you have the main floor. You've got the Starbucks and
our cafeteria and the little gift shop that's across the hall that are available to you.

We're going to start exactly at one o'clock, I hope, because we promised the folks that have that as an important topic that they're going to get their full two hours this afternoon to be able to listen to it.

If you leave the building, remember that you have to come in through security. But, if you do leave the building, you can leave through the back door and go out through the guard shacks by where the cars are. But factor in the additional time that you're going to need to get back here for the meeting.

You can leave everything of yours in this room here if you've got a laptop or a briefcase, or something like that, and you don't want to drag it around lunch. I stay here for the whole lunch period. So, there won't be any time that this room will be unattended. So, your stuff is safe in here with me.

And have a great lunch. I'll see you in about an hour.

(whereupon, the foregoing matter went off the record for lunch at 12:00 p.m. and went back on the record at 1:00 p.m.)

MR. MUSSATTI: All right, welcome back.
Did everyone have a good lunch? Oh, it's one of them kind of crowds. Okay.

Just a few reminders before we start, please silence your phones, ringers, anything like that so that we do not bother each other.

And, please remember your manners while talking, one person speaking at a time so that our bedraggled person that is transcribing this can actually get an accurate transcription of what we are saying.

Again, what you say -- what you think you're saying here may not be exactly what you said or what we heard, so we encourage you to follow it up by sending us a written version of what it is that you tried to say.

All right, on the phones, I want to -- in case there's anybody new, we have this thing on a web line with the webinar. And, the webinar usually has audio and -- attached to it so you can speak through the computer.

We don't use that because it uses up so much bandwidth and garbles everything. We encourage you instead to use the telephone and dial into our number there and make any of your comments by dealing with
our operator, who, right now, her name is Carrie. And, later on, we'll be back with Brandon after he's done with a lunch break.

Grab a pencil, if you are needing the telephone number to get into our call in line, 1-800-857-9840. And, the pass code that you will be asked for is 4979456.

That way, you'll be watching on your computer, but you'll be communicating with us through the telephone which will be a much clearer signal for us to be able to get.

And, if you want to get onto the phone lines, I'm going to ask Carrie to explain how to do that and then I'm going to add a few words at the end.

Carrie, could you explain how to get in the queue to make comments?

OPERATOR: Yes, as a reminder to join the queue, please press star one on your touch tone phone and record your name when prompted. Again, press star one, please check to be sure that your line is unmuted and record your name at the prompt.

MR. MUSSATTI: Okay. The key there is press star one on your touch tone phone. We've had
problems in the past, from what I understand, with some people not necessarily at this conference who have been desperately beating out star one on their computer on the numeric keypad when they're trying to get their telephone to understand that they are trying to get into the queue. So, we want to make sure that that is clear.

We want to get started right away and as soon as I can find where Greg Suber is -- there he is, I'd like to turn the meeting over to Greg.

He's the Deputy Director of the Division for Decommissioning Uranium Recovery and Waste Programs, 18 years of service.

MR. SUBER: All right, thank you.

First of all, I'd like to welcome you all to the afternoon session. I appreciate you guys coming out.

Apologize that I couldn't order up the same kind of weather we had yesterday for today. It's a little cooler, but hopefully, you guys enjoyed your walk outside nonetheless.

First of all, I'd like to emphasize, once again, that we appreciate your coming out and just state that public engagement is really important to the NRC.
And, this is the way we prove to our stakeholders that we are open and that we are transparent.

So, we welcome your comments here. We welcome a lively, respectful discussion. And, we also just want to remind you that to formally submit your comments, you do have to go through the mechanisms that are included on the back of your agenda.

So, I would like, at this time, to welcome to the microphone Ms. Cardelia Maupin.

MS. MAUPIN: Thank you, Greg, and good afternoon.

Basically, we will start with the second slide which is the purpose of the meeting. And, basically, we, at the NRC have good -- principles of good regulation that requires us to do our business in an open manner that provides public -- is publically and candidly transacted.

So, that's why we are here today... is to ensure stakeholder participation and involvement as we identify the various technical issues that we will be looking at in the development of a regulatory basis for the disposal of greater than Class C and transuranic waste.

This supports NRC's openness strategies
and also the cumulative effects of regulation initiatives.

For those of you who might not be as familiar with cumulative effects of regulation, or as commonly referred to as CER, back in March of 2011, the Commission directed the staff to make the rulemaking process -- to make enhancements in the rulemaking process that would include increased interaction with external stakeholders throughout the rulemaking process.

And, the development of a regulatory basis is a part of that rulemaking process. And, that is part of our openness strategies and why we are here today.

Next slide, please?

As you look at this particular slide, it basically outlines what happened with the Low-level Waste Policy Act of 1980, which basically defined radioactive waste not as -- not classified, this is a unique way to define a substance as not, okay, not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel or byproduct material as defined in Section 11(e)(2) of the Atomic Energy Act of 1954, as amended. And, that was done
in 1980.

And then, in 1982, as a result of the interests of stakeholders and a lot of things that were going on in waste disposal at that time, the NRC developed regulations in 1982, that what we see as Part 61.

And, Part 61 basically also provides the definition of waste. As defined in Part 61, low-level waste -- waste means low-level waste containing source, special nuclear or byproduct material that are acceptable for disposal in a land disposal facility.

And, this definition goes on to indicate that low-level waste, it means, again, not classified as high-level waste, transuranic waste, spent nuclear fuel or byproduct material.

In addition, when we -- when the NRC developed Part 61, its low-level waste regulations, it came up with a waste classification system which is basically reflected in this diagram where we have waste that is divided into the classes of A, B or C.

And, it also provides for waste that is greater than C which we are going to talk about more today, and that's greater than Class C.

Greater than Class C waste is
concentrations of radionuclides that, in itself, by its own definition, is greater than that in Class C. Okay, greater than Class C.

Next slide, please?

So, you might ask yourself, okay, why are we here? Why now? Why is the NRC looking at greater than Class C at this time and at the possibility of even revising its Part 61 requirements to look at potential inclusion of this waste within the Part 61 regulatory framework?

Well, this is all outlined in SECY-16-0094, the title of which is “Historical and Current Issues Related to the Disposal of Greater Than Class C Low-Level Radioactive Waste.”

Basically, in that document, the staff discusses that the Waste Control Specialist of Texas filed a petition or rulemaking with the State of Texas requesting that they amend the Texas Administrative Code to remove the prohibitions to the disposal of greater than Class C and "greater than Class C-like materials.

And, as a result of that petition for rulemaking, the State of Texas came to the NRC to look at whether or not they could do this with all the various
technical, legal issues surrounding it.

And so, for the purpose of this paper that the staff developed, greater than Class C was basically looked at as those materials that was covered by the Atomic Energy Act licensed activity, whereas, this, new term "greater than Class C-like" waste is that developed by the U.S. Department of Energy and is generated or owned by them.

So, this paper that the staff came up with basically focused on that within our sphere and, that being, greater than Class C.

So, as a result, of course, when you send the paper up to the Commission, the Commission gives you a response back. And, that response back is what we have as the Staff Requirements Memo, or SRM.

And, it basically directed the staff to prepare a regulatory basis for the disposal of greater than Class C through means other than geologic disposal, including what we see presently in Part 61 called near-surface disposal.

In addition, at present, there is no definition of transuranic waste in Part 61. So, the Commission also directed to staff to look at adding a definition of this term to the Part 61 definitions
in Section 61.2.

After which, they had initially told us to complete this regulatory basis within six months of the, which was at that time, the Part 61 rulemaking activity.

However, subsequent to that, through SRM-SECY-16-0106, the Commission gave us new direction and indicated that we should complete this regulatory basis within six months after publication of the Part 61 supplemental proposed rule.

As you know, this is a very complex topic, legally, technically and policy wise. So, six months is not a very long time to discuss all of the important issues that are going to need to be considered in developing a regulatory basis.

Once again, that brings us to why we are here today. We, at the NRC, believe it is vitally important to communicate with our stakeholders early and often, early and often.

That way, we can get and understand all the various issues associated with this particular development of this particular regulatory basis.

Next slide, please?

So, in looking at the next steps, once the
Part 61 supplemental proposed rule is done, we are to, within six months, complete the regulatory basis. As I said, that's a very short time to do all we need to do. So, that's why we're talking to you today.

And, if the analysis in the regulatory basis concludes that some or all of greater than Class C is potentially suitable for near-surface disposal as described in 10 CFR Part 61 and the Commission agrees, then the staff would proceed with that box there, which would be to develop a potential Part 61 rulemaking for greater than Class C and transuranic waste disposal.

Are there any questions for me before I turn it over to my colleague, Mr. Tim McCartin?

MS. D'ARRIGO: I just wondered if the six month clock started ticking yet, complete 61 supplemental proposed rule? So, that's -- that hasn't happened, right?

MS. MAUPIN: That's correct. That's why I referred to early and often because that -- the supplemental proposed rule has not been published as of yet. So, that's why we are out speaking to you, our stakeholders, early on this issue. It has not been completed.

MS. D'ARRIGO: And that's going to be on
the whole gamut of things that Part 61 is, not just
this greater than C piece?

MS. MAUPIN: It would not include this
Part -- it would not include the greater than Class
C piece. It would just include the piece that was
being -- preceded us.

Thank you, if no more questions, I'm going
to turn it over to Tim.

OPERATOR: On the phone line, we have Rob
Black.

MS. MAUPIN: Okay.

OPERATOR: Your line is open.

MR. MUSSATTI: Go ahead.

MR. BLACK: Sorry, I missed the question.
We don't have input right now.

MS. MAUPIN: All right, I'm turning it
over --

MR. MUSSATTI: Okay.

OPERATOR: Okay, next, we have Larry
Camper. Your line is open.

MR. MUSSATTI: Go ahead, Larry.

MR. CAMPER: Okay, can you hear me?

MR. MUSSATTI: Yes.

MR. CAMPER: Very good, thank you.
Thank you, Cardelia.

Before I make my comment or question, I want to thank the staff for the hard work you're doing on this very important national issue that's been going on now for 30-plus years.

The question that I have before we get into the specific question is, I want to try to understand just where we are in the process.

I'm a little bit perplexed at some of the questions. Let me explain what I mean.

Cardelia, you referenced SECY-15-0094. And, I would bring to our attention the attachment or enclosure to that paper which was an extensive analysis of the GTCC waste inventory in the United States today bringing to bear the materials set forth in the Department of Energy’s EIS.

And so, it's a very extensive document. But, it strikes me that some of the questions that we're going to be discussing doesn't seem to take the benefit of that analysis.

I mean, for example, the first question asks what are the important radionuclides, et cetera? But, yet, that very document, this Executive Summary cited Section 2 and presented a summary of the DOE EIS.
and went on to say that this document is currently the most comprehensive and detailed source of GTCC waste types and inventories, disposal methods including conceptual facility designs, on and on and on.

And then, that same summary cited certain questions that weren't addressed within that staff analysis.

And so, I'm curious in a general nature as to how much that rather in depth good work by the staff is being brought to bear now as you bring forth the issue in this set of questions?

Thank you.

MS. MAUPIN: I will take it -- my first cut at it and then I will turn it over.

I think some of it is based on what the SRM said and the direction that we got from the Commission in that SRM in looking at the paper.

But to -- I will now turn to my colleagues who will talk more about the technical aspects.

MR. MCCARTIN: Good afternoon, I'm Tim McCartin and, Larry, let me go through my presentation and then, at the end, if that still doesn't answer your question, you can bring it up again.

But, I hope to address in that -- in my
presentation.

And, we're at this initial meeting and the staff, in preparing for the meeting, we conducted some simple technical analysis drawing upon information from before as well as possibly packaging it a little differently than was done before.

But, we certainly are aware of a lot of work that's been done, especially recently, DOE published their EIS for GTCC waste. And, we have relied on that.

However, for today, what we were looking to see is, before we go any further in developing a regulatory basis, we want to understand the potential hazards with disposal of GTCC waste.

And so, this presentation today is trying to give you some information of how we've looked at it and we're interested in hearing from people, because before you proceed to suggest any changes to the regulations, one would want to make sure you have a good understanding of the hazards.

And, that's what we've done today. This analysis we provided in the Federal Register Notice.

It was a hope that possibly this analysis that we did would assist people in understanding why we asked the
questions we did.

So, next slide?

First, you want to understand the characteristics of the type of waste that you're proposing to be disposed of. And, generally, GTCC waste is characterized in three rather large bins, if you will, waste streams.

One would be from primarily from commercial reactors, that's activated metals. They are components from a nuclear power plant.

Sealed sources primarily from medical and university hospital uses.

And then, the other category which is a variety of different sources that are greater than Class C. And, I'll go into detail in the next few slides of those -- of these three areas that we looked at. They are the same three areas that are in DOE's EIS.

So, activated metals -- next slide?

As I said, these are mainly reactor components is the most significant source. There's two aspects to the radiation for activated metals.

So, there's certain atoms that can get activated by the fact that they've been in a nuclear reactor. Nickel in a metal, nickel-63 is an
activation -- activated radionuclide. And, that's where the name typically comes from.

But, we would not want to neglect the fact that there is some surface contamination of these metal components in a nuclear reactor. And, they include other radionuclides such as transuranics.

And, I will point out here that I labeled greater than Class C for activated metal, sealed sources and other wastes.

We do not have in this analysis a separate category for transuranic waste.

Now, there are transuranic radionuclides in some of these waste streams. They may not be at the level of concentrations that would classify them as transuranic waste, but we believe it allows one to understand the concern with disposing of transuranic wastes.

And so, that's why there isn't a separate category that you'll see in my presentation for transuranic waste.

There's also -- and, in this activated metal source term, there is long-lived radionuclides as well as short-term. The short-term tend to generate more heat. And so, that's another aspect of this
greater than Class C waste that typically is not considered in low-level waste disposal, heat generation.

Next slide?

Sealed sources, as I said, are typically due to medical applications and they can be short-lived, cesium-137 is a fairly large amount of curies that are present in the source terms that DOE included in its EIS.

There's also others that include transuranic radionuclides, including plutonium isotopes.

Plutonium-239, in particular, is a fissile material and, with that, depending on the quantity, the configuration, it raises potential concerns with respect to the potential for criticality.

Because it's a fissile material, it also, depending on the amounts, there's certain security requirements that NRC has for these types of materials.

Additionally, sealed sources can generate a fair amount of heat.

Next slide?

The other category is, you know, I hate to say, well, it's a variety of different sources.
DOE noted a couple potential sources for the future. One, if there was a decision to exhume the West Valley site, there could be some other -- it would be classified as this other waste, some of that.

Also, molybdenum-99 production, a radioisotope used in medical field procedures. There is waste from that, that would be also included as other waste.

Certainly, the molybdenum-99 production has a transuranic radionuclide that's fissile plutonium-239 in it.

So, you can see there's a variety of different aspects to each one of these.

Next slide?

And so, when we look at this spectrum of potential waste that would be disposed, there's the thermal output.

Some of these waste sources, depending on the amount that's disposed of, could generate a fair amount of heat.

Also, the same radiation that generates the heat can also cause radiolysis and hydrogen gas generation. Is that an issue? Right now, it's something to at least look at.
The fissile material, as I mentioned, and certainly, you always want to be aware of -- you might have short-lived radionuclides but what do they decay into?

And, if they decay into a long-lived nuclide, what's the overall impact of that sequence? And so, with that as a backdrop, I will go to the results, but don't go to the slide -- that slide yet.

These were simple analyses we did to help us better understand the problem. We are not endorsing any particular design, or site, it's a way to help us better understand the problem.

And so, with that, let me go to the results side. Yes.

And, although there's a lot of stuff up there, let me point to a few things that I think are the message -- the takeaway message that I'd like to convey today, on the far left-hand side, -- are a number of different potential hazards.

You can see the thermal aspect, the gas generation, a dose to the off-site, the intruder. And so, you can see there's a number of things you need to consider when you're disposing of this type of
material.

You can see the three categories. There's also under each category, there's two different time frames, 500 years and 5,000 years. Part of that, in our analysis, we were trying to look at, you know, what happens over the long time?

As you can see in terms of the thermal part, clearly, most of the thermal effect is gone after the 500 years. It's there early on, as one would expect. But, it dies off over time.

You can also see in that middle set of columns for sealed sources, there's a lot of transuranic radionuclides there.

And so, you can see that's one of the reasons -- well, we didn't need to have a separate transuranic column, you can see, it does show up. So, disposal of transuranic radionuclides is going to need to consider a number of these hazards.

You can see the bottom two rows, the first one is intruder dose with respect to shallow disposal. The bottom most is intruder dose with respect to deeper than shallow. And, you can see, it made an impact. And so, what this slide is trying to convey, and clearly, the assumptions we made about, well, how
much of it did you have there? In general, for each
one of these sources, we included approximately 400
cubic meters of waste. And so, we kept them about all
the same just to -- so, it was a fair benchmark between
the two.

But, you can see, there's a number of things
to consider and that's up to the particular site design,
the site. It could vary considerably, but, I think
what this shows to us as we go forward, there's a number
of hazards that need to be considered.

One thing I would not want anyone to take
away from this slide is, oh, we've identified the
important radionuclides. These showed up in our
analysis, it's very dependent on our assumptions.

But, it shows the importance of doing an
analysis to identify what's important for your
particular site, the volumes that you're going to
dispose of, the design you have. And, that's all this
should be used as.

We have not made any safety decisions on
this, but it's in the view of the technical staff doing
this, it's important to have a good understanding of
what you're disposing of and what impacts you need to
consider.
As I said, the thermal aspect, if you didn't account for it, would your engineered -- would your waste form -- would your waste package degrade faster because you didn't consider the heat aspect?

And so, that's the takeaway from this is that we believe we've tried to identify the potential hazards. Now, we'd like to hear from the public. You might have different views on this and that's why we're here.

But that -- and, that's why we provided this analysis. You can see, as Greg said, this is a complex issue. And, there's a number of facets to this problem.

And, with that, I will go to the questions.

MR. MUSSATTI: Okay, we have three questions that were posed in the Federal Register Notice and we're going to spend about 15 minutes of each of them we did before.

And, at the end of that, we'll get a sense of where we are. And, if we can --

MR. MCCARTIN: Excuse me, Dan, we would prefer you just read the three questions and let the discussion flow from there. And, we're not as --

MR. MUSSATTI: But expand with the
others --

MR. MCCARTIN: -- I know with the nine, it was a little more, but we think we can just hear from the public after.

MR. MUSSATTI: I stand corrected.

Well, the three questions are, for anybody that can't see them, what are the important radionuclides that need to be considered for the disposal of the GTCC and transuranic wastes?

How might GTCC and transuranic wastes affect the safety and security of a disposal facility during operations? In other words, pre-closure period?

And, how might GTCC and transuranic wastes affect disposal facility design for post-closure safety including protection of an inadvertent intruder?

And, we've got somebody at the microphone already. Go ahead.

MR. MAGETTE: Surprise. I'm Tom Magette with Talisman International.

I really appreciate the difficulty of what you're trying to deal with here as Cardelia pointed out. This is a waste stream that's been always defined by what it's not.
And so, what I'm hoping is that ultimately through this process, you'll get to a place where we actually define the waste stream.

There's a little bit about this that seems still like trying to define it a little bit less than what it's not, but, there's still kind of a "what it's not" element to this.

Like, to the first question, I mean, you ask for us to identify radionuclides. I mean, kind of a first order of reading of a GTCC nuclide is they are in the tables in 61.55, except in greater concentration than what's in the tables because you're defining it by Class C, except exceeding the concentration limits that currently apply to Class C.

So, there's kind of a bounding there and, I think part of this would be helped by losing the GTCC terminology and losing the transuranic waste terminology. Okay?

Because, I mean, you have a transuranic waste definition in legislation which may be complicating your lives a little bit. And, it's pretty simple, I think, given that it's driven by atomic numbers greater than 92, but that's not really what you're talking about here.
You're really talking about defining a waste stream that you need to understand in order to protect the public from the hazard.

And, this may be one of those cases where we should look harder at what's done internationally. Right? So, it's not -- it shouldn't be just GTCC. So, you don't have to have the table in your hand to know what you're talking about.

And, it shouldn't just be atomic number 92 or higher, it should be an intermediate waste stream so that there's nothing left out once you finish this exercise other than, and it won't be left out either, would be defense high-level waste and at least spent nuclear fuel.

And, below that will be low-level radioactive waste, not including GTCC, but A, B, C and hopefully Class V as well.

But, you'll capture everything in some sort of category. And, I think, you know, the terminology is getting in the way of doing that. So, that's one broad thought.

Another is that you have done some work and you've generated this table which is nice. DOE has prepared an EIS that took a long time.
And so, I think we have a good opening position. And so, I appreciate the opportunity for us to provide more specific comment here, but what I would really like to see is that that gets us to some sort of proposed technical basis more quickly.

So, that we can kind of put the cards on the table. Because, I mean, I think we've had enough years talking about what might it be to get straight to something that looks like a technical basis that leads to a proposed rule.

Because, we've got a lot of work, you've done a lot of work, DOE's done a lot of work to potentially define this problem.

So, I would say, we need to define this as an intermediate waste. We need to stop talking about nuclides as compared to the tables in 61.55 and we need to publish specifically for proposed technical comment, kind of a combination between what you've done and what DOE has done.

MR. MUSSATTI: Thank you.

Is there anybody else in the room for comment?

MR. VICKERS: Glen Vickers.

Just a few observations. As was noted,
the DOE has done a lot of work and already made some
initial recommendations for either surface disposal,
shallow bore holes, et cetera. So, a lot of good work
is done.

Here's just a couple observations from
where I see from nuclear power's perspective.

First of all, we know our waste streams
very well in nuclear power, they'd be activated metals
from activated analysis or the TRUs.

Surface contaminates, we might have on
activated metals, would likely be far less than 10
nanocuries per gram on a heavy piece of activated metal.

Now, if you had a low density waste like
a light-weight glass fiber filter paper, maybe you get
enough to exceed 10 nanocuries per gram transuranics.

But, those surface contaminants would not likely be
significant compared to the amount of curies.

Pretty much all your plants in the U.S.
already store dry fuel, you know, in the interim fuel
storage containers and concrete vaults on pads. So,
we have good feedback on watts in containers, thermal
generation.

And also, we have -- also have been licensed
for storing activated metals in similar containers,
we call them non-fuel waste storage containers.

And so, there's good data for watts, et cetera.

We may find that we have very few waste forms that really would need any subsurface cooling, I would think.

As far as driving nuclides that I kind of see in nuclear power, I think they were already identified in the DOE paper, nickel-63, transuranics greater than five-year half-life and those kinds of things.

But, I would think things like reactor vessels, activated metals, those could easily be done in concrete cells or vaults above ground and not need, you know, something subsurface like WIPP or something.

And, I would even imagine that a good amount of the source term in WIPP is that low density waste that, while it's greater than 10 nanocuries per gram or something, it may not really necessarily need that deep geological repository and could be stored more efficiently elsewhere.

Thank you.

MR. MUSSATTI: Okay, have we got anybody on the phone?
OPERATOR: Yes, Larry Camper, your line is open.

MR. CAMPER: Thank you very much.

Tim, thank you for your presentation and your comments. These were eloquent as ever.

However, I remain concerned about where we are. If I go back to the enclosure two to SECY-15-0094, if I look back at a paper presented by Terrence Bromfield and others at the WM Symposium conference, if I look at the EIS prepared by the Department of Energy, I think we have a good understanding of what constitutes GTCC waste.

And, I think we also have a good understanding of what constitutes TRU waste.

What I'm concerned about is GTCC is an issue that we've been wrestling with since 1985 in policy space.

And, when it comes to TRU waste in excess of 100 nanocuries per gram commercial, we don't have a disposal pathway laid out.

It's for intensive purposes more than waste.

And then, you stop and think the GTCC and TRU waste are commingled and according to the Department
of Energy, as much as 87 percent of the inventory is commingled.

    What I'm concerned about is urgency. Where are we? And, I want to make sure we maximize all the work that's been done thus far and not repeat some of the same questions that I would argue the staff has already addressed and the Department of Energy has already addressed.

    And then, rather, I would suggest that we might take a look at the Executive Summary of Enclosure 2 and look at those issues that the staff identified as not being addressed in that paper as to what is outstanding.

    I mean, I could sit here and read it to you, but you can look at it for yourself. Just go to the Executive Summary of Enclosure 2, it's right there.

    To me, those are the questions that we should be focused upon now. While, I understand the value of asking these kinds of questions and making the general public aware, that's good, but that's not moving us down the goal field to solve a problem that desperately needs to be solved, in my opinion.

    So, I think that we can maximize our efficiency in the process by better focusing upon some
of these outstanding questions that haven't already been addressed.

    But, I appreciate the explanation and your comments were really thorough and I thank you for that.

    That's all.

    MR. MCCARTIN: Right. And, I appreciate that, Larry. We certainly are going to make use of all the previous work. And we do not believe we're reinventing past analyses. We may be packaging it a little differently, but it's all part of what we're -- and, as Cardelia said, this is a six month time frame we're going to move fairly quickly.

    But, the first step was, we want to make sure that we have a good understanding of the types of waste streams and radionuclides we're talking about before we go to the Commission with any recommendation, no matter what it be.

    And, this is that first step, but we certainly will -- are aware of the previous work. We will make use of it and, you know, I believe it's as much we are packaging it in a certain way and that may change with time as we learn more.

    But, it's -- yes, and Greg wants to say something.
MR. SUBER: Yes, this is Gregory Suber.

Yes, and Larry, I'd also thank you for that chronology. But, I'd like to pull your attention to the fact that, even though those papers were vetted and released publically, that there was never a formal opportunity for anyone in the public to respond to the NRC with -- or concur that we have captured the universe of things that are out there or either to introduce anything that we could possibly have missed.

And so, the real goal behind this effort is to say, hey, this is the universe of things that we have seen and are considering. We're doing a scoping study to make sure that we have captured everything.

And, this forum is the first opportunity to make sure that we got that right. And, is that correct, Tim?

(NO AUDIBLE RESPONSE)

MR. SUBER: Okay.

MR. MUSSATTI: Let the record show that Tim was nodding yes.

MR. MCCARTIN: Oh, yes.

MS. D'ARRIGO: Okay, so I'm a little confused. If this is scoping like Greg just said for greater than C, just out of curiosity then, why can
we comment to the regulations -- to the rulemaking.gov.

I was just told, they can't comment on rulemaking.gov on the very low-level waste because it's not a rulemaking.

MS. MAUPIN: This one is in rulemaking, because when the Commission directed us to look at developing a regulatory basis, it was inserted into our "rulemaking tracking system."

So, it was added on the docket as that, budgeted as that under rulemaking.

Whereas, the other issue has not had that level of attention by the Commission as of yet.

So, we have all those vehicles that we -- four vehicles with the ways you can comment are consistent with how a rulemaking process is handled.

So, you can email us, fax us, write us, you can even hand-deliver it, if you want. So --

MS. D'ARRIGO: Okay.

MS. MAUPIN: Okay?

MS. D'ARRIGO: And then, one more clarification then.

So, I understand that the NRC is funded usually by user fees. So, who's paying for these rulemakings and for the exploration of very low-level
waste?

MS. MAUPIN: In responding to that, what we have is, we have certain resources that are given to us by Congress that are -- that is outside of the fee process.

And, this activity is not on the fee system or the fee process.

MR. MUSSATTI: Do we have other questions or comments from the room?

Yes, sir?


I just wanted to make a comment about I believe you said you were going to be updating the transuranic waste definition or you were including -- looking at including that in Part 61.

And, picking up on what a couple of the others have said, I wanted you to be aware of, there is a legal definition in the WIPP Land Withdrawal Act for transuranic waste.

And, it may be, as I recall, a bit different than NRC's definition because -- and we use that in DOE because it also includes a half-life of greater than 20 years.
And so, I would hope that we could come together on that definition.

And, the second thing was, I think on slide 12, I would --

MS. MAUPIN: If I could just jump in to that. In our SECY-15-0094 in Enclosure 3, we have an extensive discussion on the definition and this conflict of definition.

So, that was one of the reasons why the Commission directed us to, hey, we need to come to some kind of agreement on this definition and have one in Part 61. So, it was included in that paper.

MR. TONKAY: And then, the second question or comment was on the slide 12 that you had where you had, I believe, the impacts in 5,000 years, it showed plutonium-238. Is that a typo? Should it have been plutonium-239?

MR. MUSSATTI: It is 239 up there.

MR. TONKAY: Okay, it looked like 8.

So, thank you.

MR. MUSSATTI: It's 239.

MR. MCKENNEY: All right, the print's too small, it's too much of an eye test. This is Chris McKenney.
(OFF MICROPHONE COMMENTS)

MR. MCKENNEY: Really? Maybe it's too small for us.

(OFF MICROPHONE COMMENTS)

MR. MUSSATTI: Oh, yes, that's in the --

(OFF MICROPHONE COMMENTS)

MR. MUSSATTI: We need you on the microphone if you're making a comment.

MR. MCCARTIN: I will double check that, I believe you're right that that -- in that column.

MR. TONKAY: As I recall, the half-life of plutonium-238 it's under a 100 years, so that would represent over 50 half-lives if that -- and it would have to be a very high concentration to be --

MR. MCCARTIN: Right. It should have been 239 in that last column, yes.

MR. MUSSATTI: Okay, have we got anybody on the phone lines that would like to speak?

OPERATOR: I'm currently showing no comments on the phone line at this time.

MR. MUSSATTI: Okay. And, nothing on the webinar. Anything else in the room?

MR. VICKERS: Glen Vickers, just one more comment.
You know, out of -- outside of arbitrarily driving things, coming up with perhaps a watt density that would require, you know, subsurface cooling, watts per cubic foot or something like that.

That would be another thing that licensees could use to assess their materials or help you better decide whether it would need subsurface cooling or could be above ground in that.

That's all.

MR. MCKENNEY: And, that is, again, we have the material from a number of analyses over the years. But now, every analysis is fit for purpose. It is what are you actually analyzing and what is the answer?

And so, you know, we're trying to ask to make sure that there isn't data out there, there hasn't been too conservative of assumptions of what might be on a type of waste stream or anything like that.

Then it's what's out there because it may have been fine to have that conservative assumption in a paper several years ago on what radionuclides are present.

But, when you keep -- when you're refining that or even if we could look into the future if that
was site specific analyses by the waste sites, they
would, you know, want to know a more realistic value
than a conservative value for what is the -- what are
these radionuclides on these specific types of
equipment?

To the degree we can, to the degree we're
not asking for people to go out and reanalyze these
things and do worker dose for this particular
enterprise.

But, if people have sources of data on that
to say, yes, this was used in this analysis, that's
a bit conservative but it, you know, it might fit for
that -- the question they were analyzing at the time.

And, but, for this one, you should take
into account it's a bit conservative. And, that may,
you know, influence the overall decisions because, if
you're too conservative in some places in these
analyses, that can just compound and then you're making
the decision -- a risk decision on something that really
isn't part of the analysis -- shouldn't be part of the
analysis.

MR. MCCARTIN: Yes, and if I could clarify,
and it's possible I mean, it's always dangerous to put
a table like Table 12 up.
It wasn't an intent to say, oh, these are issues that we're worried about necessarily. But, they are issues that need to be considered. And, it may be a very, very simple consideration to say, gee, I don't have a thermal problem.

But, because, once again, for all of these, if you're disposing of 10 cubic meters versus a 1,000 cubic meters, it's a different world. And, that's part of the assumptions of this analysis.

But, whoever is looking to dispose of something, needs to consider these things. Some may be a very simple analysis to show it's not an issue, others may take a lot more effort.

And, it really depends on the quantities that should not be overlooked here. And, that's part of the --

So, I don't want to, does someone have to do a detailed analysis for all these? I was not trying to imply that, that's for sure.

MR. MUSSATTI: Do you have a comment?

MS. D'ARRIGO: I have a question, it's Diane D'Arrigo, Nuclear Information and Resource Service.

Could somebody describe to me how the
federal government and I guess the State of Texas right now, I don't know whether it would include Utah as well or any of the other South Carolina, Washington, what's before us?

We have the ongoing DOE EIS that's kind of stringing out on greater than C. Now, we've got a proposal, I guess, WCS wants to have Texas give them permission to dispose of this waste. And so, NRC needs to make a decision to advise the State of Texas on whether or not they have the authority to permit WCS to do this.

And then, you need to do possibly some kind of rulemaking in order to -- I'm just trying to figure out what's going on.

MS. MAUPIN: I'll speak from the Agreement State and policy issue briefly. And, I will lean on Ian to correct me if I say something that's not quite right.

So, you have the low-level waste --

MS. D'ARRIGO: Who's Ian?

MS. MAUPIN: Oh, I'm sorry, our --

MS. D'ARRIGO: Are you WCS?

MS. MAUPIN: No, he's our attorney.

MS. D'ARRIGO: Oh, thank you.
MS. MAUPIN: Okay. First off, I'm going to try to make this as brief as possible.

First, you had the Low-level Waste Policy Amendments Act that basically set out the responsibilities of the States and the federal government, in this case, for greater than Class C which was designated to DOE, as I understand it.

So, you have a federal law that says that greater than Class C basically is supposed to be a federal responsibility and that facility, and there is some confusion on it, is supposed to be regulated by the NRC.

Now, okay, prior to the Low-level Waste Policy Amendments Act we had some States that inherited some low-level waste disposal facilities from the federal government like South Carolina, which was licensed under Part 20 with a lot of problems with that.

So, we came up with Part 61 and then, as I said, that was around '82.

And then, after that, we came up with what we call a way where States could decide if they only wanted to regulate low-level waste to comply with the requirements in the Low-level Waste Policy Amendments Act.
So, we came up with what we call a limited agreement just for low-level waste disposal. And, that was right after the Low-level Waste -- in between the time of the Low-level Waste Policy Amendments Acts.

So, at that time, we thought a lot of States were going to consider it. We came up with criteria and everything, what an Agreement State program should look like if they wanted that responsibility.

Okay, bring that around to present day, we have a licensee who says -- who has said to an Agreement State, we want you to take off your books, your laws, that greater than Class C is prohibited. That's a real -- that's a sticky wicket.

Because, now, we've got to look at, okay, NRC, we don't have a clear program to say, hey, you can do this, that we not established in Part 61 a greater than Class C program. And, according to the law under Section 274-74, if an Agreement State is going to have a program, it's supposed to be adequate and it's supposed to be compatible with the federal government.

So, that's why this is a very complex issue because there are a lot of legal issues involved and there are a lot of policy issues involved and there are a lot of technical issues involved.
And, layer on top of that, there's this little provision in the Atomic Energy Act that said, okay, certain hazards are such a level that they should be reserved to the federal government.

And so, traditionally, that -- one of those hazards has been identified as greater than Class C. So now, we're looking at whether or not there are some or all, based on the new technology that's being applied, because, if you look at what the Waste Control Specialist facility, it's not your normal like within the 30 meter, you know, of the biosphere near-surface disposal facility.

What was, you know, envisioned when Part 61, and at the time, Part 61 was being developed. So, it's just a whole lot of technical, policy and legal issues involved.

MS. D'ARRIGO: So, WCS has some State licenses to dispose of federal waste and commercial compact waste. So, and, as I understand what you said, what came out of the earlier history is that the State licensed 10 CFR 61 facilities could decide on a case by case basis to accept some greater than C on a case by case basis?

Because, I know Barnwell has done that.
MS. MAUPIN: I guess the short answer is, he's saying yes but you go back and look at the compatibility designation, is the compatibility D. And, that's something that would not necessarily be compatible.

MS. D'ARRIGO: So, what can -- I mean, what do you want to hear from public on this? Whether we want you to proceed to allow greater than C to go to 10 CFR 61 facilities with sort of a similar question to the depleted uranium, you know, pretending it's Class A and letting that go into the sites if the generators do their performance assessment and decide everything's going to be an acceptable dose in a 1,000 or 10,000 years.

So now, you're looking at doing a similar thing with greater than C.

MR. MCKENNEY: Currently, the Part 61, if you go back and look at the -- back in the late '80s there was a rulemaking related to high-level waste that was looking at the definition of high-level waste.

And, was considering putting GTCC under that definition. At the end of that rulemaking, it was decided that instead of actually putting it there, there was to be put a statement into Part 61 that it
would be preferable for geologic disposal, but could be done on a case by case basis under 61.

What we're trying to do now is, especially with the State of Texas is question to us, is what exactly is needed in that case by case basis? What do we -- do we need to change Part 61 to actually establish specific criteria for GTCC disposal? And, are there, you know, and are there any other ancillary issues related to that?

And, one of the biggest ancillary issues is, can that be handed to the Agreement State or not for large volumes of GTCC -- relative of the volume of GTCC?

MS. D'ARRIGO: So, how does that dovetail with what DOE's doing?

MR. MCKENNEY: Right behind you, they will talk for DOE.

MS. KLICZEWSKI: Hi, this is Theresa Kliczewski, U.S. Department of Energy, Office of Environmental Management.

So, your question or your comment earlier about the continuation of the EIS, I just wanted to be clear, the final EIS for greater than Class C disposal was published in 2016. So, that's done.
What we have done recently is, in accordance with EPAC to 2005, we have issued a report to Congress on greater than Class C disposal.

The Department of Energy, as part of our next step, will have to -- the legislation states to await congressional action before making a final determination.

So, the Department of Energy will be issuing eventually at a TBD time frame a record of decision, to be determined record of decision on greater than Class C disposal.

So, I just wanted to clarify that because of your comment earlier saying the continuation of the EIS, that part is done. We did issue it, yes.

(OFF MICROPHONE COMMENTS)

MS. KLICZEWSKI: Correct, the record of decision is TBD, but that is with the Department of Energy.

MR. MUSSATTI: Okay, I'm going to pull this conversation back to the topic of the day. We've wandered off into the weeds and I let it go for a little while hoping that it would come back on its own, but it seems that those weeds are getting deeper the further we go. And, we're into Commission space now, not into
something that we can handle ourselves right here.

So, do we have any other comments related to the three questions, to the exploration at hand? In the room?

(NO RESPONSE)

MR. MUSSATTI: On the telephone line?

OPERATOR: We have on the phone Larry Camper. Your line is open.

MR. MUSSATTI: Larry, good to hear from you.

MR. CAMPER: Thank you, thank you very much for the opportunity to comment. I appreciate, again, all the hard work you're doing.

These are tough questions. Greg, I want to go back a comment you made, if I might.

Regarding the fact that the Enclosure 2 to SECY-15-0094 was never a subject to public comment. Perhaps it should be because the amount of analysis that was done in that enclosure by the staff coupled with the work that Terrence Bromfield and others did to make a presentation at the WM Symposia represent a tremendous amount of time and effort.

If the concern is that all that work was never subject to public review or comment, I would
suggest that it might be.

Because I think many of the questions that are being asked here are, in fact, captured and embodied in that staff work. And, it may be that the most beneficial thing to do therefore is to offer an opportunity for comment and perhaps convene a workshop of industry experts and public participation and awareness to address the outstanding issues that the staff cited in the Executive Summary of that enclosure that were not addressed within that particular body of work.

So, that's something I would offer as worthy of pondering.

Thank you.

MR. MUSSATTI: Thank you.

Is there anybody else on the phone?

OPERATOR: I am currently showing no further comments on the phone line.

MR. MUSSATTI: Okay, thank you.

I don't see anything on the webinar that -- where anyone's asking to comment.

Is there another comment from the room that is on topic?

MR. VICKERS: Glen Vickers.
One thing related to security. So, for
10 CFR 37, NRC wrote Enforcement Guidance Memorandum
14-001. I think that's for large items, greater than
so many kilograms absent certain waste types or robust
structures.

It provided an alternate set of controls
as to what's been Part 37. That would be something
to look at when you look at your security measures.

MR. MUSSATTI: Anybody else?

(NO RESPONSE)

MR. MUSSATTI: Do we need leadership and
guidance? Should we close it up?

MR. SUBER: Sure.

MR. MUSSATTI: Okay.

MR. SUBER: Once again, this is Gregory
Suber, the Acting Deputy Director of the Division of
Decommissioning Uranium Recovery and Waste programs.

If you can go to the last slide with the
information on it?

All right, so, first of all, thank you all
for your active participation in the discussion.

And, I would like to remind you again that
we appreciate your comments. We do have them
transcribed as we have transcribed this meeting. But,
to have your comments formally submitted for consideration, we do ask you to submit them to the information you see here, either at regulations.gov. For this particular meeting, you can submit it to -- by email to rulemaking.comments@nrc.gov.

And, I believe we modified the handout. Did we not? We modified the handout that is available for you which will have the email addresses for submitting comments for very low-level waste scoping study along with the Docket Number that we would like to have in the title line so that we can identify easily those comments -- those emails as comments on that particular topic.

And, with that, I thank you for coming and have a good afternoon.

(Whereupon, the above-entitled matter went off the record at 2:06 p.m.)