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# NUCLEAR REGULATORY COMMISSION

Title: Public Meeting to Discuss Commission Direction on SECY-12-0110, "Consideration of Economic Consequences within the U.S. Nuclear Regulatory Commission's Regulatory Framework

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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PUBLIC MEETING TO DISCUSS COMMISSION DIRECTION ON SECY-12-0110, "CONSIDERATION OF ECONOMIC CONSEQUENCES WITHIN THE U.S. NUCLEAR REGULATORY COMMISSION'S REGULATORY FRAMEWORK

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MONDAY,

JULY 29, 2013

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ROCKVILLE, MARYLAND

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The public meeting convened at the Nuclear Regulatory Commission, Three White Flint North, Room 1-C03, 11601 Landsdown Street, at 2:00 p.m., Joan Olmstead, Facilitator, presiding.

NRC STAFF PRESENT:

JOAN OLMSTEAD, OGC, Facilitator

ALYSIA BONE, NRR

LAWRENCE KOKAJKO, NRR

GLENNA LAPPERT, NRR

PATRICIA (TRISH) MILLIGAN, NSIR

DONALD PALMROSE, NRO

RICHARD (FRED) SCHOFER, NRR

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

(2:01 p.m.)

OPERATOR: Welcome, and thank you for standing by. At this time, all participants are on listen-only mode until the question and answer session on the phone. To ask a question during that time, please press star then one.

I'd now like to turn over the meeting to Joan Olmstead. You may begin.

FACILITATOR OLMSTEAD: Good afternoon, everyone. I just want to thank you and welcome you to our discussion of the consideration of economic consequences following potential radiological release.

My name is Joan Olmstead. I'm a member of the NRC's in-house facilitators board, and I'll be serving as the facilitator for today's meeting. My role is to help ensure that today's meeting is informative and productive.

This is a Category 3 meeting to encourage active participation and information exchange with the public. The NRC staff will provide information regarding the Commission's direction on consideration of economic consequences and solicit comments on what could be potential policy issues that should be

considered as the staff develops a paper for the Commission on this topic.

The feedback the NRC receives today is not considered formal public comments, and the NRC will not provide written response to these comments. The agenda for today's meeting contains time to discuss several items including what level of decontamination should be considered in the cost-benefit analysis, what discount rate should be considered, and whether we should consider evaluating accident effects beyond the 50-mile radius.

We are also interested in receiving public input on other potential policy issues to consider in developing the Commission paper on this topic.

Comments on specific licensing actions are considered outside the scope for today's public meeting. There are other ways to comment on specific licensing actions, including during public meetings, commenting on environmental reviews or other NRC documents that deal with a specific licensing action. We can also receive general comments or questions on NRC activities, and they can be directed to opa.resource@nrc.gov. And for non-economic consequences, Fukushima-related comments and

questions can be directed to Jldpublic.resource@nrc.gov.

Are there any questions about the agenda?

(No response.)

Okay. Before we get into the meeting specifics, I will go over some logistics. Hopefully, everyone signed in and received copies of the agenda, presentation slides, and a feedback forum. If you haven't sign in, the sheets are near each entrance.

And for those of you on the phone who haven't signed in, please be sure to contact Alysia Bone or Glenna Lappert to ensure we have your contact information. You can get Alysia's and Glenna's contact information on the meeting announcement.

Slides for this public meeting are available through the Agency-wide Documents Access and Management System, ADAMS, at accession number ML13196331. Additionally, for background on the subject for the public meeting, you can see the SECY paper, S-E-C-Y, dash 12-0110, found in ADAMS at ML12173A479. And the Commission SRM on the SECY is found at ADAMS at ML13079A055.

All webconferencing participants that wish to ask questions or give comments can type them into their computer. As previously mentioned,

participants on the teleconference line can press star one and tell the operator they would like to ask questions or give comments. I will make sure to ask the operator if there are people that have questions or comments during our discussion periods for this meeting.

This meeting is being transcribed, so in order to get a clean transcript and minimize distractions during the meeting, we ask that you turn off or mute anything that rings, buzzes, beeps, or has an alarm. Please try to minimize loud side conversations, and we only request to have one speaker at a time.

Let's see. Now, because this is a bit of a challenging audio situation in this room, we only have the speakerphone. The microphone has a lot of echo and feedback. So if you do want to speak or ask questions, if you are in the room, I'm going to ask you to come up here to be closer to the speakerphone.

Let's see. Restrooms are outside this door. Turn to the right, there is an entryway for the cafeteria, and there is restrooms there. If we have to evacuate, please follow the directions from the security officers.

And, finally, we are always looking for

ways to improve our meetings, and your feedback is important to us. So at the end of the meeting please complete the feedback forms and return them to us. There were some outside with the other meeting announcements and notifications, and you can find copies there.

And if you want, if you are on the phone you can contact me at 1-301-415-2859, and I will get you a copy of the feedback form, too, and you can send it back to us and it's postage-free.

Are there any questions on logistics?

OPERATOR: If you would like to ask a question, please press star then one.

(No response.)

FACILITATOR OLMSTEAD: Okay. All right. I guess we don't have any questions. So --

OPERATOR: No questions.

FACILITATOR OLMSTEAD: Okay. Then, we will have -- at this point I will ask the people at the front of the table from NRC to identify themselves. For participants on the teleconference and the webinar, I will ask them to identify themselves if they choose to speak later in the meeting.

MR. PALMROSE: I'm Don Palmrose, Senior

Reactor Engineer with the Office of New Reactors, the Radiation Protection and Accident Consequence Branch.

MS. MILLIGAN: Trish Milligan, Division of Preparedness and Response for NSIR.

MS. BONE: Alysia Bone, Project Manager in the Office of Nuclear Reactor Regulation in the Division of Policy and Rulemaking.

MR. SCHOFER: Fred Schofer, Office of Nuclear Reactor Regulation, Division of Policy and Rulemaking.

FACILITATOR OLMSTEAD: And Lawrence --

MR. KOKAJKO: Lawrence Kokajko.

FACILITATOR OLMSTEAD: -- Kokajko will be giving us our opening remarks, and please introduce yourself, too.

MR. KOKAJKO: Okay. My name is Lawrence Kokajko, and I'm the Division Director for the Division of Policy and Rulemaking in the Office of Nuclear Reactor Regulation. I'd like to welcome all of you for participating in today's public meeting on how NRC considers the economic consequences following radiological release.

Alysia will go over some of the context and focus of today's meeting, but, first, I'd like to first mention that this is a very important topic to

the NRC. In the time following the accident at Fukushima Daiichi, the NRC formed a multi-office working group to analyze the methods the NRC currently uses to address economic consequences such as offsite property damage.

Subsequently, NRC conducted multiple public meetings and provided a vote paper to the Commission on this topic. And as mentioned previously, that paper is SECY-12-0110, and it is publicly available.

The Commission recently responded to this paper, and we are working to meet Commission direction. The purpose of today's meeting is to go over this direction and focusing on the task to provide an additional vote paper on the staff's plans for updating cost-benefit guidance.

Additionally, we would like to use this forum as a way for you to ask us any clarifying questions, as well as provide us your thoughts on what we should be considering as we update our guidance. We reserved time following the main presentation for general discussion to obtain your feedback.

We look forward to having a good discussion today, but please note we do not plan to

provide written responses to comments. We will use this general discussion section of this meeting largely as a brainstorming session, capturing issues and topics you believe important. Though we cannot guarantee all of the items we discuss today will be covered in the upcoming vote paper, your input will be integral to helping us to develop the document.

Thank you again for your participation, and with that I'd like to turn it over to Alysia to begin the staff's presentation.

MS. BONE: Thank you, Lawrence. Thank you, Joan. If we could go to Slide 4, please. Slides 2 and 3 we covered, the logistics and ground rules for today's presentation.

And on Slide 4 I would just like to reiterate some of Lawrence's points about the purpose of today's meeting. First, as we mentioned, it is really to provide information on the Commission's direction contained in the SRM for SECY-12-0110, "Consideration of Economic Consequences Within the U.S. Nuclear Regulatory Commission's Regulatory Framework." And then we will allow some time for questions about this direction, any background questions.

And then, what we would really like to do

is focus the remaining portion of the meeting -- to open it up for general discussion on what you think should be in the paper that we are writing in response to this Commission direction.

So on Slide 5 we have an outline for this meeting, and in the first -- the first 12 or so slides I'd like to go pretty quickly, kind of cover in about 20 minutes or so, this is all general background information and kicking it off to our general discussion. The reason we want to go through this rather quickly, again, is to really start to have some time to develop some good discussion on some of these topics.

So first I will quickly go over some context for the meeting. Then, I will provide a quick summary of the NRC's legal authority to consider property damage. It's a slide that we like to refresh every time we discuss this topic at the past couple of meetings, and as we -- every time we introduce this topic.

Then, I will quickly go over the Commission paper on economic consequences, SECY-12-0110, remind everybody what was contained in that paper. And then, in the last three bullets here on this outline, I'm going to talk about the upcoming

things, the new things, the Commission direction and recap that, as well as discuss the staff's preliminary approach, what we think at this point -- our direction is at this point to respond to that Commission SRM. And then we will open it up for questions and general discussion.

So on Slide 6 I am going to provide some context for this meeting, where this topic came from, where we have gone in the past year, and where we are going. As a reminder, the accident at Fukushima Daiichi in March of 2011 initiated discussion of how NRC considers economic consequences caused by a significant unintended radiological release from NRC-regulated activity.

As a result of this discussion, the staff received a tasking in April of last year to provide a vote paper to the Commission in August. In the staff's effort to meet that direction, to provide that Commission paper, we held several stakeholder interactions, we formed an interagency or across-the-agency working group that -- with representatives from all of the program offices, from our Office of General Counsel, and the Office of Research.

We had public meetings last May and last August, and then we held a public Commission briefing

in September of 2012. Additionally, we had two Advisory Committee on Reactor Safeguards (ACRS) briefings, one in October and one in November of 2012.

Amidst these interactions, the staff did submit SECY-12-0110 on August 14th of last year, and recently, in March of 2013, the Commission provided direction on SECY-12-0110.

Today's meeting is an opportunity for public engagement on this topic as we go forward.

Slide 7. As a reminder of NRC's kind of role in this entire discussion with regards to legal authority, first, NRC requirements relating to adequate protection concern radiological health and safety and common defense and security. NRC must find reasonable assurance of adequate protection before it can issue a license or amend a previously issued license, and this is before economic consequence considerations. Adequate protection is a safety standard. I just want to emphasize that.

The second bullet, though, is a reminder that distinct from adequate protection, the NRC does have the authority under the Atomic Energy Act to minimize danger -- and that's a direct quote from the AEA -- minimize danger to property. Within the NRC

guidance, we have specified a term called offsite property damage.

There is also onsite property damage, but largely for this discussion, as it was raised last year, we focused in on offsite property damage, which can include costs of damage and destroyed property, relocation costs, and loss of business revenues.

So that provides background on our legal authority.

Moving right along, then, on Slide 8, this is a reminder of what the staff submitted on August 14, 2012, the SECY-12-0110. This vote paper addressed the policy question, "To what extent, if any, should NRC's regulatory framework be modified regarding its consideration of the economic consequences of an unintended release of licensed nuclear materials to the environment?"

I know that's quite a mouthful. It's a long purpose statement, but these words were carefully selected to really hone in on what we mean. Specifically, I'd like to just point to unintended release. Really, the scope of this paper focused in on unintended releases. Sabotage events, intentional releases, were beyond the scope of this paper.

In this paper, the staff described the

current ways that the NRC does consider offsite property damage in various NRC analyses. And as a reminder, we focused on regulatory analysis, backfitting analysis, and environmental analyses conducted under NEPA, which within these cost-benefit determinations of all of these analyses offsite property damage is considered.

Again, all three of these analyses have different purposes and come from different reasons, but the common thread is that they all do have cost-benefit determinations and consider offsite property damage.

Based on this information that the staff put in this -- in SECY-12-0110 background information, the paper concluded that the current regulatory framework is sound and affords sufficient flexibility to consider economic consequences. Staff then recommended that we do enhanced cost-benefit guidance and recommended this option to the Commission.

As Joan I think already mentioned, we have the ADAMS accession number at the bottom of this slide for background.

So moving on to Slide 9, I know I went through those slides very quickly, but all of that is

information that we have covered previously or were in the paper. So starting with Slides 9 and 10, which is forward-looking since we have last met, the Commission did provide direction on this SECY paper in March of this year.

This SRM directed that the NRC's current approach to the issue of land contamination from reactor accidents is sound. And the Commission then also specified that the staff may continue with ongoing efforts to update guidance documents within the current regulatory framework. And these were explicitly mentioned in the SECY.

But as a reminder, they are an update to the dollar per person-rem conversion factor policy, and an update to replacement energy costs. Both of these activities were underway prior to the SECY paper and are continuing efforts at the NRC.

On Slide 10, these five bullets really are the tasks that the staff has extracted from that SRM that we are pursuing right now. Before I go -- I'm going to go over all five of these tasks, but I would just like to mention that the first bolded task is the focus of today's meeting.

Really, the next step that the NRC is looking at right now, and, really, where we want to

get your feedback was this first bulleted -- bolded bullet, which is the Commission directed the staff to develop a notation vote paper on plan for updating regulatory analysis guidance.

In the next slide, I'm going to go through what we look at -- what we are thinking that preliminary plan is at this point, but I'm just going to highlight at this point that that is one of our tasks.

Another task is to describe how costs and benefits are addressed for different types of NRC-regulated activities. I think the SRM itself said regulatory gap analysis, but, really, what we are trying to say here is the difference -- the different ways that the staff considers costs and benefits for reactors, materials, fuel cycle facilities, et cetera.

Third task, document comparison of U.S. and Japanese regulatory requirements in effect at the time of the Fukushima accident.

The fourth bullet, to report a plan to dissolve the Near-Term Task Force Steering Committee.

And the fifth task within this SRM is to provide any cost-benefit model developed for use in guidance documents to address offsite property

damage.

So before I go to the next slide, which is going to kind of circle back around to that first bullet and the focus of today's meeting, are there any questions at this point over background material, the recap of the SRM?

OPERATOR: Once again, to ask a question please press star then one.

(No response.)

MS. BONE: Okay.

FACILITATOR OLMSTEAD: Are there any questions for the webinar?

OPERATOR: We do have one coming up. One moment. Ma'am, your line is open.

MS. LAMBERT: Yes. Hello. This is Mary Lambert with Pilgrim Watch in Massachusetts. On Slide 8, the term "only unintended release," does that specifically mean not consideration of acts of malice?

MS. BONE: Thank you for your question. Within this paper itself, we did not consider acts of malice. We did not consider intentional releases, if you will, sabotage events. We did have closure I believe that talked to some of the ongoing staff activities resulting -- or along the lines of this

topic, but when it came to providing options, et cetera, we were really focusing on unintended releases.

MS. LAMBERT: But aren't you focusing on economic consequences? And isn't it really beside the point whether the offsite releases bringing about economic consequences were caused by an equipment failure, for example, a natural event, or a terrorist event? I don't understand the rationale.

MS. BONE: Thank you. I appreciate the question yet again, but I think for this paper we -- given the tasking, given the impetus being the Fukushima Daiichi event, we were trying to hone in on a specific scope, and that did include unintentional releases. That was just the purpose of that specific paper. I don't know if my colleagues want to follow up with anything.

MR. SCHOFER: Hello, Mary. This is Fred Schofer, NRR. With regard to only unintended releases, and does this exclude acts of malice, with regard to the -- I guess the guidance for regulatory analysis and how we perform it, there wouldn't be any difference between a reactor accident that is caused by either natural events or equipment failure, or the consequences from, let's say, an act of malice.

The primary difference that it would feed into the analysis is the likelihood of the event. But once an event such as that occurs, that causes a perturbation to operation to results in an accident and an accident sequence. Then, our modeling would be comparable.

MS. LAMBERT: So, in other words, you could get rid of the word "unintended." In an application problem, if there were offsite consequences due to an act of malice, then what would be the justification for a licensee to use any recommendations and updates in their cost-benefit analysis?

MR. SCHOFER: I think our original intent of unintended was to differentiate between normal operation and an accident sequence.

MS. LAMBERT: Yeah. That makes sense. I think that the recommendation clarified that in the footnote.

MS. BONE: Thank you. I've made a note of that recommendation. Appreciate it.

MS. LAMBERT: And Slide 9, it seems to be focused on land contamination. And is aqueous discharges then not being considered? Sorry to ask these questions. That's the last one presently.

MS. BONE: No, I appreciate that. This was a --

MS. LAMBERT: I think it was on Slide 9. I don't --

MS. BONE: Oh, yes. Yes, yeah. They are included. They are included.

MS. LAMBERT: Okay. Good. Thank you.

MS. BONE: Yep.

OPERATOR: We have no further questions.

FACILITATOR OLMSTEAD: Do we have any other questions from the webinar? Does anybody in the room have any questions?

(No response.)

MS. BONE: Oh. And, Glenna, there was one question about the ADAMS accession numbers. Okay.

MS. LAPPERT: That was it.

MS. BONE: All right. Great. And in our meeting summary we will make sure that all of our references and all of the accession numbers are also in the meeting summary.

Okay. Going back on Slide 11, as a reminder, on Slide 10 we discussed that one of our tasks and focus at this meeting is this notation vote paper on plan for updating regulatory analysis

guidance which is due -- you can see on Slide 11 right now it is due to the Commission the end of this year.

And what this is going to be is a very high-level plan for updating cost-benefit guidance documents. We have on one of our backup slides and in other presentations we have a list of some of the cost-benefit guidance documents that the staff is currently using.

And right now we are anticipating that this paper will describe a plan for updating some of these documents as well as identify a potential set of very broad policy issues, a potential set of current methodological changes to tools and methodologies used in cost-benefit guidance updates.

Again, as this meeting is -- we are, as Lawrence mentioned, using this as a brainstorming session within the working group, we have identified some topics and some items of potential discussion as we are thinking about our plan to update the guidance documents in the years to come. But we want to hear from you what some ideas and thoughts and recommendations are. Again, this paper is slated to be due at the end of this year.

Slide 12 describing a little bit more of

what we are looking at this high-level plan that we are going to transmit in the SECY paper. At this point, this plan includes these topics. We are looking at completing the update to replacement energy guidance, which we mentioned in the last SECY paper. The staff is still pursuing this update. We are also planning to complete the update to the dollar per person-rem conversion factor policy.

In addition, we will pursue non-policy revisions to the regulatory analysis guidance, NUREG-BR-0058, and the technical handbook, which is NUREG-BR-0184. These non-policy revisions are basically cleaning up these documents, making sure that the definitions are consistent throughout, making sure that pointers are the way that they should be, making sure everything is just generally updated, but these revisions wouldn't necessarily rise to the level of a policy change.

Then, the plan would be identification of differences in guidance for different NRC-regulated activities. This points back to one of the tasks from the SRM that we had mentioned before -- the identification of these differences in this regulatory gap analysis.

Once this identification is performed,

after that, whatever this exercise would uncover or whatever that would lead to may then have us create a plan to implement further guidance changes. So you can see that this is a multi-year effort. This is looking high-level plans for the future, but this right now is our general idea of what we think we are going to include in the SECY paper.

So moving along to Slide 13, this is where I think we are going to devote the rest of this meeting. We have a good hour and a half, and really what we are looking for here is, again, in the working group level we have identified potential topics that the staff might pursue as we update cost-benefit guidance.

There is no guarantee at this point that these are going to be the ones that are going to be included in our SECY paper, but this is sort of to get the ball rolling, to help us think what we could -- particular important points to consider as we pursue these updates.

What we will go through now is I will turn it over to our three subject matter experts that are going to cover each of these bullets in depth and spend, you know, 15 or 20 minutes kind of really having a good discussion on these specific topics.

But then we will open it up to other points of consideration that you would like to include.

Again, a topic, if you think that any of these rise to the level of policy issues, if you have particular feedback on some of these sub-bullet focus questions.

So before we turn it over, are there any questions for just kind of logistically what we are looking for, how we are going to continue with this discussion?

(No response.)

Okay. Then I am going to turn it over to Trish Milligan to cover the first topic.

MS. MILLIGAN: Thank you. I'm going to start off with talking about the decontamination levels.

The staff requirements memorandum for the SECY that Alysia has been talking about, 12-0110, stated that the development of implementation of approaches for Option 2 will likely expose policy issues, during the staff's efforts to improve guidance for estimating offsite economic consequences, or to identify potential areas to develop new guidance as needed for applications. The use of a particular decontamination level was one

example of a potential policy issue that was identified.

The current NRC regulations and guidance on decontamination or cleanup is focused primarily on the decommissioning of fixed facilities and establishes 25 millirem per year as an upper bound for unrestricted release, and under special conditions for restricted use, and with the ability to provide for enduring institutional controls, upper limits of up to 500 millirem per year are allowed.

The public dose limit from operating facilities, such as a nuclear powerplant, is 100 millirem per year. These are our Part 20 limits.

For incidence and accidents with widespread releases, such as the accident at Fukushima, criteria for decontamination and cost-benefits are not yet established. The Federal Government, with the publication of the Department of Homeland Security's Protective Action Guidelines for Improvised Nuclear Devices and Radiological Dispersion Devices, as well as the newly released EPA draft protective action guidance document, stresses optimization in considering the effects of such a release.

The International Council on Radiation

Protection, in its Reports 103, 109, and 111, also puts the focus on optimization with its consideration on cost versus benefit. The costs are not necessarily simply restricted to dollars but consider broader societal impacts.

What we are seeking here today from you is your thoughts on the establishment of decontamination levels for cost-benefit analyses. Should there be a fixed value? If so, what should that value be? Should the value be defined for the specific event or facility rather than a one size fits all? How should optimization be considered in this regard? Or should optimization be considered in this regard?

And those are the questions that we are looking for input for your thoughts on -- give us information or to consider as we develop this paper.

And I open it up now for discussion. I think that we probably have people with some good thoughts on these issues.

FACILITATOR OLMSTEAD: Is there anybody that wants to speak in the room on this topic?

(No response.)

Okay. How about on the webinar? Nothing? Operator, can you check for the phone line?

OPERATOR: Once again, to ask a question please press star one. One moment. Mary, your line is open.

MS. LAMBERT: Hello. I see no need for many of us to repeat public comment that was already submitted on the EPA PAGs, because it is directly applicable here. I, for one, certainly disagreed with the concept of coming up with a standard -- a dose acceptability standard after the fact, because then really what you are seeing is an economic decision, not a health-based decision.

And that, too, would apply -- the comment would apply to having different standards for different reactor accident sites, because, again, it is -- it boils down to what can be done. And let's pretend it's all right for health and get people "back to normal" -- what it appears obviously the Japanese are doing, and it seems that is the case, economics, not public health and safety, for the EPA PAGs.

And so, again, for written comments, if you're accepting them, I think it would be appropriate to resubmit the comments that were sent to EPA, but also to say that we are back again to the core problem that there is no agreed-upon standard --

number one, not an agreed-upon acceptance of who is responsible after the fact to direct the MC for cleanup, and certainly neither NRC, EPA, DHS, have accepted responsibility or decided who is going to pay. Certainly, Price-Anderson doesn't pay for cleanup.

So that's my comment, and thank you for the opportunity.

FACILITATOR OLMSTEAD: Thank you. Thank you very much. Do you have a response?

MS. MILLIGAN: Mary, hi, this is Trish Milligan. Did you have any thoughts on a structure that you would think would be appropriate for the NRC staff to consider in this regard?

MS. LAMBERT: Yes. I think EPA and NRC should do their -- satisfy their statutory responsibility to protect public health and safety and come up with a health-based standard that is based upon the most current accepted research, which would be a BEIR 7, and you could also draw from the research done by Cardis and the Techa River study.

That would be my comments. Because if you don't have a standard beforehand, then it is being driven by the reality. In a lot of situations you are not ever going to meet that standard. And,

therefore, the public is at risk for being duped, that, oh, it's okay for the next 20, 30 years, when it really isn't okay because that cancer rate isn't okay for a chemical accident, for example. So that's the very basic response.

MS. MILLIGAN: Mary, I lost your second example. I didn't quite hear it. You gave two --

MS. LAMBERT: Well, I just EPA standard for cancer for a chemical release.

MS. MILLIGAN: Now, you talk about --

MS. LAMBERT: If it's one in 100,000, and then you start getting down to what is being talked about as being the -- as the proposed standard or NRC's current standard, it certainly is not one in 100,000 likely to get cancer.

And so the game can be as low as reasonable achievable, which is not a standard; it's a wish. And also, it should be based on the recognition if you go to BEIR 7 that the standard should be not on the reference mans but instead, as Arjun Makhijani has very well described, on the most vulnerable, on children, on women, who are more at risk many times than the 30-year olds, healthy men, sitting on the fencepost.

MS. MILLIGAN: Thank you, Mary. But I --

one clarifying question. You gave us two -- examples of two studies. One was BEIR 7, and then --

MS. LAMBERT: Oh, I'm sorry. Excuse me, Trish. I didn't understand what you were saying. one was Cardis study, and the other were the studies on the Techa or -- yeah, Techa, T-E-C-H-A, accident study.

MS. MILLIGAN: Okay.

MS. LAMBERT: These are discussed in detail by Dr. Jan Beyea, B-E-Y-E-A, in his consequence analysis provided for the Massachusetts Attorney General in Pilgrim's license renewal adjudication in May of 2006. So I would refer you to that.

MS. MILLIGAN: Thank you.

MS. LAMBERT: And he indicates in the consequence analysis, which is conservative, God knows, because he used the MACCS2 code for it, where the 2000 dollar is totally inadequate. So why don't you go there, or I can email it to you. You can find it on ADAMS, certainly.

MS. MILLIGAN: Yes. I know what studies you're referring to. I can find them. Thank you very much.

MS. LAMBERT: Okay. Thank you very much.

FACILITATOR OLMSTEAD: Okay. Is there any other people on the phone that want to comment or ask questions?

OPERATOR: No further questions.

FACILITATOR OLMSTEAD: Anybody on the web? Okay.

MS. LAPPERT: How will you evaluate economic impacts to Indian lands? Indian lands are different as they are held in trust for the benefit of the Indian tribe by the Federal Government.

MS. MILLIGAN: We haven't made any determinations on how we will look at any of these things. What we would like, though, would be guidance from the commenter on what they think -- she thinks would be useful information for us to consider, how to consider it, what kinds of numbers or standards that they would feel to be appropriate. So we would like that input very much.

We have no ideas right now previously of notions going forward as to how we are going to do this. The purpose of this meeting is to gather that information.

FACILITATOR OLMSTEAD: Any other -- is there a response typed in from the webinar on that?

MS. LAPPERT: No. They should be online.

FACILITATOR OLMSTEAD: Okay.

MS. MILLIGAN: Because certainly if they don't have time to do it now they could send their thoughts to Alysia, and she would be able to disseminate it to the group of us.

MS. BONE: Thank you, Trish. Yep, I was just going to say the same thing. On Slide 14, I have -- or 15 is my contact information, so anything that you aren't able to talk about today, please feel free to email me.

OPERATOR: We do have another question. It comes from Mary.

MS. LAMBERT: Trish, I recommend also that you look at Dr. Daniel Hirsch's Committee to Bridge the Gap comments on the EPA draft PAG that was submitted obviously a month or so ago, because it provides many, many tables comparing the consequence of the recommendations to EPA drinking water standards and across the board. So I think you'd find it very instructive.

Thank you.

MS. MILLIGAN: Thank you, Mary. And just -- while we're not here to discuss or defend EPA documents, just in case you hadn't heard, they have extended the comment period until September 15th.

MS. LAMBERT: Yes, I'm aware of that. Thank you.

MS. MILLIGAN: Okay.

FACILITATOR OLMSTEAD: Are there any more comments or questions from the phone?

OPERATOR: No further questions.

FACILITATOR OLMSTEAD: Anybody in the room?

(No response.)

Okay. Maybe we can close out this topic and move on to the next bullet.

MS. MILLIGAN: Thank you.

MR. SCHOFER: Hello. My name is Fred Schofer, NRR. And I plan on talking about discount rates and the impact that they could have on present value benefits and costs.

First, I'll talk a little bit in terms of what is a discount rate. I'll talk about its impact or sensitivity on the results, talk about current NRC guidance, and then ask for input from the attendees.

The discounting renders costs and benefits that occur in different time periods comparable by expressing their values in present terms. In practice, it is accomplished by multiplying the change in future consumption that

will -- with regard to market, non-market goods or services, that will be caused by a proposed policy by discount factor. And, properly applied, it tells how much future benefits and costs are worth in today's dollars.

The impact that discounting benefits and costs depend on the nature and timing of those benefits and costs -- for example, discounting can substantially affect the net present value of costs and benefits when there is a significant difference in the timing of when the costs and benefits are incurred, such as if a proposed policy requires large initial costs, or if that same policy then has long delays before benefits are realized.

The current NRC guidance is -- that we follow is in accordance with the Office of Management and Budget, OMB Circular Number A4, which is regulatory analysis. And in there present worth calculations are used to determine how much society would need to invest today to ensure that the designated dollar amount is available in a given year in the future. And by using these present worth calculations, costs and benefits, regardless of when they are incurred in time, are valued to a reference year.

Now, the choice of a discount rate and its associated conceptual basis is a topic of ongoing discussion within the government. However, based on OMB Circular A4 guidance, the NRC uses two values. One is three percent, and the other is seven percent real discount rates.

The three percent discount rate approximates the real rate of return on long-term government debt and serves as a proxy for the real rate of return on savings, to reflect reliance on a social rate of time preference discounting concept. And typically that is equivalent to your risk-free rate, which is comparable to a 10-year treasury note.

A seven percent rate approximates the marginal pre-tax real rate of return on an average investment in the private sector, and is the appropriate discount rate whenever the main objective of the regulation is to displace or alter the use of capital in the private sector.

So because proposed regulations impact licensees we are requiring them to spend and go to -- you know, get current market rates to implement the proposed regulatory action. And, therefore, we are looking at the cost of money versus the real rate of return. And OMB recommends a seven percent rate is

consistent with this opportunity cost of capital concept.

So what we are looking for is, you know, currently we are in, you know, a low interest rate environment. We may be in this environment for, you know, several years. And we are looking for whether there are opinions with regard to whether OMB Circular A4, using the seven percent to evaluate regulatory actions, is appropriate, with the three percent as a sensitivity, whether we should be looking at additional sensitivity rates that are different from three and seven, or whether there are other ideas with regard to treatment of evaluating both net costs and net benefits and regulatory analyses.

So I open it to the floor.

FACILITATOR OLMSTEAD: Does anybody in the room have any comments or questions? Please come up. Thanks.

MR. DOLLEY: Thanks. I'm Steven Dolley with Platts Nuclear Publications. And I just wondered within this category if you are looking at any of the issues related to the monetarization of value of life or non-fatal cancer, or whether this is strictly limited to the economic and opportunity

costs of the money that the licensee would be expending.

MR. SCHOFER: Thank you, Steve, for that question. Actually, that addresses a couple of different things with regard to approaches we are considering with this plan. Previously -- a previous slide talked about plans for updating the -- where is it? The dollar per person-rem conversion factor policy.

Currently, that value is $2,000 per person-rem of burden. And with regard to value of statistical life, which you brought up and the cancer risk associated with that, both of those values had been updated. EPA has updated their value recently with regard to value of statistical life, and we've looked at that as part of our update as well.

So that is actually a separate issue and is being addressed in a NUREG that will be going out for public comment later this year or early next. So I think that addresses the one side.

With regard to the second question, I think it's a little bit broader than the way you characterized it, because when we do regulatory analyses we discount both future benefits and future costs. So when we monetize and avert a dose, we use

a discount rate to bring that back to present value. So when we talk about discount factors, it does impact averted dose.

MR. DOLLEY: Just a quick followup on that, and maybe this is just a misunderstanding. But you would be discounting the actual dose, or you take the dose analysis through to the impact on human life and discount that?

MR. SCHOFER: What we do is we report averted dose, but the monetized value of that dose, using the conversion factor of 2,000 and 4,000, is how we then discount that back in dollars. So we discount dollars; we don't discount dose.

MR. DOLLEY: Okay. That's an interesting effect. Thank you.

FACILITATOR OLMSTEAD: Does anybody else in the room have any comments or questions?

(No response.)

Okay. How about on the webinar? Operator, can you check for the phone participants?

OPERATOR: Once again, if you have a question, please press star one. One moment. Mary, your line is open.

MS. LAMBERT: Hello there. Discount rate being a mathematical adjustment that reduces cost, it

goes backwards? Based on the idea -- unless I have it totally wrong, it has been a long time since I took economics, but it's based on the idea that things will cost less in the future than now? However, that appears backwards, because things cost more in the future than they do now.

So I would think by using a discount rate you are reducing the number, and thereby one other way of minimizing true economic consequences. Correct me, please, if I'm wrong. As I say, it has been a long time since I have taken economics.

MR. SCHOFER: Okay. This is Fred Schofer again. When we do regulatory analysis, we use constant dollars. That is, numbers that have already been adjusted for inflation. So when we are discounting back, inflation is already removed from the equation. So if you were doing nominal dollars, then you would have to inflation for inflation, and then you would then deflate again with inflation to bring it back to constant dollars.

However, if you do the entire analysis in constant dollars, then you have already made that adjustment.

MS. LAMBERT: Okay.

MR. SCHOFER: Does that help you, Mary?

MS. LAMBERT: Yeah. I see what you're saying. I have to think about it. So thank you.

FACILITATOR OLMSTEAD: Are there any other comments or questions from the teleconference participants?

OPERATOR: No further questions.

FACILITATOR OLMSTEAD: Anyone else in the room?

(No response.)

All right. How about if we close out this topic and we will move on to the next one, which is looking at the radius for doing our analysis.

MR. PALMROSE: Hi. I'm Don Palmrose. The current NRC guidance is to evaluate the effects of postulated accidents within 50 miles of the site. This includes the cost-benefit valuation for regulatory analysis, including backfitting analysis, and severe accident analysis, including severe accident mitigation alternatives and environmental impact statements.

And examples of the documents that can be referenced for this are the regulatory analysis documents, the NUREG-BR-0058, NUREG-BR-0184, and then the NUREG-1555, the standard review plans for environmental reviews for nuclear powerplants.

The staff asked for your thoughts whether or not to extend these analyses beyond 50 miles and why. Your slide on 13 has three sub-bullets as possible factors for consideration, and they are under what conditions should the analysis extend beyond 50 miles, what factors to determine how far to extend the analysis, and dose factor should be based on the linear no threshold or a truncated value.

I'll open it up for questions.

FACILITATOR OLMSTEAD: Does anyone in the room have any comments or questions? Anybody on the webinar? Oh, okay. Steve, go ahead.

MR. DOLLEY: Hi. Steven Dolley with Platts again. Given NRC regulations use LNT, what would be the regulatory basis for using a truncated value? I have the same question with SOARCA.

MR. PALMROSE: Well, again, the linear no threshold assumes that if you go down to the risk of, you know, zero -- decreasing risk with a decreasing dose, and so whether or not there is a scientific basis for looking at a different level where there is maybe a threshold value to be considered, where the health effect would basically be fairly measurable could be one consideration.

MR. DOLLEY: But I guess I didn't make

clear what I was trying to say. NRC's regulatory activities and regulatory structure is based on an assumption of LNT. Isn't that correct? I was wondering what the basis would be, given that, for departing from that approach and using a truncated value. Wouldn't that be contrary to the basis for agency regulation?

MR. PALMROSE: Again, regulatory regulation is to ensure the protection of the public. And so in that regard we want to make sure that whatever we -- the regulation is adequate for making sure that there is no harmful effect. In the case -- again, that has come up from time to time as being overly conservative. And so potentially looking at a truncated dose might better quantify what the expected impacts could be.

MR. DOLLEY: But then, wouldn't you have an analysis based on an approach that is different than the LNT approach that the agency uses for its regulatory activities?

MR. PALMROSE: Well, I guess we'll have to take a look at that and make sure that what we recommend will be adequately explained to answer your question. Tina?

FACILITATOR OLMSTEAD: Yeah. Come on up

because of the -- our speakerphone setup. Thank you.

MS. GHOSH: This is Tina Ghosh, the Office of Research. I think we are proposing topics that we may want the Commission to weigh in on from a policy perspective, and I think you are identifying that that would probably be a departure from current Commission policy. We do our regulatory activities based on LNT right now. So if we added that as a topic in the paper, the Commission would decide, you know, whether we are going to depart from that.

And just a quick note, you also mentioned SOARCA. SOARCA was a research project and the results were presented in terms of both LNT and some alternative dose threshold models. For all of the kind of post-SOARCA, any regulatory activities we are doing post-SOARCA where we might rely on some of the SOARCA models and methodologies, we are using the LNT for the regulatory activities. We are not using the dose thresholds as a basis for regulatory activities right now.

MR. DOLLEY: Thank you.

FACILITATOR OLMSTEAD: Tina, can you state your first and last name?

MS. GHOSH: Tina Ghosh, Office of Research.

FACILITATOR OLMSTEAD: Okay. Thanks.

MR. DOLLEY: Thank you.

FACILITATOR OLMSTEAD: Does anybody else in the room have any comments or questions?

(No response.)

Okay. Anything on the webinar?

(No response.)

Okay. Operator, can you check on the phone line, please?

OPERATOR: Once again, to ask a question please press star one. Mary, your line is open.

(No response.)

It looks like we may have lost her. Hopefully she comes back on. Otherwise, we have no further questions.

FACILITATOR OLMSTEAD: Okay. I guess we'll move on to our last bullet, which is asking other people for potential policy issues to be considered for the SECY paper that will be going up for the Commission.

Does anyone in the room have any thoughts? The webinar? No?

(No response.)

Operator, can you check on the phone line, please?

OPERATOR: Once again, to ask a question please press star one. One moment. Once again, to ask a question please press star one. Mary, your line is open.

MS. LAMBERT: Yes. Sorry. When I hit the mute button, I actually hung up. In regard to the LNT comments, not only would it be a departure from current standards, but it also would depart from BEIR 7, which clearly must be acknowledged to be the latest accepted research on health effects.

If in fact you don't stick to that, then it has impacts on obvious economic consequences because what heretofore had been considered as harmful all of a sudden will be declared not harmful. And as far as distances go, there has to be consideration for accidents that result in fire.

For example, the National Academies, on spent fuel pool fires, indicate that a contamination beyond 100 miles downwind, we find Chernobyl had fired, the results in both instances that the plume goes higher up into the atmosphere and thereby is carried at greater distances. And so that alone would argue for extending beyond 50 miles.

Thank you.

FACILITATOR OLMSTEAD: Mary, since you

were offline for a bit, we also are soliciting ideas for any other potential policy issues that you think should be considered in the SECY paper that is being developed. Do you have any thoughts on that matter?

MS. LAMBERT: Yes, I do. Certainly, consideration of changing the probability of a core damage event. Since Fukushima, that has increased about 10 times what heretofore had been accepted. Also, I have mentioned aqueous releases. That certainly is an item in the news of late of continuing releases of significance from Fukushima. And it seemed in -- was it 2011 that the Commission voted to -- consideration of the aqueous in economic consequence cost-benefit analyses? And that should be finalized, implemented.

Also, particularly with use of the MACC code, the duration of accidents should be reconsidered as extending more than four days certainly. That was a lesson learned from Fukushima.

Also, the meteorological plume that is used -- I notice in one of the papers that the Commission issued -- I think it was in SECY-12-0110, they referenced a comparison done by Mollencamp. And I'm disappointed to see that because it was very clear, and it was made clear by NRC in further

reports that the comparisons of the two models in the plains of Oklahoma and Kansas were certainly not comparable to experience of what would happen to a plume in other sites that had -- by coast, by river valley, by bodies of water, different variations in topography.

And so I think that it is very key because using a straight line Gaussian plume you know the area likely to be impacted, and, therefore, reduce the economic consequences, which is very obvious.

Also, I think great consideration has to be given to the elephant in the room, which is cleanup and decontamination, and not to go back to the old WASH-1400 days where the assumption that hosing buildings is cleanup because it's not. It is simply moving the material from one place to another, and that can then become suspended or get into the water.

Additionally, there were comments in the paper on the MACCS2 in the economic analysis model going to the REACT model as I remember, the real economic model as opposed to the previous, that considered evacuation relocation costs, it considered decontamination costs, costs from land use of

property, disposal of contaminated crops, et cetera, et cetera.

This is not going to be -- at least it is being considered not to be considered, and instead to go to the GDP. I really would encourage consideration, which it's not an either/or. These other costs cost the real people and need to be part of the economic consequence model for many reasons. GDP, for example, totally negates environmental costs, not to mention other ones also.

So that's a rejection or an encouragement in your papers to fully explain the rationale for that, because it doesn't make any sense to me.

Thank you.

FACILITATOR OLMSTEAD: Does anyone have any clarifying questions?

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

FACILITATOR OLMSTEAD: Okay. We have something -- oh, yeah. Okay.

MS. GHOSH: Hi, Mary. This is Tina Ghosh, and just a quick question. Do you have any references that you could point us to with regard to comparison of Gaussian straight line plume segment models with other codes that show definitively that

there is some kind of misestimation of the types of consequences that the NRC looks at?

FACILITATOR OLMSTEAD: Would they have to push star one to be able to respond to that?

OPERATOR: Yes, they would need to hit star one to ask a question. Again, star one to ask a question.

FACILITATOR OLMSTEAD: Or to respond.

MR. KOKAJKO: Mary, could you hit star one, please?

OPERATOR: Yes. She has just cued up and the line is open.

MS. LAMBERT: Yes. I have a simple question. Did Tina Ghosh wish that I send the material on the straight line Gaussian plume versus other models to her, or who am I supposed to send it to?

MS. GHOSH: Maybe it would be best to funnel it through Alysia Bone. Her contact information is on --

MS. LAMBERT: I have that. Okay. I just wanted to know who to send it to.

MS. GHOSH: Okay. Thank you. Appreciate that.

MS. LAMBERT: And I'll provide that to

you, Tina.

MS. GHOSH: Okay. Thank you.

OPERATOR: I'm showing no further questions on the phone lines at this time.

FACILITATOR OLMSTEAD: Okay. I think we have a question from the webinar.

MS. LAPPERT: Yes. How will this factor into SAMA analyses?

FACILITATOR OLMSTEAD: Do you need clarification?

MR. PALMROSE: Yes. What part? What factor?

MS. LAPPERT: That's all I have.

FACILITATOR OLMSTEAD: Whoever sent the comment in the webinar, if you can push star one, so you can provide further clarification, that would help us. If they are only participating through the webinar, they would have to type that --

MS. LAPPERT: Right.

FACILITATOR OLMSTEAD: -- in a response. So did you type something to them?

MS. LAPPERT: Yes.

FACILITATOR OLMSTEAD: Okay. We'll give them a couple minutes.

MS. BONE: We can go on to another one in

the meantime.

FACILITATOR OLMSTEAD: In the meantime, is there anyone else in the room who wants to make any comments, ask any questions?

MS. LAPPERT: Ready?

FACILITATOR OLMSTEAD: Sure.

MS. LAPPERT: She says, "This," meaning the project, "do you see making any recommendations to conducting SAMA analyses in license renewal application reviews?"

MR. PALMROSE: Well, in license renewal, the severe accident mitigation alternatives have to be included if the plant has not previously done one as per our regulations. So they do -- they are included in the license renewal applications when necessary.

MR. DOLLEY: I think they're asking you if you are suggesting that they be revised based on the results of this activity.

MR. PALMROSE: Well, if this activity -- you know, whatever -- the SAMAs include averted costs in their analysis, and so, therefore, whatever it changes within the discounting factors would also be included into that as for example.

FACILITATOR OLMSTEAD: So is this --

MS. LAPPERT: She said thank you.

FACILITATOR OLMSTEAD: Okay. Good. I guess I'm asking a clarification question. So is this a policy question that would maybe considered in the SECY paper?

MR. PALMROSE: I don't think so. I think it would be more -- it's just -- my interpretation of it is that what changes are happening that go into affecting the cost-benefit analysis will have to be passed into the SAMAs, because the SAMAs rely on those same procedures for determining the cost-benefit result.

FACILITATOR OLMSTEAD: All right. Thank you. Are there any other comments or questions? I will give the operator another opportunity.

OPERATOR: Thank you. Once again, please press star one if you do have a question. We do have another question from Mary. Your line is open.

MS. LAMBERT: Yeah. It sounds like I'm playing 20 questions, which really I'm not doing. When is the process hopefully to be completed? Because, as you know, there are many of us, including Dr. Lyman from UCS, that were disappointed that the cost-benefit analyses were put towards the end of the recommendations, so that the other recommendations,

such as for self-exams and this and that, were being analyzed on a dated cost-benefit analysis or cost-benefit analyses assumptions that did not include lessons learned from Fukushima. So it's a backwards approach.

So the question is, how much -- when do you plan to finish all of this?

MS. BONE: Thank you for the question, Mary. This is Alysia Bone again. As far as the paper itself is concerned, that is due the end of this year, in December of this year. But, again, that is going to just be our plan or a high-level plan for the steps to come.

As far as completing the overall update process, I think --

MS. LAMBERT: Yeah, that's what I'm talking about.

MS. BONE: Sure. I think it is a little too early to tell right now. We are not exactly sure what that timeline is going to look like. That is going to be something that we are hoping to -- we are going to provide at least some level of information in this paper itself.

So I don't have any more information on when the -- as a whole this process will be

completed. I do think that it's going to take -- you know, it's going to be a multi-year effort, hopefully having deliverables in each year. But as far as the overall, you know, by X date this is -- everything is going to be completed, I don't have that at this point.

MS. LAMBERT: And is it only going to be guidance, so there is no teeth behind any recommendations that the staff ends up with?

MR. SCHOFER: This is Fred Schofer.

MS. LAMBERT: It says guidance.

MR. SCHOFER: Yes. This is Fred Schofer, NRR. Yes, we are talking about regulatory analysis, and we are talking about the guidance documents associated with the performance of that, as well as other offices use that same analysis guidance to perform SAMDA, SAMAs, and other evaluations as described previously in the SECY-12-0110.

With regard to this guidance, once a regulatory analysis is performed, it is really a decision-making tool provided to management to help guide them with regard to going forward or not with a proposed regulatory action. So there -- you know, it is just another piece. The regulatory proposed action typically, you know, goes through a rulemaking

order process, and the RA is provided to support that process.

So you are correct in that what we are talking about is not directly a mandate on licensees, but it is fully considered in the regulatory action.

MS. LAMBERT: Yeah. One question. You may or may not be able to answer it. Rulemakings -- what is the range of time when the rulemaking petitions are completed? That's one question.

The second question is, what percent of rulemaking petitions provide substantive relief? And I'm asking that because I know Atomic Safety Licensing Board, Judge Rosenthal, in a proceeding I was involved in, asked the same questions of the staff for satisfaction from 2.206 enforcement petitions, and he found that only one in 37 years provided substantive relief.

And so then the other avenue for the public, other than, you know, just voicing concern is rulemaking. So do you know what the range of time when one can expect a rulemaking petition is determined, and what percent have had, say, in the past 37 years in comparison, substantive relief?

MR. SCHOFER: This is Fred Schofer, NRR. I don't have those statistics memorized. However,

we can provide that as part of the meeting summary.

MS. LAMBERT: That would be wonderful.

MR. SCHOFER: Those statistics are maintained. I just don't have them readily available.

MS. LAMBERT: That would be appreciated.

OPERATOR: We do have another question from David Weisman. Your line is open.

MR. WEISMAN: Good afternoon. David Weisman, Alliance for Nuclear Responsibility. But by the time you got to my question, it was essentially the one that Ms. Lambert had asked, which was what your timeframe is and you have already gone through that. So question was asked and somewhat answered.

OPERATOR: I am showing no further questions at this time.

FACILITATOR OLMSTEAD: Any other questions on the webinar? Anyone in the room?

(No response.)

All right. Well, thank you. Before Lawrence gives his final remarks and adjourns the meeting, I want to remind everyone who hasn't signed in to please sign in. And there is sign-in sheets -- should be in this room and where you first came in.

Also, for those on the phone, please

contact Glenna Lappert or Alysia Bone, and their contact information is in the meeting announcement, to make sure we have your contact information.

And please don't forget to fill out the feedback forms on the meeting, and your input is very helpful for us to improve our future meetings.

Lawrence, would you like to make any other comments --

MR. KOKAJKO: Yes.

FACILITATOR OLMSTEAD: -- and adjourn the meeting?

MR. KOKAJKO: Thank you very much. Before I begin to close, let me ask the panel if they would like to add any final closing remarks. No?

MS. BONE: Well, I will just reiterate that if there is anything else -- topics that you weren't able to cover today in the meeting, please also feel free to send me an email for, you know, any other considerations as we go through this process. That's Alysia Bone.

MR. KOKAJKO: Thank you. Thank you for attending today, both on the webinar, on the phone, and in the meeting room. I very much appreciate the comments and the discussion that we have had today.

As you see, we are still in some very

incipient stages of trying to work through this. Your comments today and questions are helpful as we begin to look at preparing our paper for issuance by the end of the year.

Again, please feel free to contact Alysia Bone, and her contact information is in the slides, if you have any additional comments or questions, or if you need to access information that is publicly available.

I have no further comments. But, again, thank you, and I look forward to a paper later this year.

Thank you.

OPERATOR: Thank you. This does conclude the conference. You may disconnect at this time.

(Whereupon, at 3:22 p.m., the proceedings in the foregoing matter were concluded.)