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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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RELEASE OF RADIOACTIVE MATERIALS WORKSHOP

Nuclear Regulatory Commission  
Auditorium  
11545 Rockville Pike  
Rockville, Maryland

Monday, November 1, 1999

The above-entitled workshop commenced, pursuant to notice,  
at 8:42 a.m.

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

[8:42 a.m.]

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3 MS. STINSON: Good morning. My name is Barbara Stinson. I  
4 am with Meridian Institute. Welcome to everyone from near and far. We  
5 are beginning today a roundtable discussion of NRC's Workshops on  
6 Control of Solid Materials. We have quite a few introductory remarks to  
7 get us rolling but first I am going to turn to Don Cool for the initial  
8 set.

9 DR. COOL: Thank you, Barbara. Good morning, everyone. Let  
10 me welcome you to NRC's headquarters here at White Flint. I am very  
11 pleased that each of you have been able to join us today. We are here  
12 today to dialogue and discuss with each other some of the issues and  
13 approaches that may be available in order to ensure the proper control  
14 of solid materials.

15 By way of introduction, I am Donald Cool, the Director of  
16 the Division of Industrial and Medical Nuclear Safety here in our Office  
17 of Nuclear Materials, Safety and Safeguards.

18 One of the tasks which I have in that role is to provide  
19 oversight for the NRC's examination of this issue. I am sure that most  
20 of you are aware that there has been a long and vigorous debate which  
21 has gone on regarding the kinds and quantities and controls that are  
22 necessary in the U.S. for solid materials and that there are in fact no  
23 overriding national standards which are in place today either under the  
24 Environmental Protection Agency's generally applicable environmental  
25 standards or in NRC or other regulations.

On the other hand, of course, there are many materials in  
our environment which do contain radioactivity as they exist in nature  
or as a result of various activities of man. In this age of increasing  
environmental consciousness where we look to try and reuse rather than  
always doing new, we find ourselves in an increasingly complex situation

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1 of trying ensure public health and safety, assure the proper control in  
2 isolation of materials that need to be controlled, while at the same  
3 time minimizing the use of new resources, and that is not necessary.

4           There are currently many types of facilities that puts those  
5 potentially valuable materials that may still have small quantities of  
6 radioactive material associated with them. At present licensees  
7 determine whether or not such material can be reused or released from  
8 their facilities on the basis of guidance for surface activity or on the  
9 basis of whether or not their detectors can find anything, but that  
10 doesn't really give you a consistent satisfactory approach that we can  
11 assure across all the different aspects, across all the various kinds of  
12 licensees and activities, across all the various kinds of materials  
13 which are present.

14           Thus we are in fact seeing to engage in a dialogue on the  
15 issues associated with the control of material, in order to ask the  
16 question of whether and under what conditions such materials should be  
17 disposed of in an appropriately licensed facility, whether there are  
18 circumstances where they may in fact be safely recycled or reused in  
19 some form.

20           I believe that in fact we share a common purpose, that of  
21 applying appropriate controls on the risks that they pose to us both as  
22 individuals and to our environment.

23           This meeting and other meetings and opportunities for  
24 interaction are part of an enhanced process as we start maybe at  
25 rulemaking to define the appropriate regulatory vehicle for establishing  
a national standard.

          Facilitated discussions here are being transcribed so that  
ANN we can effectively capture your thoughts and ideas. I would like to  
RIL encourage all of you to be open with those ideas and the reasons for  
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1           We are set up in this kind of environment specifically to  
2 try and facilitate a dialogue not necessarily between each of you and  
3 the NRC but around the room and back and forth between the various  
4 individuals that we have here, so that we can try and learn from each  
5 other the different kinds of approaches that may be available and the  
6 reasons why such approaches are or are not considered appropriate by  
7 each of us.

8           In doing that, one of the things that ends up being very  
9 important for us is to understand the whys as well as the whats in order  
10 to be able to put together a rationale for one or more approaches, which  
11 I need to bring back to our Commissioners in March of 2000.

12           While this does represent an opportunity to hear from the  
13 NRC Staff and to interact with us, we will certainly be trying to answer  
14 questions and trying to provide information, I hope that we will really  
15 take this opportunity to explore with each other the possible options  
16 and the pros and cons of those options.

17           There are a variety of background documents which will be  
18 available out in the foyer and an issues paper which can serve as the  
19 starting point for our discussions. The issues paper does not represent  
20 an end to all the options and please feel free to provide additional  
21 options as well as elaborating on the things that are in the issues  
22 paper or your fellow participants.

23           This meeting is being facilitated by the folks from the  
24 Meridian Institute. Part of their job is to help all of us work  
25 together to explore these issues. Again, let me welcome you today. I  
look forward to two days of very interesting and useful dialogue. At  
this point I will turn it back over to Barbara.

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MS. STINSON: Thank you, Don. Let me start by walking you  
through a couple of logistical items and then we are going to take a  
round of introductions. We are going to ask the table, the folks at the

1 table who will be focusing on the discussion for the next two days, to  
2 introduce themselves and their affiliation, and then we are going to ask  
3 each of you in the room around the perimeter to also introduce  
4 yourselves and your affiliation, quickly, so that we can just get a  
5 sense of who all is present today.

6 Let me start by saying Meridian Institute is a nonprofit  
7 neutral mediation and facilitation organization and we are here today to  
8 provide all of you here at the table and those in the room the support  
9 that you need to conduct the discussion that we are set out to  
10 accomplish for the next two days. That means we are here to provide  
11 that support in any way, shape or form that it is needed, so feel free  
12 to ask us any logistical questions.

13 We can direct you to Materials, to individuals that you  
14 might need to talk to, to background information, et cetera.

15 I will say a little bit more about groundrules for our  
16 discussion and our role in that area in a moment.

17 This is the third in a series of meetings. The first  
18 meeting took place in San Francisco in September and October. We were  
19 in Atlanta in a different format. In that format it was open public  
20 discussion and an exchange between everybody in the room. We had 40 or  
21 50 people in both of those meetings.

22 We changed the format for this meeting for particular  
23 reasons. We have tried to identify one or two representatives from a  
24 variety of perspectives, trying to cover the full spectrum of interests  
25 that are interested and concerned about the issues related to control of  
solid materials and in that effort have assembled a group that is  
relatively diverse and mixed.

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There's certainly -- it doesn't represent everybody who is  
interested in this issue, but this type of roundtable discussion will  
hopefully provide an opportunity, as Don was saying, for back and forth

1 discussion among the stakeholders and perhaps a bit more in-depth  
2 exploration of not only the issues of concern but some of the reasons  
3 behind why those issues are of concern and we ask everyone to bring  
4 forward your thoughts, any information, background materials, research,  
5 other documentation that you might provide into this setting so that we  
6 can in fact explore these issues at some depth.

7           What this discussion format means is that those in the  
8 perimeter are not going to be engaged in the back and forth part of the  
9 discussion, so we will ask you to reserve your comments for two times in  
10 each of the two days, at Noon and at 5:00 o'clock today, at Noon and at  
11 4:00 o'clock tomorrow or -- I'm sorry, 3:30 tomorrow we have specific  
12 public comment periods, so if those of you in the perimeter would like  
13 to offer comments, we ask you to sign up out front. You will see a  
14 specific one-page sheet. Just put your name on it. Comments will be  
15 limited to five minutes, and that is where you can enter in your  
16 comments on some of the comments that are offered at the table.

17           You might want to read a specific statement into the record,  
18 no more than five minutes, whatever you prefer, but those are the two  
19 opportunities for today and tomorrow.

20           We would also ask you to sign in the front if you are in the  
21 room today, you would like to receive materials in the future or you  
22 want to have a notation made that you were present at this meeting.  
23 Please do sign in in the front.

24           I will just mention that in terms of materials for the  
25 future, Meridian has several roles here. One of those roles is -- and  
Rebecca Henszey of Meridian staff particularly has this  
responsibility -- to produce a summary of this discussion, so there will  
be really two records of this discussion. One is the meeting  
transcript. That will be enhanced by a video that is being made of our  
full discussion, start to finish, both days; second is a meeting summary

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1 in which in a non-attributational fashion Meridian will produce highlights  
2 of each of the areas of discussion throughout the two days. That will  
3 be made available to everyone who signs up and is in this room.

4 Let me just again emphasize that Meridian is pleased to be  
5 here to assist you all in effectively participating in this discussion.  
6 That means everyone who would like to participate, so please don't  
7 hesitate to ask me or Mike Lesnick, my colleague, if you have any  
8 questions or anything that you would like to suggest about our  
9 discussion over the next two days.

10 With that, I think I will just take us around the room  
11 quickly for a round of introductions, give everyone an opportunity to  
12 become familiar with who is here. There is a participant list out front  
13 to help you remember who is actually around the table, so feel free to  
14 grab a copy of that. In addition, there is the most recent agenda,  
15 which is slightly different from the one that was faxed out to you on  
16 Thursday and there is also a copy of the slides which we will use as a  
17 guide to walk through each of the discussion items throughout the two  
18 days.

19 Let's start with a round of introductions. Mike?

20 MR. LESNICK: Good morning. I am Mike Lesnick, with the  
21 Meridian Institute. I will be one of the facilitators for the next two  
22 days.

23 MS. STINSON: Let me just remind you, now that we are  
24 starting the microphone passing, we are making a transcript of the  
25 meeting. You have to speak directly into the mikes in order to be on  
record and history shows that if you don't speak directly into the mike  
you might be recorded as the person next to you making the statement in  
the transcript.

MS. HENSZEY: Rebecca Henszey with Meridian Institute.

MR. GNUGNOLI: Georgio Gnugnoli with the Nuclear Regulatory

1 Commission.

2 MR. DECKLER: Jeff Deckler of Colorado Department of Public  
3 Health and I am representing ASWAMA.

4 MR. KILLAR: I am Felix Killar with the Nuclear Energy  
5 Institute, representing the material licensees.

6 MR. RING: I am Joe Ring, representing the Health Physics  
7 Society.

8 MR. CIVIC: I am Tom Civic, representing the American Iron &  
9 Steel Institute.

10 MR. GENOA: Paul Genoa, with the Nuclear Energy Institute,  
11 representing the utilities.

12 MR. WITTENBORN: John Wittenborn, from the Specialty Steel  
13 Industry of North America. I am representing both the stainless  
14 producers and today I am also representing Metals Industry Recycling  
15 Coalition, which includes not only the steel recyclers -- stainless,  
16 carbon steels -- but also copper and nickel.

17 MR. WALLO: I am Andy Wallo with the U.S. Department of  
18 Energy, Office of Environmental Policy.

19 MR. KARHNAK: John KarhnaK, EPA Office of Radiation and  
20 Indoor Air.

21 MS. LIPOTI: New Jersey -- my name is Jill Lipoti. I  
22 represent the Department of Environmental Protection, the Radiation  
23 Protection Programs.

24 MR. NUSYNOWITZ: I am Martin Nusynowitz. I am a Professor  
25 of Nuclear Medicine at the University of Texas Medical Branch and Past  
President of the American College of Nuclear Physicians and an officer  
of other nuclear medicine societies and as Acting Chairman of  
Organizations United, representing the nuclear medicine community.

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MR. LOISELLE: I am Val LoiselLe, the Trade Association of  
Radioactive Metal Recyclers -- eight to a dozen licensees who have a

1 very keen interest in the rulemaking process.

2 MS. McALLISTER: Good morning, I am Kathleen McAllister, and  
3 I am with the Commonwealth of Massachusetts, but today I am representing  
4 the E-23 Committee on Resource Recovery and Radioactivity. We are a  
5 committee of the Conference of Radiation Control Program Directors.

6 I would like to say that I am here representing the  
7 Committee and we will be making our recommendations to the conference.  
8

9 MR. GOLDIN: I am Eric Goldin with Southern California  
10 Edison.

11 MR. KING: I am Daniel King from the Oniah Nation of  
12 Wisconsin.

13 MR. SENSENY: Robert Senseny, with the Department of State.  
14 We work closely with the International Atomic Energy Agency.

15 MR. GUTTMAN: Dan Guttman on behalf PACE which in its form  
16 of OAKA has long represented the workers at Oak Ridge, Hanford, INEL and  
17 many other weapons complex sites and also represents workers at many of  
18 the facilities, the steel and other facilities where this material will  
19 be used.

20 We have some formal written comments which I have filed with  
21 the Commission and when it is appropriate be happy to distribute.

22 MR. ADELMAN: I am David Adelman, with the Natural Resources  
23 Defense Council in their nuclear program.

24 MR. LARICK: Steve Larick, with the Commercial Metals  
25 Corporation Steel Group.

MR. KALMAN: Ken Kalman, NRC.

DR. COOL: Donald Cool with NRC.

MR. NELSON: Bob Nelson with NRC.

MS. HOLAHAN: Trish Holahan, NRC.

MS. STINSON: I'll just ask each of you to stand up and

1 state your name and affiliation.

2 THE REPORTER: Would you come to a microphone?

3 MS. STINSON: That's all right. We won't have it in the  
4 record.

5 [Discussion off the record.]

6 MS. STINSON: Let me remind everyone to please sign in. You  
7 may leave either your business card or sign in your full name and  
8 affiliation.

9 If you tend to scribble, at least do your phone number very  
10 accurately so we can give you a call and get all your relevant  
11 information. We will publish a list of all of those who participated in  
12 this meeting, if you would like to be on that list.

13 I want to remind everyone that we do have a transcription  
14 being made of this meeting. That transcription will also be available  
15 for your either downloading off the website if you want to download  
16 600-700 pages' worth of material, or you can also a copy from NRC.

17 In addition, there is a videotape being made of the entire  
18 session, and you can see us on 10 or so monitors up in the video room.  
19 I believe those, the videos, will also be available if anyone would like  
20 to receive a copy. After the meeting we can talk with the NRC Staff  
21 about how to do that.

22 We unfortunately do not have food and beverage allowed in  
23 this room, so restrooms are in the back along with water fountains. We  
24 may try to get some water for the exterior but I think it is going to be  
25 difficult for the NRC to provide that for some logistical reason, so I  
apologize for that in advance and let me just remind everyone that the  
microphones are live all the time, and they are area mikes so even if  
you are a distance away you can still hear a bit, so just be cognizant  
of that. We also have two live mikes back in the audience.

Let me take the opportunity now to turn it over to Mike

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1 Lesnick, and we will walk through the agenda.

2 MR. LESNICK: Well, as Don noted in his introduction, an  
3 important goal for these workshops is to encourage early discussion,  
4 early dialogue about the management of solid materials. This workshop  
5 is intended as an opportunity for the NRC to make public and to discuss  
6 with you their sense of the issue, how they are currently managing solid  
7 materials, and to discuss with you a range of approaches of how to do so  
8 potentially in the future.

9 It is also an opportunity for you to interact with the NRC  
10 and with each other about these topics very, very early in the process.

11 The agenda that has been set out is intended to try to take  
12 us through some key components of this topic in a fairly logical fashion  
13 over the next two-day period. Overall, let me say, before we look at  
14 the agenda in particular, our approach is going to be at the front end,  
15 at the beginning of each session, each topic period we will ask someone  
16 from the Nuclear Regulatory Commission to kick things off in a very  
17 brief overview, five minutes, kick off the topic, frame the issues,  
18 provide a little bit of background, perhaps frame some questions we can  
19 choose to use in our dialogue around the table.

20 We are not totally bounded by that, but those are some  
21 issues certainly the NRC has surfaced that it would be very useful for  
22 them to hear from you about, so that is a format that we will use  
23 consistently throughout much of the day.

24 Second, as Barbara noted earlier, there will be two  
25 opportunities each day for public comment and we will make clear when  
those are and we will make sure that we reserve those times.

Again a reminder -- the microphones are live, the video is  
on all the time, so act accordingly.

[Laughter.]

MR. LESNICK: If you would take a look at the agenda,

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1 please, that hopefully you picked up on your way inside, you can see  
2 that our first two sessions at 9 o'clock and 10:30 really are background  
3 sessions -- what is the topic, why is the NRC coming to you and the  
4 general public with this issue, some background about the topic itself,  
5 the authority of the agency, and how they are currently managing this.

6 Session 3 focuses particularly at 11 o'clock on what is the  
7 current situation of how the NRC is handling control of solid materials.

8 You can see that we will take our first public comment  
9 period at Noon for a 30-minute period and then break from 12:30 to 1:30  
10 for lunch. Lunch will be on your own and we will direct you to some  
11 opportunities to take your lunch today.

12 Our afternoon this afternoon starts with Session 4 on  
13 Alternatives for Addressing Control of Solid Materials and some  
14 discussion about what kind of assurance should be for maintaining  
15 control.

16 At 4:30 we will take public comment again until 5:00 and  
17 adjourn by 5 o'clock.

18 Tomorrow morning, note as you came in the building today,  
19 take account of how much time that took or did not take, but we will  
20 start at 8:30 again, with a summary of the previous day's, of today's  
21 discussion, because there may be some people who come who were not here  
22 today.

23 We will start up at 9 o'clock then with a little bit of  
24 background about what kind of studies are being done to develop the  
25 information to evaluate alternatives, and then spend a good piece of  
time on Session 7 on Health and Environmental Impacts and then moving on  
to Economic and Cost Benefit Considerations.

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We will take public comment at Noon tomorrow, and we will  
make sure before we take our public comment at 3:30 that we will have  
some opportunity for some summary discussion around the table, so you

1 have an opportunity along with the NRC to reflect on the two days of  
2 conversation and we will adjourn by 4:00.

3 I hope that is helpful to give you a roadmap of where we are  
4 heading today and tomorrow.

5 MS. STINSON: Any questions from folks around the table?

6 [No response.]

7 MS. STINSON: Okay. It is a fairly similar format to prior  
8 meetings and fairly similar format -- very similar agenda to the one you  
9 saw earlier.

10 Let me just say a little bit about the groundrules for our  
11 discussion. This is a very complex issue on its own. Just the  
12 management of solid materials has garnered a tremendous amount of  
13 attention from various, from many different sectors.

14 There are also a whole host of associated issues that could  
15 easily be linked into and brought into the discussion.

16 We will ask all of you all to focus your comments and your  
17 attention for the next two days on the solid material issue, so that we  
18 can explore those issues at some depth without bringing into the mix a  
19 whole array of other, as I say, associated issues, and that is part of  
20 Meridian's job, so one of the groundrules will be to focus your  
21 comments, to be respectful of other people's time, and therefore not to  
22 make extremely lengthy comments, and Meridian will ask the liberty of  
23 being able to manage that part of the discussion.

24 We will ask you to, when we get into the discussion periods,  
25 to use your name card by setting it on its side to designate that you  
would like to speak, and I will try to keep track of or Mike, whoever is  
facilitating, track of the order in which the discussion took place, but  
we will also try to allow people to comment on a specific topic and  
& remain with that topic a bit so we may take people a little bit out of  
ASS order, generally follow the order in which the cards go up, but try to  
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1 focus the discussion on particular issues so that we can then move on to  
2 other areas of concern -- so use your name cards for designating your  
3 desire to speak.

4 We will ask also as a groundrule for this meeting that you  
5 respect the fact that there are going to be differences of view on this  
6 topic.

7 That comes as no surprise to anyone. Respect those  
8 differences. Try to explore what underlies those differences and really  
9 conduct a dialogue in the formal sense of that word.

10 We will ask you to refrain from sidebars. Focus your  
11 attention on the person who is speaking at the moment and hopefully you  
12 will appreciate that respect when it is your turn to speak as well.

13 I think that you have heard from Don and probably seen the  
14 materials prior to this meeting. NRC really does want to hear the  
15 issues that people are here to bring forward.

16 They intend to assemble that into some information that will  
17 be directed towards the Commission. They intend to do that by the  
18 spring of next year, and they would like to include in that as much  
19 information and as many points of view as possible, so take advantage of  
20 this opportunity but know that this is not the only opportunity for  
21 providing your input. Written comments are welcome through December  
22 22nd and other opportunities for discussion on these issues are planned  
23 into the future and that will be one of our major topics of discussion  
24 in Session 1 -- what ongoing elements of public participation are going  
25 to be most useful to you all and do you think are appropriate for this  
process.

Let me just mention that outside on the information table  
there is a whole series of documents including NUREG 1640, which will be  
the subject of discussion later.

There is also a list/serve address. There is now going to

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1 be a list/serve available through a web address for all the materials  
2 associated with this issue. That should provide much easier access to  
3 the materials than the NRC webpage that we have been using so far, so  
4 grab the one-pager that has that address on it, and we will -- we can  
5 also pass it around the table.

6 That's it for groundrules, unless anyone has any questions  
7 or comments. We will begin our first session. Trish?

8 MS. HOLAHAN: Good morning. Thank you. I would like to  
9 reiterate the welcome to everybody and again encourage folks to provide  
10 as much input as we can over the next two days.

11 [Pause.]

12 MS. HOLAHAN: Okay -- can everybody hear me now?

13 First session what we would like to focus on is why are we  
14 here today, what is the purpose behind holding this meeting as well as  
15 some of the other meetings, and what we are doing right now in this  
16 current initiative.

17 Our primary underlying purpose for being here and discussing  
18 these issues is part of NRC's Congressional mandate and responsibility  
19 for the protection of public health and safety and the environment, but  
20 we may ask what is the need now, today? Why are we looking at it now?

21 If we can go on to the next slide, please, that is, why is  
22 NRC examining its approach for controlling solid materials with very  
23 small amounts of radioactivity?

24 Don mentioned earlier and Barbara and Mike there are solid  
25 materials that are at licensed facilities that will need, ultimately  
need disposition. These range from materials that contain large amounts  
of radioactivity to materials that contain no radioactivity. All of  
this material will ultimately need to be disposed of in a safe manner.

What we would like to focus on today is the material that  
contains small amounts of radioactivity. The overall question then is

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1 how should these materials with the small amount of radioactivity be  
2 handled? For example, consideration could be given to whether all  
3 materials should be buried in a licensed low level waste site or,  
4 alternatively, is there a safe way to reuse or recycle some of these  
5 materials, or certain types of materials if the radioactivity levels are  
6 low enough.

7 As Don mentioned, there is a growing interest in recycling  
8 and conserving resources and possibly looking at ways that we could  
9 reduce disposal costs of large volumes of slightly contaminated material  
10 that may pose a very small risk to the public.

11 On the next slide, while there are standards for disposing  
12 of material with large amounts of radioactivity at licensed burial  
13 sites, there are currently no generally applicable NRC regulations for  
14 control of most of these materials with the small amounts of  
15 radioactivity. Nevertheless, licensees are still requesting to release  
16 some material when it is obsolete or no longer useful or when their  
17 facility is undergoing decommissioning and closing down.

18 In the absence of a standard, NRC has developed guidances to  
19 acceptable levels that is used by both NRC and the licensees in  
20 determining when materials can be released from control. Currently,  
21 therefore, these decisions are being made on a case-by-case basis,  
22 individual basis, and although the guidance is considered safe, the lack  
23 of criteria causes inconsistent release levels and therefore non-uniform  
24 levels of protection across the country.

25 In order to address the limitations of this case-by-case  
approach, NRC wants to consider all issues in an open public forum with  
a full analysis of all health and environmental impacts as well as an  
evaluation of the related economic aspects.

We may ask the question has NRC made any decisions today? I  
have been asked this on numerous occasions as to what decisions have we

1 made. As many of you are aware, in June of 1998 the Commission issued  
2 direction to consider rulemaking to establish a dose-based standard for  
3 clearance of materials and equipment with residual radioactivity and  
4 provide the opportunity for enhanced public participation.

5 Subsequently, in June of this year the Commission approved  
6 publication of an issues paper which is available outside here which  
7 contains several alternative courses of action and also announces the  
8 scoping process in accordance with the National Environmental Policy  
9 Act. This was noticed in the Federal Register for public comment.

10 In September of '99, the Commission again directed the staff  
11 to proceed with the efforts, to proceed with an enhanced public process,  
12 and then hold public meetings to obtain early input from a variety of  
13 interested parties in a collective forum.

14 Subsequently, as Barbara mentioned, the staff will provide  
15 the Commission with a briefing and a paper in March of 2000 on the  
16 results of the public meetings, and to include all the stakeholder  
17 reactions and concerns to let the Commission what the status of the  
18 technical analyses are and provide recommendations on whether to proceed  
19 with rulemaking or other staff actions.

20 In addition, in that staff requirements memorandum, the  
21 Commission clarified that if a decision is made to proceed, additional  
22 informational stakeholder meetings would be held on a preliminary  
23 version of the Generic Environmental Impact Statement that would be  
24 developed if we were to proceed with rulemaking.

25 One the questions that has arisen is whether NUREG-1640,  
which, as we mentioned, is out there and will be discussed in further  
detail tomorrow morning, is in fact a standard and whether we have made  
a decision. I just want to clarify at this point that it is not a  
& standard, it is rather a calculational tool that we use to provide  
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1 currently out as a draft for public comment. I would like to again  
2 reemphasize that at this point the NRC has not set a standard, and you  
3 will hear more on NUREG-1640 tomorrow morning from Bob Nelson.

4 The next question is -- Why NRC? Not all radioactive  
5 material is under NRC jurisdiction, but only that material that is  
6 related to the fuel cycle or is made radioactive in a reactor. The  
7 individual states regulate the material that is naturally occurring or  
8 is produced by machine, and accelerator produced material. So,  
9 therefore, what is our role and authority?

10 NRC's authorities and responsibilities were established in  
11 the Atomic Energy Act, which was most recently amended in 1975, and we  
12 issue regulations that provide for the protection of public health and  
13 safety from the use of radioactive materials by our licensees. We also  
14 regulate and inspect the use of radioactive material to ensure it is  
15 being used in a manner that is adequate to protect health and safety.

16 What is NRC's interaction with the Environmental Protection  
17 Agency? Where do the roles differ? Well, first of all, the EPA does  
18 not regulate licensees, but EPA is charged to set generally applicable  
19 environment standards that NRC implements for materials that under the  
20 Atomic Energy Act. Currently, EPA is not considering rulemaking in this  
21 area, and, therefore, in the absence of an EPA standard, NRC has the  
22 authority to see radiation protection standards for its licensees.

23 As I mentioned earlier, NRC is still in the very early  
24 stages of considering alternative courses of action. What is our  
25 purpose in publishing the issues paper and holding these public  
meetings? Well, in considering how to proceed, and if we proceed, what  
the criteria should be in the event of rulemaking, we are looking for  
early and continuing discussion of all the issues before us.

The issues paper presents issues and alternatives related to  
the control of solid materials, and the purpose of the issues paper is

1 to solicit comments and foster discussion about these issues and the  
2 alternatives. The comments on the issues paper may be submitted in  
3 writing. They may be submitted electronically or here at the meeting.  
4 So the transcripts from these public meetings are being considered  
5 public comments and docketed as such on the public record.

6 We are holding four public meetings. This is the third in  
7 this series of four. The first one was held in San Francisco in  
8 September. Last month we held in meeting in Atlanta, Georgia. And next  
9 month, December 7th and 8th will be fourth meeting in Chicago.

10 At these we plan to listen to and consider a broad spectrum  
11 of viewpoints. The primary objectives of the public meetings are, first  
12 of all, to ensure that the relevant issues have been identified. As Don  
13 Cool mentioned, the issues paper lays out many of the issues, but we  
14 don't -- we are certainly open, if people believe that there are  
15 additional issues that we haven't included, to please bring those to the  
16 table.

17 We want to exchange information, not just between NRC and  
18 you, but also amongst yourselves; to identify the underlying concerns  
19 and areas of disagreement; and where possible, identify approaches for  
20 resolution of those issues; and based on these viewpoints, as I said,  
21 identify other issues.

22 We plan to continue to conduct the enhanced participation,  
23 including opportunities for both early and continuing open dialogue and  
24 input, and as we go forward, we plan to consider the public comments,  
25 the health and environment impacts and the cost effectiveness of  
alternatives as input to deciding on the course of action.

What process are we using? I have referred a couple of  
times to an enhanced participatory process. What do we mean? How does  
this differ from a typical rulemaking process? Typically, what we do is  
we solicit early and substantive input from the agreement states by

1 development of a rulemaking plan.

2           Following Commission approval of the rulemaking plan, we  
3 develop a proposed rule which includes consideration of environment  
4 aspects in accordance with NEPA and also cost benefit in accordance with  
5 an Executive Order. The proposed rule is published for public comment,  
6 along with the draft environmental assessment or Environmental Impact  
7 Statement, as well as the regulatory analysis. Then we consider the  
8 public comments and prepare a final rule.

9           What additional steps are we using in this case? As I  
10 mentioned, we have published an issues paper in the Federal Register  
11 Notice, and it is also available on the web site, seeking early input on  
12 the major issues. We are conducting these facilitated public meetings.  
13 We are placing all follow-on documents on the web site. In addition, as  
14 we would proceed along, we would publish all the staff drafts on the web  
15 site to again solicit comment as we are proceeding.

16           Periodic open working group meetings for individuals to hear  
17 what is going on and how the discussions are proceeding. Public comment  
18 capability by e-mail, web postings and a list server. We are going to  
19 have a dedicated web page for the clearance effort that would be  
20 available through the materials web page, NRC materials web page, as  
21 well we have got a list server that is available. As we mentioned,  
22 there are instructions out there for subscribing to the list server and  
23 that will again give an opportunity for folks to dialogue amongst  
24 yourselves. We will post when new documents have been put up on the web  
25 site using the list server.

          Also, we will have updates and briefings of the Commission  
that will be open to the public. There will be a Commission briefing in  
March of 2000.

          Then we are also asking, what other approaches could we use  
to further enhance the input? One point I would like to raise that I

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1 didn't include, that is now also considered in both the typical and an  
2 enhanced rulemaking process is that the National Technology Transfer Act  
3 of 1995 requires federal agencies to use voluntary consensus standards  
4 in lieu of government unique standards when developing regulations or  
5 preparing a rule. And if we don't use those, we are required to provide  
6 a reason to the OMB as to why we haven't. So, in those cases where  
7 there is a voluntary consensus standard, we would certainly also  
8 consider that. And in this case, there is one developed by the American  
9 National Standards Institute, ANSI.

10 And at that point I would like to turn it open and turn it  
11 back to Barbara for further discussion.

12 MS. STINSON: Okay. First, let's ask Mike Mattia to  
13 introduce himself. Welcome, we welcome you, Mike.

14 MR. MATTIA: Good morning, Mike Mattia, Institute of Scrap  
15 Recycling Industries.

16 MS. STINSON: Great. Thanks. Glad you can be here. A  
17 couple of other representatives I do believe are going to be attending  
18 the meeting, but their flights are coming in a little bit late. We will  
19 welcome them when they arrive.

20 Let's do two -- let's do three things in this session.  
21 First, if you have questions of clarification about the slides and the  
22 information presented by Trish, let's start with those. Then general  
23 comments about the content of those slides, and what we would like to do  
24 before the close of this session at 10:15 is give everyone around the  
25 table an opportunity to identify one or two critical issues that you  
would like to see addressed in the course of these discussions. We will  
make a record of those and look back to be sure that they can be  
addressed somewhere in the agenda, and if not, we will alter the agenda.

Again, what are the issues that are most critical from your  
perspective, that you would be uncomfortable if you left this meeting

1 without having those issues discussed in some form? If you don't see it  
2 on the agenda, we will find a place for it.

3 So let's start with questions of clarification. Anything  
4 anyone would like to clarify from Trish?

5 Mike, we are going to use name cards to identify your desire  
6 to speak. Go ahead.

7 MR. MATTIA: In your discussion, you talked about this is an  
8 NRC --

9 MS. STINSON: This is -- I'm sorry, I am going to do one  
10 thing. I should have mentioned this already. Instead of having to  
11 state your first and last name each time for the transcriber, I will try  
12 to clearly call on you first and last name and then you can go right  
13 into your comments.

14 So this is Mike Mattia.

15 MR. MATTIA: I just want a clarification that the NRC is  
16 getting involved because this is material that is under their licensing  
17 authority, is that correct?

18 MS. HOLAHAN: That is correct.

19 MR. MATTIA: But the material itself is under the possession  
20 of private entities, is that correct?

21 MS. HOLAHAN: The material itself is in the possession of  
22 licensees. Is that --

23 MR. MATTIA: The licensees, are they government entities or  
24 are they private entities?

25 MS. HOLAHAN: It depends on the licensee. In some cases we  
do have federal facilities that are licensees.

MR. MATTIA: So it can be both?

MS. HOLAHAN: Yes.

MR. MATTIA: Thank you.

MS. STINSON: Terry Civic. I'm sorry. Tom Civic. That is

1 habit.

2 MR. CIVIC: Thank you. I just have one question just from a  
3 general point of dealing with this process we are engaged in. Who is  
4 the customer to be benefited by this process? And I mean -- actually,  
5 who are the customers who benefit from the process? And when customers  
6 that have conflicting needs and wants, what criteria has been  
7 established to give deference to any particular customer?

8 MS. HOLAHAN: There isn't a single customers, there are many  
9 customers. The customers are the public. We have many different  
10 stakeholders, as I say, the public, the licensees, the Congressional  
11 interests, so there are a variety of different stakeholders or  
12 customers.

13 What we do in terms of developing the decision is, and this  
14 is why we are seeking as much input as we can get at this point, to look  
15 at all aspects, to see where there are areas perhaps of differences, of  
16 divergent opinions, and then looking at all the different alternatives.  
17 As I indicated before, we take all the public input and comments that we  
18 get, we look at the health and environmental impacts, and we also look  
19 at the cost effectiveness of all the alternatives. And together with  
20 all those, use that as input for the decision making which goes forward  
21 to the Commission.

22 MS. STINSON: Your question about deference in that decision  
23 making process, Tom, did we get at that?

24 MR. CIVIC: Yes. I don't know that you did. I guess the  
25 question is, I asked if there were any criteria already established on  
that, but I will accept the response, I will bring that point out that  
there are going to be issues, how we are going to get resolved.

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The other question I do have, I would like to see on the  
agenda, can the NRC provide a historical perspective regarding the time,  
the amount and types of material that have been free released on a case

1 by case basis?

2 MS. STINSON: Let me just address that point directly. We  
3 are going to, as you know, in Session 3, talk through the case by case  
4 scenario, and you will hear there from the NRC -- it is Session 3, 11:00  
5 today -- what the disposition of material has been to date and what  
6 record there is of it, and we will look at a couple of cases, recent  
7 examples of release and application of sort the case by case method of  
8 controlling materials. And so when we get into that discussion, if  
9 there is more that you would like to find out about, that would be a  
10 great place to raise it.

11 Okay. Paul Genoa.

12 MR. GENOA: Yes. Good morning. This is a question on  
13 really scope. And in your presentation, you make it clear that you are  
14 focusing on materials that have small amounts of radioactive material  
15 associated with them. And from a practical point of view, NEI, which  
16 represents 280 companies that use Spinker technologies in 20 nations  
17 worthwhile, on a day to day basis they practically need to move material  
18 in and out of their facilities to function. And our focus is really on  
19 having a standard that allows us to sort out materials clean and can be  
20 released from materials that need to continue to have control. And I  
21 just hope that we can work around that issue as we make our discussions  
22 today.

23 I understand that your only legal authority is over  
24 material, the radioactive material itself, but, fundamentally, from a  
25 practical point of view, you need to be able to sort what is clean from  
what is not. Thank you.

MS. STINSON: Are there other comments? Is that current,  
Mike? Your card?

MR. MATTIA: A new one.

MS. STINSON: Another one. Mike Mattia.

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1 MR. MATTIA: I guess two questions. One, we heard that the  
2 EPA decided not to pursue a rulemaking on this issue, and I would like  
3 to hear, you know, why they decided not to pursue that. And the second  
4 issue is, as I understand it, this is the not the first time that the  
5 NRC has examined this issue of potential free release of material. And  
6 also, for the record, I would like to hear what was the outcome of the  
7 first attempt to do that.

8 MS. STINSON: Why don't you take the second question, and  
9 perhaps John Karhnaek can answer the first. Go ahead, Trish.

10 MS. HOLAHAN: Okay. I will answer the second question then.  
11 I believe that what you are referring to is a policy statement that was  
12 issued earlier, about a decade ago, and that policy statement, the below  
13 regulatory concern policy statement was withdrawn. This is not -- this  
14 is going through the public process of looking at the need for a  
15 rulemaking as to whether or not there would be a standard set for  
16 control of materials. Is there material that could be -- and, again,  
17 the alternatives are not just free release, we are looking at a number  
18 of different alternatives and what is the best approach.

19 Don, do you want to add to that?

20 DR. COOL: Yeah, this is Don Cool. Let me elaborate just a  
21 little bit so that everyone has a very similar background. Back about  
22 ten years ago or so ago, there was an effort which the NRC went through  
23 to try and enunciate for itself the kinds of criteria that it might have  
24 with which it could then guide specific decisions and activities. The  
25 intention at that time was not that that policy in and of itself would  
specifically release any materials, specifically any building  
structures, but rather was intended as a statement of guidance which  
would then be worked through the particular administrative procedure act  
& processes, that would be for any activity.

It did not receive a great deal of favor, that is putting it

1 mildly, out in the various public areas, and the Commission withdrew it,  
2 and the Congress of the United States specifically directed that in some  
3 legislation. Nevertheless, the underlying issues with regards to  
4 amounts and kinds of materials, and the kinds of decisions which are  
5 faced by the Commission and by the licensees remain and, thus, the  
6 Commission is moving forward now, initiating a process to try and look  
7 at the kinds of standards, and actually going through the steps which  
8 would have been necessary in any case in order to develop these  
9 criteria.

10 The other thing that is probably important to have in the  
11 back of our minds is that the issue of releasing materials has been  
12 around for a much longer period of time than that. These questions have  
13 been raised since the beginning days of radiation and radioactive  
14 material. The Commission has in fact had in front of it before  
15 petitions to develop specific guidelines and criteria for releasing  
16 materials back in the '80s. There was one specific petition from the  
17 Department of Energy at that time. There was a number of studies that  
18 were done. And, in fact, the agency at that time denied that petition  
19 without prejudice, meaning that it could continue to look at it and  
20 could make other decisions in the future.

21 So this is yet just another step in an ongoing process that  
22 has been with me for a great deal of time.

23 MS. STINSON: John Karhnak.

24 MR. KARHNAK: About five or six years ago, EPA was looking  
25 at the things that we needed to look forward to our future and the kind  
of workload we might have, and we looked at the larger volumes of  
material becoming available because of decontamination, decommissioning  
of power plants, as well as the release of material from DOE sites as  
& they downgraded and closed some of their sites.

We were interested, of course, in health and environmental

1 consequences that might come as a result of these larger volumes of  
2 material being released, and we did a series of technical studies, as  
3 well as looking at some economic studies as well.

4 In the process, we found out that the material coming from  
5 the sites would be a very small amount compared to the amount of  
6 material that is recycled currently in the United States, to answer Mr.  
7 Civic's question. For example, and our numbers are out of date now,  
8 there was about 45,000 tons of material projected to come from these  
9 facilities, and we looked at ferrous metal now, I am not talking about  
10 all the materials, compared with about 45 million tons of ferrous  
11 material being recycled annually in the country.

12 In the process of doing that, we also found out that there  
13 were a number of instances where orphan radioactive sources ended up in  
14 scrap metal with potential for some serious health consequences. In  
15 fact, if you look at the statistics around the world, there is something  
16 like a hundred deaths attributable to radiation sources that have been  
17 handled improperly. We also became aware that as some of the political  
18 changes happened in Europe, there was increasing amounts of material  
19 that had the potential for being contaminated because of loss of  
20 control. And I think -- in fact, our recognition of this is bolstered  
21 by the fact that the IAEA has developed an action plan to look at these  
22 two items, orphan sources and stray radioactive material.

23 So in the process of looking at our priorities, we decided  
24 that, first, we would try to do something with orphan sources in this  
25 country, and, second, to work with the international community,  
specifically, the IAEA, to try to bring some control for materials that  
are released internationally. I hope that answers the question.

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MS. STINSON: What other questions do you have regarding  
initial presentation? Or we can move to comments that you would like to  
make on some of the material and information provided. Mike. Mike

1 Mattia.

2 MR. MATTIA: When you addressed the question of  
3 stakeholders, you said they were not only private entities but  
4 government entities that were also -- I mean licensees. Could you  
5 identify who some of those government licensees are who would be under  
6 this issue?

7 MS. HOLAHAN: Okay. The NRC regulate various federal  
8 facilities, the Department of Veterans Affairs, the -- for example, the  
9 National Institutes of Health is a federal facility that is regulated by  
10 NRC. The U.S. Department of Agriculture has a number of facilities that  
11 are regulated. Department of the Army, Department of the Navy, Air  
12 Force, several DOD facilities are also regulated by NRC for the  
13 materials area, not the weapons complexes.

14 MS. STINSON: It would be helpful just to summarize the full  
15 range of licensees to give people a window into the different sectors  
16 that NRC is actually authorized to license.

17 MS. HOLAHAN: Okay. NRC regulates a number, a variety of  
18 different types of licensees from the nuclear power plants to the  
19 non-power reactors, the research reactors, to research facilities,  
20 universities, research and development facilities, manufacturing  
21 facilities that would manufacture radioisotopes, a number of different  
22 types of facilities that would use industrial sources, that would use  
23 gauges.

24 We regulate radiographers that use radioactive material, for  
25 example, again in industry, a lot of the gauges would be used in  
everything from, for example, paper mills where they have density gauges  
to measure and also in terms of construction, again, they would be using  
gauges in those types of scenarios.

We also regulate a lot of the consumer type products, you  
know, production of smoke detectors, watches, things like that, again,

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1 that would use radioactive material. So it is a broad spectrum of the  
2 types of licensees that we would regulate.

3 MS. STINSON: Thank you. David Adelman.

4 MR. ADELMAN: I just have a general clarifying question.  
5 One concern that a number of the public interest groups have had is  
6 there has been sort of -- the way the whole issue has been framed is  
7 that there are case by case decisions that are being right now, and that  
8 is one side of the question, versus setting a general standard. And at  
9 the same time NRC is claiming that it is going to undertake a rulemaking  
10 that will consider all options. And one option that a number of the  
11 interest groups, public interest groups want to be fully considered is  
12 that regulation of the materials continues. I just want to get a  
13 clarification on how the issue has been framed and how regulating the  
14 material is going to be considered as part of this rulemaking.

15 MS. STINSON: Did you understand the question?

16 MS. HOLAHAN: No. I'm sorry. Can I ask you to --

17 MR. ADELMAN: Let me -- I guess I will try -- it seems like  
18 they are really -- the rulemaking has been divided down to either we  
19 maintain the status quo, which is a case by case review and then  
20 release, or, on the other hand, we set up a general standard and under  
21 that general standard releases will be made just generally, routinely,  
22 as long you can meet the standards of the free release standards.

23 One concern that the public interest groups have is, why  
24 shouldn't we continue regulation of these materials, or why shouldn't we  
25 consider different types of regulation of the materials? And that is  
something that you and other people whom we have been speaking to have  
said, yes, we want to consider those sort of options. I just want to  
get a sense of how you want to -- how you plan to take those sorts of  
considerations into account.

MS. HOLAHAN: Okay. I think, and as you mentioned, as we

1 have indicated, that, yes, we do believe that all the alternatives are  
2 on the table and as we go through and say either rulemaking or  
3 no-rulemaking, I believe that in order to do anything other than what we  
4 are currently doing on a case by case would require rulemaking. But in  
5 terms of what the rulemaking is, we would be looking at setting a  
6 standard, but that standard could be zero, and that includes one of the  
7 alternatives that are listed. Or there may be other alternatives. And  
8 so that is one of the purposes of these meetings is to get input on  
9 exactly what other alternatives should we be looking at in terms of  
10 trying to address the regulation and the control. And, yes, I would  
11 reiterate that we are looking at ensuring that there is adequate control  
12 of this material.

13 MR. ADELMAN: And even though the staff requirements memo  
14 talks about establishing a standard that is above background, you still  
15 feel that you folks, or the staff people, have the authority to look at  
16 a zero standard. That is definitely something you are going to consider  
17 as part of this rulemaking, even though the dictates of the staff  
18 requirements memo talk about something that would -- seems to exclude  
19 that?

20 MS. HOLAHAN: I think it is fair to say that at this point,  
21 yeah, all options are open for consideration.

22 MS. STINSON: And the reason, as I have heard from various  
23 angles, some of the questions in the debate on this issue, is because of  
24 the more recent staff requirements memo which does direct the staff to  
25 consider all options fully?

MS. HOLAHAN: Yes.

MS. STINSON: I mean is that correct?

MS. HOLAHAN: Yes, consider all options and then to provide  
a recommendation to the Commission based on what we have heard as a  
result of these meetings, and then also at that point and it clarifies

1 it if we decide to proceed with the rulemaking, then we would continue  
2 with the public involvement, too.

3 MS. STINSON: And just to clarify the earlier point that you  
4 made, David, because I have heard it described in many ways, I believe  
5 that the nomenclature, not to put words in your mouth, but the  
6 nomenclature used by NRC is they consider regulatory control to be their  
7 current -- currently, their method of regulatory control is the case by  
8 case method. So that may be a point at which there is a difference of  
9 view, but in terms of the language actually used, NRC considers that to  
10 be regulatory control, others may not. Is that correct, the case by  
11 case approach?

12 MS. HOLAHAN: Yes.

13 MS. STINSON: Okay. Steve Larick.

14 MS. LARICK: In order to do a cost benefit analysis, you are  
15 going to need to have a good idea of volumes of material. I have seen  
16 and heard different estimates of how much of this material is out there,  
17 both steel and non-ferrous. Is it possible that you, or maybe someone  
18 else, is there anyone who could point to the definitive document or  
19 publication that gives the best estimate of how much of this material is  
20 there in tons?

21 MS. HOLAHAN: That information we are currently working to,  
22 to -- as part of the development of the technical basis, one of the  
23 questions we are trying to get at is how much material there is  
24 potentially for release. Now obviously, the amount of material will  
25 depend on what, what the standard is, if we set a standard that would be  
available.

MR. LARICK: Are there any of the estimates that have been  
discussed in some of these meetings --

MS. STINSON: Can you pull your mic a little closer, Steve?

MR. LARICK: Yes. Are any of the estimates that have been

1 discussed at some of the previous meetings or some of the presentations  
2 that the NRC folks have made that you could at least point us to that  
3 are, give us a hint of, of the magnitude that we're talking about?

4 MR. NELSON: Bob Nelson, NRC. I don't think we're there  
5 yet. John Karhnaak mentioned the EPA work, study that they did several  
6 years ago. There are some numbers in there. You might want to look at  
7 that. We're trying to, to -- we are looking at that question right now,  
8 but we don't have any numbers to relay.

9 MR. HUFFORD: Tony Hufford, NRC. We --

10 MS. STINSON: A little bit closer a mic, Tony.

11 MR. HUFFORD: All right. Tony Hufford, at the end of  
12 Session 3 we did add some information on this because this question has  
13 come up. We'll present the information that EPA developed in 1997.

14 MS. STINSON: Val Loisel, did you have a comment on this  
15 issue, then we'll come back to Dan Guttman.

16 MR. LOISELLE: Yes. One of the conferences that Armour  
17 supports annually is the beneficial reuse conference in Knoxville,  
18 Tennessee. In assimilating the inventories that have been done  
19 throughout the DOE complex and the power plants, we do have a number and  
20 we would represent that as a range because these inventories and  
21 estimates have varied all over the place are not actually coming to be.

22 They're also inventories that would transcribe perhaps a  
23 40-year time frame because they're highly related to the decommissioning  
24 process. But if we take a number for the Department of Energy, the most  
25 popular number seems to range in the 1 million to 1.8 million tons  
range.

MS. STINSON: Of?

MR. LOISELLE: Of metal.

MS. STINSON: Of all types?

MR. LOISELLE: Of all types of metal, not including building

1 materials, but just metal. And the similar number for the power plants  
2 is in the range of 600,000 tons of metals. And so that gives you an  
3 idea. And that's not a here today-tomorrow idea; it's like a 40-year  
4 idea, if you were to proceed in decommissioning this and decommissioning  
5 that. And as we all know, it's not very likely that all things will be  
6 decommissioned. Many of the power plants as an example are going for  
7 life extensions, so that 40 years might be longer than that. But  
8 anyhow, that's the kind of numbers that we use or think about.

9 MS. STINSON: Thank you. Dan Guttman?

10 MR. GUTTMAN: Yeah. I take from Steven and David's  
11 comments, Michael, we've segued into somewhere between the questions to  
12 the NRC and --

13 MS. STINSON: Yes. Now we're into comments and --

14 MR. GUTTMAN: This is a combination of the two.

15 MS. STINSON: Okay.

16 MR. GUTTMAN: One is, we share the views stated by David  
17 that it does appear that there's been a prejudgment here, and the burden  
18 is on the Commission to do something quite affirmative and quite clear  
19 to show that issues have not been prejudged. You cant just as a  
20 commission say, now that it's pointed out, we prejudice. Tell the staff,  
21 oh sorry. You've got to do a little more than that.

22 And the "more" that we are particularly concerned about is,  
23 there is nothing in the NRC's presentation -- nothing -- that addresses  
24 this core issue here, which isn't this arid technical issue of, you  
25 know, X millirems versus Y. But the historic and continuing evidence  
that there are no institutional competencies capable of releasing  
material to the public lawfully, safely, and with integrity -- by the  
way, it's not too strong to use the word ethically. And here are six  
items which I trust in your affirmative staff mode you will help us get  
to the bottom of, whether through your own Commission's records, or

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1 through whatever you have to do with your cohort, fellow-stakeholder  
2 agencies.

3 One --

4 MS. STINSON: Dan, can you just pull your mic a little  
5 closer to you.

6 MR. GUTTMAN: One, the lawfulness. Why is it that we're  
7 sitting here without any mention of the largest ongoing recycling, which  
8 Val Loiselle has testified in the case, at Oak Ridge, where a Federal  
9 judge has stated she can't hear the case for a reason having to do with  
10 the technical operations of 113(h). The Federal government has  
11 affirmatively precluded PAICE and NRC and others from bringing a  
12 lawsuit, but the Federal judge went out of her way to say that this is a  
13 lawsuit was merited, that DOE and BNFL and MSC are acting in violation  
14 of environmental law. Where is that in your rulemaking? What does that  
15 say to the public about the ability to continue prospectively.

16 Two, we now know that in fact the ongoing recycling in  
17 Tennessee may itself be profoundly lawful without any authorization --  
18 an elegant letter. I'm sure you all in the room have seen it.  
19 Congressmen Dingell, Clink and Markey, some very serious, concerned  
20 people, have decades of oversight of this Commission, have asked you  
21 very pointedly where is the authority for Tennessee?

22 David Adelman and I, on behalf of PAICE and RDC, are still  
23 awaiting a response from Tennessee as to what their authority is for  
24 acting to issue this recycling license. How can you conceivably talk  
25 about future releases when what you have before you appears to all eyes,  
including a Federal judge, to be unlawful. What are you going to do  
about that?

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Two, absence of public trust. As you all know, the  
President's Commission on Human Radiation Experiments found that this  
Commission's predecessor, AEC, at its onset had a history, hidden secret

1 until 1995. President Clinton got it declassified -- keeping  
2 information from the public and workers secret, not for reasons of  
3 national security, but to avoid embarrassment. We now see, from the  
4 Paducah stories that the Post and others in David's organization has  
5 brought out, this is not a story that ended. This secrecy went  
6 underground. In 1960, in Paducah, we now see that this Commission's  
7 predecessor, the AEC, said let's not test workers because they may make  
8 hazardous duty claims.

9 In the BNFL Oak Ridge recycling, we now see in secret  
10 documents that David and we obtained from litigation, there was a  
11 calculated effort with government acquiescence, to avoid this  
12 Commission, EPA, and DOE authority by going to Tennessee. And a secret  
13 strategy memo of MSC and BNFL said we've gotta do this quickly because  
14 there's no open proceedings in Tennessee and the environmentalists may  
15 get some way of publicly participating if we don't do this quickly. The  
16 question is, when are we going to look at that.

17 Safety -- competency, safety, in the MSC licensing, we found  
18 out that the Department of Energy gave a quarter-billion dollar  
19 non-competitive contract to this company without looking to see whether  
20 it complied with minimum worker protection rules. After the audit done  
21 in 1998, following this award, it found gross non-compliance with EPA  
22 regulation, Mr. Karhnak. Where was EPA?

23 With OSHA, no quality controls -- no training. This was  
24 after years of Tennessee, and presumably NRC, and DOE oversight, because  
25 DOE had an ongoing contract, because DOE had an ongoing contract. Why  
should we be talking about millidecimals of nonocuries when we don't  
have a regulatory structure.

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Conflict of interest -- I was extremely disturbed to walk in  
today, find on a desk labeled "NRC Materials" an official document --  
NUREG 1640 Vol. 2, USNRC on the cover. This isn't the U.S. NRC

1 document; it's prepared by a company called SAIC. There are two Federal  
2 agencies which Congress has seen the need to statutorily be quiet, to  
3 follow conflict of interest rules in their contracting. One is DOE and  
4 the other is this agency.

5 SAIC, I assume you all know, is a major participant in the  
6 very BNFL program for which the Federal judge has found there is  
7 non-compliance with EPA, with NEPA. SAIC is out there soliciting  
8 business in recycling. As recently as August 20th, the documents that  
9 we've got, it solicited business from another DOE site in recycling.  
10 How can this agency, this Commission, expect to be taken seriously if it  
11 puts out in its document something that is so patently tainted, we don't  
12 even know whether you know whether you're relying on the critical  
13 background data.

14 So what are you going to do to get SAIC to fully disclose  
15 everything that it's doing in this area to put on your brochures, this  
16 is a tainted document, and to give people like David Adelman the  
17 opportunity to get expertise in to provide some little fair -- you know,  
18 they want to level the playing field here. It would be nice for the  
19 Commissioners to say, gee, instead of using the industry's consultants  
20 without telling anybody, we'll also make this a real good alternative by  
21 getting Judy Janisrood and other folks in to consult.

22 Finally, workers, the BNFL/MSL licensing process, not only  
23 was secret, not only was secret, in the court case we were give under  
24 secret order, protective order by MSL the documents that had the risk  
25 analysis. You have a recycling of releases for public use proceeding in  
secrecy. We got those documents. There was no worker analysis. As far  
as we know, there was no analysis of worker safety. All the complex  
questions of pathways -- what pathways? Where? No public discussion.  
No analysis. These are profound institutional problems.

Finally, the question you all have been asking and the folks

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1 in the steel manufacturers and others asking about a case-by-case  
2 history of what this Commission has done. I'm sure, Mr. Nelson and Mr.  
3 Cool, you're aware now that in 1953, Union Carbide's predecessor asked  
4 this Commission for permission to release into commerce contaminated  
5 nickel from the gaseous plants.

6 Query[?] Can you tell us now whether in fact we're here for  
7 a new proposed rulemaking about things in the future, or whether this  
8 has been going on in light of what we've now learned about Paduccah and  
9 other sites? Can this Commission publicly account for all of the  
10 radioactive material under its jurisdiction, some of which may have been  
11 going out under its own watch, or certainly under its predecessor's  
12 watch.

13 So the basic point is, we appreciate the opportunity for  
14 input, but we're looking not for the opportunity for input because we've  
15 made our point. We want to know, what are you going to do about this  
16 unlawfulness? What are you going to do about your oversight of  
17 Tennessee? What are you going to do about conflict of interest? What  
18 are you going to do about telling the public facts about where you've  
19 gone and where, what you've put into people's food and cereal and -- so  
20 it's a question of what our government is going to tell us. Where are  
21 the answers and what is opportunity? We'd be happy to sit down with the  
22 staff and give you detailed questions. And we've presented -- I have  
23 for anybody's curiosity a listing of the questions we have. Thanks.

24 MS. STINSON: Thank you, Dan. And again, there's a very  
25 full range of issues that need to be addressed and a fairly dense agenda  
for doing that. I'm going to turn to Don and maybe ask you to provide  
some initial response to some of these questions. And we'll try to be  
sure that in the course of the two days that we do touch on each of the  
areas that you've raised, after that we'll turn to Mike Mattia. Don?

DR. COOL: Thank you. You've raised some very good and some

1 very serious questions, things which the Federal government as a whole  
2 -- not just this agency -- have to address, and have to address in a  
3 public forum. I of course am not in the position to speak for the  
4 Department of Energy, nor is this probably the right place and time to  
5 get into the issues associated with some of those activities and the  
6 pending lawsuit action.

7           There are some things that the agency has to look at very  
8 hard. And we are considering and have started the process to prepare a  
9 response to the very detailed letter that Congressman Markey, Clink and  
10 Dingell have provided to us with regards to some of the legal issues.  
11 Again, I don't think at this moment, having just received that letter  
12 late last week, that it would be appropriate to try and go into those  
13 level of details, but I can assure you that those are being looked at  
14 very hard at all levels and will be carefully looked at by the  
15 Commission before that response is given to Congress.

16           One of the things that I'm in hopes that we can get to is in  
17 fact the question with regards to whether or not people do in fact  
18 comply with requirements, and whether or not the requirements that we  
19 talk about, whatever they may be, are verifiable in some ways so that  
20 all of us on both sides of the aisle, and up and down, can have  
21 confidence that in fact the structure that gets laid out is in fact  
22 being accomplished, because that is very important and critical to the  
23 process.

24           This proceeding is a public proceeding and we very much want  
25 to get the input and discussions here. And part of the effort that we  
are ongoing and which I believe the Department of Energy is engaging in  
now is to understand exactly what did take place in the past at various  
facilities.

          Again, I'm not really in the position to speak for the  
Department or for other individuals who would now have those records.

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1 It's my understanding that they are taking a hard look at trying to  
2 understand what, those did take place. But these are very serious  
3 issues, they are things which do need to come to light and be resolved  
4 in the Federal family. And this piece of the discussion is in light of  
5 some of these and in light of the current situations and decisions which  
6 need to move forward -- how to best do that so that public health and  
7 safety is properly protected in a verifiable manner, and with the  
8 participation of all of the folks who are interested in it.

9 MS. STINSON: Dan, by bringing about a list of comments and  
10 issues I think has started us into the discussion -- I guess that's what  
11 you were asking; I didn't realize it -- but has started us into the  
12 discussion listing out critical issues that should be addressed in the  
13 course of our two-day discussions. So I'll ask you all to assemble your  
14 thinking on that. We'll go around the table and give you an opportunity  
15 to mention the one or two or six issues that you think are most  
16 critical. And we'll also ask you to reserve the right to say ditto for  
17 someone who went before you and to not necessarily have to repeat each  
18 one. We'll try to get through all of this by 10:15.

19 In the meantime, Mike Mattia and then John Wittenborn.

20 MR. MATTIA: A follow-up to a previous question. In  
21 responding to the range of licensees under the control of the NRC, you  
22 mention that in the private sector there were power plants and research  
23 facilities that in the government realm, there was facilities such as  
24 NIH, the Department of Veterans Affairs, and the Department of the Army  
25 and Navy, but not weapons facilities. Is that correct?

Would then the Department of Energy and their various  
weapons materials facilities be an NRC licensee that is responsible to  
the NRC for their facilities?

MS. HOLAHAN: No. We do not regulate the DOE facilities.

MR. MATTIA: So, as a follow-up, does the NRC have

1 responsibility now or would it have responsibility under this proposed  
2 possible rule for release of material from DOE facilities?

3 DR. COOL: This is Don Cool. That's a very good question.  
4 The answer in today's environment, as I understand it, is no, in terms  
5 of the DOE's decision to release from their facilities. However, to the  
6 extent that that movement of material may then come to a facility that  
7 is licensed by the Commission, that material at that point would come  
8 under the jurisdiction of either the Commission or the appropriate  
9 agreement state.

10 MS. STINSON: John Wittenborn?

11 MR. WITTENBORN: I guess I was going to raise what I think  
12 is a critical issue, and I'm not sure how you want to proceed. You want  
13 to just do this?

14 MS. STINSON: Yes. Go right ahead, and then we'll go around  
15 the table.

16 MR. WITTENBORN: Okay. The one I wanted to raise sort of  
17 follows up with a comment that Dan made. And that is, what I haven't  
18 seen in any of the papers that I've looked at so far is a good  
19 explanation of NRC's legal authority to set these standards to authorize  
20 the release for the material from these facilities. And I'd like to  
21 make sure that that, somewhere in the course of the day, is addressed.

22 MS. STINSON: Okay. Good. Thank you.

23 Anyone else want to offer just general comments?

24 [No Response.]

25 MS. STINSON: Okay. Why don't we start the process of  
asking folks to highlight the most critical issues that you think should  
be addressed, things that are both on the agenda, and if there's  
anything that doesn't quite fit in the agenda and you'd like to see  
& addressed. And we will then figure out how best to address all of these  
in the course of our two days of discussion. Steve Larick.

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1 MR. LARICK: I've got two items that I jotted down. First  
2 of all, I've seen in notes and heard that disposal and reuse are not  
3 considered a viable option at this point. And based on what I've read,  
4 I don't know that that's been fully investigated. It seems, it seems  
5 like everything is focusing on recycling and disposal and reuse have  
6 just been taken off the table. And I'm not satisfied that those aren't  
7 viable options.

8 MS. STINSON: Reuse without recycle.

9 MR. LARICK: Yes.

10 MS. STINSON: Uh hmm.

11 MR. LARICK: The other thing is that the traceability of  
12 this material -- one of the problems with our industry is this idea of  
13 free release versus some type of a controlled release. Once you lose  
14 the ability to trace where that material goes, a lot of these risk  
15 assessments that have been done, I don't know how you can take into  
16 account all the pathways if you, you basically lose control of all the  
17 material once it goes out the gate. So it seems like they've been  
18 saying that they've got it all figured out as to what the potential  
19 exposures would be, but how can you ensure that? Once the material has  
20 been released, there's no traceability.

21 MS. STINSON: Okay. Certainly in session 4 -- for your  
22 first question -- certainly in session 4 other alternative, I think we  
23 should explore in depth the disposal and reuse options. And in terms of  
24 traceability, I know it comes into the discussion on environmental  
25 health impacts in terms of pathways, but perhaps there are other ways to  
address that in the course of the discussions as well. Anything you  
want to add, Trish?

MS. HOLAHAN: No. I think it's covered.

MS. STINSON: David, critical issues?

MR. ADELMAN: I guess there are three issues that I'd like

1 to raise. The first is just the realities of implementing a standard  
2 and examples of concerns that we have that we want to obtain more  
3 information on would be incidence of false negatives. So for example,  
4 you do a survey, you end up surveying it, and you get a result that says  
5 it's fine when in fact it's not. And as we know, with any of these  
6 sorts of technologies, there's uncertainties involved in actually using  
7 them. The instruments themselves, as well as whomever, whoever is doing  
8 the surveying itself.

9 And then from a regulatory perspective, the fact that the  
10 economics in some ways strongly promotes releasing as much material as  
11 possible without cleaning it, and also minimizing survey costs, which  
12 can also be quite expensive. So, regulatory efforts to minimize those  
13 negative economic incentives.

14 The second is, looking at some of the technical  
15 uncertainties -- and I'll just mention two right now. One is the  
16 aggregate of potential releases. And that's going to be influenced by  
17 the different pathways that the radionuclides go into, so whether they  
18 go into commercial products or they go into metal slag, for example.  
19 And then just the time, the half-life of the radionuclides. Those sorts  
20 of concerns that I think many citizens have great concern about that.  
21 Over time, once you set a standard, you're going to see a gradual  
22 increase in the amount of radiation that people are exposed to.

23 And then secondly, limits on survey methods, which sort of,  
24 in some ways, goes back to the implementation constraints. But again,  
25 uncertainties associated with them -- can you set a standard that is  
both safe and one that you can reasonably survey for those amounts of  
residual radiation.

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And then the third issue I'd like to mention is just public  
confidence. I think that many of the issues that Dan raised are issues  
of course that we share, and all of the public interest groups that are

1 concerned about this issue have raised. A number of, I think,  
2 challenges that the NRC faces are, include just the history of people's  
3 relationship with the Department of Energy, as well as the Nuclear  
4 Regulatory Commission.

5 NRDC has worked on DOE sites for many years. We're looking  
6 at a clean-up that's going to cost on the order of \$250 billion. And a  
7 lot of that has arisen because of improper management of radioactive  
8 materials. So you have this long legacy of mismanagement. And now NRC  
9 and DOE are proposing to release large quantities of these materials to  
10 the public. I think that, given that history, there ought to be a very  
11 high level of responsiveness to public concerns because the history is  
12 not a good one.

13 And then, again related to some of the issues that Dan  
14 raised, just the concern that this is an issue that's been prejudged. I  
15 think that NRC's endorsement, implicit or explicit, of the Oak Ridge  
16 project in some ways is an endorsement or prejudgment of this  
17 decisionmaking. It's the first large-scale release of radioactively  
18 contaminated materials, on the order of 100,000 tons. And with NRC's  
19 endorsement of that project, I think that many of the citizen's groups  
20 feel that this is a foregone conclusion -- what's gonna happen here.

21 And then secondly, if you look at the Secretary's staff  
22 requirements memorandum, I think that that's something that's really  
23 strongly influenced public groups' impression of how this is going to  
24 proceed. And then you put that also in a further context of the BRC  
25 rulemaking in the early part of the 1990s when many people felt like a  
clear statement was made to the NRC. "We don't want this; we don't  
think this can be done safely." I think that all those sorts of  
concerns and issues need to be taken into account in the rulemaking that  
you're proposing right now.

MS. STINSON: So if I have your issues, in terms of the

1 survey methods and catching false-negatives, etc., survey discussions  
2 generally come up -- they seem to naturally arise in the, how can solid  
3 material controls be assured, in session 5. So make sure, David, that  
4 we get to those issues when we get to Session 5.

5 Economic impacts and incentives for reducing negative  
6 economic impacts are largely in Session 8.

7 The cumulative issues are ones that the NRC is studying, I  
8 believe, so I think in Session 6 we should be sure that we talk not only  
9 about soils analysis and the NUREG 1640, but future analysis on  
10 cumulative impacts. So make sure that we hit that.

11 In terms of gaining public confidence, you know, that is  
12 something where I think you can give some advice to the NRC throughout  
13 this discussion. But really in Session 1, what we've just be through,  
14 we were hoping to get more of a discussion of the enhanced participatory  
15 process and what steps should take place from here forward.

16 And I'll just tell you that Mike Veiluva is coming from  
17 Western States Legal Foundation. He'll be here, you know, a little bit  
18 late. His flight arrives from the West Coast. He has a lot of thoughts  
19 on this, so I don't it's a problem that we haven't done that. But we  
20 probably should make sure that we hit those issues squarely later on in  
21 the afternoon today, or by first thing tomorrow, and have an explicit  
22 discussion of the steps from this point forward of an enhanced  
23 participatory process.

24 In terms of prejudgment, I think that that -- from what I  
25 understand from many stakeholders, you all are going to challenge the  
NRC to address those questions throughout this process. So unless there  
is a -- I mean, maybe there's an opportunity for NRC staff to make some  
specific statements on that issue. It's something that should permeate  
the discussions.

I'll try to be briefer in my summary of where these issues

1 are going to come through because we do want to get to everyone. If you  
2 have -- again, if you can say ditto for the person next to you, please  
3 do so. Dan, did you have anything else you wanted to add to your list?

4 MR. GUTTMAN: I guess -- I mean, I had six items. I don't  
5 know whether you want to put them up.

6 SPEAKER: I got 'em up.

7 MS. STINSON: We got 'em.

8 MR. GUTTMAN: Okay. I also want to punctuate, it's a very  
9 simple point on the judgment. And I'm just still so shocked by this  
10 document. The SAIC document says, "This report documents the technical  
11 basis for the NRC to use in developing regulatory standards." So the  
12 quick test of your bona fides is I assume this document will be no more.  
13 This document will be thrown out and you'll replace it by independent  
14 and truly neutral expert.

15 It's simple; this isn't a very difficult question. You  
16 can't have a rulemaking that's got any integrity that's relying on a  
17 document produced by a participant in not only ongoing recycling in a  
18 solicitor recycling business, but an unlawful recycling.

19 So I assume you'll come back from lunch, having consulted  
20 with the Commissioners, and they will have told us that they've got such  
21 an eager interest in showing us their integrity that they're going to go  
22 out and get somebody neutral and independent instead of a conflicted  
23 contractor. That's an easy, concrete, and up-front essential step to  
24 demonstrate, at minimum, that this is not prejudged. So I'd like that  
25 as a request, a motion, or whatever you've gotta do to say -- I think  
it's essential and we're going to continue to complain about it until  
you replace this document.

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MS. STINSON: Thank you, Dan. And Bob Mack, later on in  
Session 6, has a responsibility for addressing the questions that you've  
raised.

1 MR. GUTTMAN: Good. We look forward to it.

2 MS. STINSON: Robert?

3 MR. SENSENY: I would just note that, given the global  
4 economy, the question in my mind is how NRC's import/export regulations  
5 might be affected by this. At their recent general conference of the  
6 IAEA, they did approve an action plan on control of orphan sources. We  
7 might be able to get a copy of that and make that available to people  
8 here as well, just as additional information.

9 MS. STINSON: Okay. Great. And then in the next Session,  
10 we'll specifically talk about some of the IAEA activities of recent.  
11 Dan? This is Dan King.

12 MR. KING: Yes. Once again, I say I represent my tribe.  
13 And one of our big questions, I guess, is the proposed rulemaking and  
14 that. I've attended meetings in June with other tribes, along with our  
15 tribal representatives from other government departments. And we walk  
16 away with the attitude that this is just a pat on the back to get us out  
17 of the way or whatever.

18 They were supposed to have government, the government  
19 relationships that even our tribal liaisons don't even understand what  
20 the tribes are about. They don't listen to our issues. And a lot of  
21 concerns are there again. And even in here, in the decision making,  
22 things like that, we want to know who is responsible.

23 We're never notified when transportation comes through our  
24 reservations -- other issues like that. We're concerned very much about  
25 that because of our culture and what we believe in. And it has a lot to  
do with our tribes -- not just the Oneida tribe, but many tribes. And  
to us, again, it's the education, the tribal liaisons not knowing who we  
are, what we're about, and basically all the government people not  
& knowing who we are.

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We're always left out on policy issues until it's too late,

1 until something comes up and there's a roadblock there. And then again,  
2 they forget. They forgot about the native tribes and their reservation,  
3 and the sovereignty issues. And then it seems to flow back to the  
4 tribes because we're the hold-up. Those are things I think that  
5 sometimes need to be discussed in this issues.

6 MS. STINSON. Good, Dan. I hope you continue to remind us  
7 throughout the meeting where government-to-government discussions and  
8 information can be more integrated into the rulemaking process or the  
9 decisionmaking process NRC's proceeding with. Eric?

10 MR. GOLDIN: I don't have any comment.

11 MS. STINSON: Okay, nothing to add. You can also pass.  
12 Kathleen?

13 MS. MCALLISTER: Kathleen McAllister, E-23 Committee Chair.  
14 I believe what we think is really of great concern is --

15 MS. STINSON: -- what the Committee feels is of concern is  
16 the fear of a lack of consistency with a national standard, because  
17 until there's a consistency and a limit on releases of materials that we  
18 can all embrace as scientists and as people -- and even though I  
19 consider myself a scientist, I don't consider myself an  
20 anti-environmentalist. I'm an environmentalist also.

21 But until we have a consistent standard -- and I view it as  
22 a consistent limit which is scientifically defensible and protective of  
23 human health, I don't know that we will really gain very much confidence  
24 of our professional societies or the members of the public.

25 It's really important that we work together to establish a  
standard that the DOE, that the Department of Labor, that the Health  
Physics Society -- but all of the people that have an interest in the  
standard can embrace and feel comfortable with, and that is what the  
purpose of this meeting is about.

I would prefer not to look back because I think that there

1 is a gap that, particularly where volumetrically contaminated materials  
2 are concern. And that gap is recognized; it's quite forthrightly stated  
3 in NUREG, in the NUREG that is being discussed. Nobody's hiding behind  
4 anything to say that there's a lack of uniformity that needs to be  
5 addressed with this process of looking at rulemaking.

6 So I'd like to look forward and think that perhaps all of  
7 the people in this room, with their divided interests, might work  
8 towards looking toward a consistent standard that will be usable for all  
9 of us, because until we have a consistent standard, I'm concerned that  
10 the cumulative impacts won't be fully analyzed and we won't be able to  
11 come out with a consensus agreement until that occurs.

12 MS. STINSON: Val?

13 MR. LOISELLE: Armour's here just to provide information and  
14 be helpful in any way we can.

15 MS. STINSON: Martin Nusynowitz.

16 MR. NUSYNOWITZ: I'm going to speak as a practitioner and  
17 teacher of nuclear medicine. I've been practicing it for 37 years, for  
18 most of my army career of 20 years, and following that as a professor at  
19 the University of Texas. I'm not only speaking as an advocate for my  
20 profession, but for my patients, and in a way, for all of you.

21 This technology -- that is, the application of radioactive  
22 materials for diagnosing and treating disease with its life-saving and  
23 health-preserving implications apply to all of us in this room. Almost  
24 a third of us will have had cancer sometime in their life. Many of us  
25 will get or have had severe heart disease, lung disease. Some  
unfortunately will become demented, have renal disease, a variety of  
other conditions.

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And so, what I want to state is that whatever controls are  
deemed appropriate in handling these solid materials, that three  
principles served. The first principle is that the controls should

1 provide adequate protection for the members of the profession -- that  
2 is, the physicians and the technologists and the others involved  
3 practicing nuclear medicine -- and for the patients and for the public.  
4 That's the first principle.

5 The second principle is that the controls should not be an  
6 impediment to delivering healthcare or to restricting healthcare to you  
7 and your families and the rest of the public who can benefit  
8 tremendously from these modalities.

9 And thirdly, whatever methods you use to implement such  
10 controls be practical, simple, and economic, as well as effective.  
11 Thank you.

12 MS. STINSON: Jill Lipoti?

13 MS. LIPOTI: I also have three points. The first point is  
14 one that's of interest to a number of the state governments. We want to  
15 be sure that there are steps taken to show that the clearance levels  
16 don't increase the number of radiation incidents where scrap metal  
17 detectors or landfill detectors alarms go off and we have to respond to  
18 what is essentially a non-incident. So that gets to the issue of  
19 tracking of these cleared materials.

20 The second one is the issue of oversight and enforcement of  
21 standards. Dan Guttman spoke about what has occurred in the past; I  
22 want to talk about what might occur in the future. You have a pilot  
23 program to decrease the number of inspection hours at nuclear power  
24 plants, based, on a risk-informed basis. And I would submit that  
25 release of materials, clearance materials, is probably a very low risk  
and probably would not garner very many inspection hours, given that the  
inspector has to consider where they spend their time and probably spend  
their time on things that have a direct bearing on margin of safety and  
accident precursors.

At the same time, for those nuclear power plants which have

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1 been shut down and are in the process of decommissioning, the target  
2 level of inspection hours is 666 hours per year. And so the concern is  
3 about oversight of the, whatever clearance levels are used. I also want  
4 to mention that these levels could be used by DOE facilities other than  
5 those that have been mentioned previously, and DOD facilities. The  
6 question there, of course, is where is the oversight?

7 The last issue that I want to talk about is an issue of  
8 policy setting. This nation has really tried to encourage recycling.  
9 And we've tried to encourage beneficial reuse of materials like sewage  
10 sludge. And I know that soils and sludge are listed as one of our items  
11 to get to in a further session. But if you're going to encourage  
12 recycling of metals, then you have to be concerned whether the release  
13 of slightly contaminated metals might increase the pressure for public  
14 consumption of freshly mined materials, and whether that's a really good  
15 direction for our country. Thanks.

16 MS. STINSON: John Karhnaak, critical issues that you want to  
17 see addressed that may not be on the agenda.

18 MR. KARHNAK: Yeah, I think -- I just want to reiterate that  
19 Session 7 deals with health and environmental impacts. And it's very  
20 important, we believe, that a proper and accurate analysis of those  
21 health and environmental impacts be done. And looking at all of the  
22 various approaches. And I think that takes into account many of the  
23 other issues as well, the technical issues such as proper monitoring and  
24 false alarms and that sort of thing, as well as some of the policy  
25 issues that have been raised. So I think they all feed back eventually  
into the health and environmental impacts.

MS. STINSON: Thank you. Andy. Andy Wallo?

MR. WALLO: Yes. I think I'd just repeat some of the  
comments of the others, so I'll go ahead and pass.

MS. STINSON: Okay. Thank you. John, anything to add?

1 MR. WITTENBORN: Just one, following up on Jill's comment.  
2 The steel industry has made significant efforts to encourage the  
3 recyclability of metals and to encourage public trust in the  
4 recyclability of metals. We're very concerned about the impact that  
5 this program could have on the public's trust and confidence in the  
6 products that we produce.

7 MS. STINSON: Paul?

8 MR. GENOA: Yes. I'd like to make just three points. The  
9 first, I think -- the reason I'm here today, representing users of  
10 nuclear technologies -- is I believe a safe, consistent, practical  
11 standard is in everyone's best interest. Fundamentally, having a level  
12 that allows you to determine what is claimed from what is not is  
13 essential. And I think many of the points made around the room would  
14 recognize that.

15 Second is that the standard really needs to cover all  
16 material and have confidence that these facilities are properly  
17 regulated, unless all materials that leave the site meet some criteria  
18 that's been determined and implemented. And when I say "all materials"  
19 -- I think I get to someone else's comment on the other side of the  
20 room.

21 I've participated in the last two workshops. They've been  
22 very informative. I've learned a lot. But what I've learned is there's  
23 a great concern about recycling of steel. Recycling of steel is  
24 probably, in my estimate, non-quantitative -- about 20 percent of the  
25 problem or less. I mean, the issue is clearing materials. Most of  
those materials are reused. Many of those materials go for disposal. And  
really, a minority of the material goes into recycling.

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But clearly, those materials need to be addressed. And I  
think perhaps the impression given from 1640 and other documents tends  
to concentrate everyone's focus on recycling. And that may be an

1 engineer's approach at looking at the worst-case situation. Because  
2 clearly, when you do the analysis for recycling and find in the end of  
3 the analysis that you're protective of the public and safety in that  
4 situation, that's sort of a worst-case situation. Perhaps it makes it  
5 easier to analyze the rest. But I would just want to recommend that we  
6 focus on solving the entire problem.

7 And finally, the third point is that whatever process we  
8 move through -- and that's why we want to be engaged. I should in fact  
9 build the public trust and confidence that in fact these materials are  
10 safely and properly controlled and regulated, and that the materials  
11 released from these facilities are safe, will not provide a risk or  
12 concern. Or a stigma.

13 I mean, I hear from the steel industry their concern:  
14 "Don't send me radioactive metal because that will turn away my  
15 customers." And I understand that. So clearly, we're talking about  
16 situations where you could have an impact on other industries that  
17 should be considered. But if the NRC establishes a safe, consistent  
18 standard and stands behind that standard as being totally protective of  
19 public health and safety, then the stigma goes away and public  
20 confidence is built. We want to participate to make sure that happens.

21 MS. STINSON: Tom Civic?

22 MR. CIVIC: I wish it was as simple as Paul said, that if  
23 the NRC establishes a rule and says that this material is safe then the  
24 public is going to accept that. We have some difficulty believing that  
25 that would be the case. And our position is that we do not believe that  
this materials should be recycled because of the public perceptions  
related to radiation and steel.

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The second point I'd like to make is that the NRC, in this  
rulemaking process, needs to take a leadership role. So what other  
countries are doing and what IAEA is doing is, is I think good data for

1 them. However, what they do need not be because somebody else is going  
2 this way or going this direction. So the idea of free release because  
3 they release materials in Europe from nuclear power plants and get into  
4 their steel in their products does not necessarily mean that that's good  
5 for us.

6 And I think the NRC needs to take a leadership position in  
7 this and stand and actually be the people who convince others that this  
8 is the best approach.

9 Thirdly, I guess I agree with Dan and Dave about the  
10 measurements and setting specific standards for measurement that go into  
11 not simply waving a meter around a pile of steel and saying that pile of  
12 steel's okay for free release. There has to be some specific standard  
13 set on measurement calibration before any materials can released.

14 We're also concerned because of history. Currently we have  
15 to -- the steel industry and the metals industry has been faced with  
16 dealing with the orphaned source problem. These are licensed sources.  
17 There's 30,000 sources out there, according to the NRC, that are  
18 licensed sources that are out there, and steel manufacturers have had to  
19 put in sophisticated monitoring devices to try to catch those materials  
20 so they don't go into our steel. But we have some concerns, obviously.

21 History is telling us that control and regulations doesn't  
22 necessarily prevent release of contaminated materials from control. So  
23 we have a concern over that issue, and we need to have that, that  
24 concern addressed, and we hope that the NRC would share our concern in  
25 that area. Thank you.

MS. STINSON: Joe Ring?

MR. RING: I've heard a lot of very good reasons as people  
have gone around the table, and I think I can summarize mine by saying,  
those reasons are the reason I think we need clear and understandable  
rules that licensees can follow.

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1 MS. STINSON: Thank you. Felix Killar?

2 MR. KILLAR: Yeah, just a couple of issues that haven't been  
3 touched on so far. One of the first ones I think we need to discuss,  
4 and actually this is probably the forum for it, but it's probably not  
5 the meeting for it. And that's basic radiation phobia. I think that  
6 it's been pointed out in a number of areas already, there's concerns in  
7 the public about the use of radiation. I think that Martin pointed out  
8 very well that there are people who are actually refusing medical  
9 treatments that they should receive because they're scared of radiation,  
10 because the information that's being put out by people who have vested  
11 interests have basically turned people off on uses, practical,  
12 beneficial uses. And I see some of the same things building here.

13 We need to avoid that stigma. We need to avoid that. We  
14 need to make the public aware that there are safe levels of  
15 radioactivity, and that we live in a sea of radioactivity. I think that  
16 somewhere we need to discuss that today in order to make this meeting a  
17 meaningful meeting.

18 The second thing we need to discuss -- and it was discussed  
19 a little bit earlier this morning, but it actually was put on the table  
20 as something that won't be discussed -- is we need a national policy on  
21 this.

22 What you look at as the NRC governs the materials that's  
23 under the atomic energy material that's either, that's produced by a  
24 reactor, or the reactor itself. But we have the norm; we have norm as  
25 well. We have naturally occurring material and accelerated produced  
material.

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Right now, we have a lot of norm that's being recycled in  
this country and people aren't aware of it. And we have different  
states that have different criteria because that individual state set up  
their criteria, where the facility next door to them set up a different

1 criteria. So right now, we're going through using recycling, but it's  
2 all being done on a state-by-state basis. We need a national policy for  
3 this.

4 And as I said earlier, that was already something that's  
5 been put on the table as something we won't discuss because the NRC says  
6 it's not in their purview. But if the EPA isn't stepping up, the DOE  
7 isn't stepping up, it's not going to be anybody's purview and it's not  
8 going to be done. So I think that's something else that we need to  
9 maybe talk about today or in the next two days, is a national policy on  
10 there for every agency to adopt.

11 The last thing I'd like to talk about is basically, I think  
12 as a "ditto" to a point, is that when we get into coming up with a  
13 number, whether it be zero, ten, one hundred, whatever the number may  
14 be, it has to be a technically defensible, as well as a measurable,  
15 number, and measurable in a practical sense.

16 MS. STINSON: Okay, out of all of the issues that have been  
17 coming around the table, I think there's appropriate slots for them in  
18 the discussion, so I haven't mentioned that. The new issue though is  
19 the look at a national standard for all agencies to adopt. So we should  
20 think about, or make sure we return to that at an appropriate time  
21 during the course of discussion, particularly probably at the latter  
22 part of today.

23 Mike, and then Jeffrey.

24 MR. MATTIA: Not only today, but over the months and months  
25 that this issue's been discussed, I've heard two items be mentioned.  
One is stakeholder issues and the other is public confidence. And I  
think if, if I could boil down the concerns of both the stakeholders and  
the public, it would be that there is a concern, there's an apprehension  
& there's a fear of the material that is being discussed being  
released.

1           And so very often, when these fears and concerns and  
2           apprehensions are tabled, the response oftentimes from the regulators  
3           and the scientists is, well, there's a misunderstanding, or, you have a  
4           misconcern, or, your apprehension is not appropriate because of the  
5           science.

6           But it still boils down that it's the stakeholders of  
7           industry and it's the public that will be affected by this material. If  
8           it were to say strictly within the complex that it was generated, so be  
9           it. We're not worried. But if it's going to leave and come out into  
10          commerce and it's going to come out in the industry, then the  
11          stakeholders and the public have a concern. And I think the major  
12          problem is that there is a misunderstanding.

13          I pick up a reg. guide, regardless of the number, and I read  
14          it, and my first response after I've read it is, what did I just read?  
15          I don't understand. I think that the NRC needs to consider -- excuse me  
16          -- that with all the good that they attempt to do in this area, and with  
17          all of the proficiency that they have in this area, the one thing that  
18          they have not been able to do is to foster public confidence and  
19          stakeholder confidence. And it's not because they haven't done a good  
20          job. It's because the public needs to understand. The stakeholders  
21          need to understand the issue. They don't need to be handed documents.  
22          They don't need to be handed numbers, and they don't need to be handed  
23          the proposals.

24          I think that the stakeholders, and the public themselves,  
25          need to investigate this issue. They need to ask the questions and they  
            need to go put their hands on the answers. If it's a question of this  
            material is used in such a way in a facility and this has a potential  
            for contamination, then I think those stakeholders and those  
            representatives of the public need to go see that and answer the  
            questions for themselves, not to be told what the issues are or the, or

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1 the answers are. But they need to go find them for themselves, because  
2 until the stakeholders and the public understand the issues -- they see  
3 it, hear it, touch it, smell it -- get the answers for themselves, there  
4 is still going to be the fear, the concern, and the apprehension.  
5 There's no question.

6 And so what the NRC may want to consider is, rather than  
7 looking at, how do we do a rulemaking? Rather, the thrust forward  
8 should be, how do we allow the stakeholders and the public impaneled, to  
9 answer these issues themselves? And to then tell the NRC, here's how we  
10 understand the problem, and here's how we think we would accept various  
11 solutions that we could live with. And therefore, you then are really  
12 enforcing your mandate of protecting the public, by the public telling  
13 you that this is how I would like you to protect me. Thank you.

14 MS. STINSON: Jeffrey Deckler?

15 MR. DECKLER: I'm going to try and stay away from my or the  
16 state's position on various issues just to talk about what issues that  
17 need to be discussed, which is what I understood this particular session  
18 to be.

19 MS. STINSON: Thank you.

20 MR. DECKLER: I guess, first I go back to the fundamental  
21 question. We need to discuss, should there be a rule? And even from  
22 the public sector, decide whether or not having a rule, and a rule that  
23 might include zero as the release criteria, is that a better thing than  
24 what is happening now?

25 I mean, you could make a case that that fulfills the public  
sector, it helps the gentleman here from the metals recycler who doesn't  
want to see recycling. And in fact it does give a clear direction to  
the gentleman who wanted a clear direction; it may not be the direction  
he wanted. I'm not saying the state's advocate that position. But  
should there be a rule, does that put us in a better position than where

1 we are now with a case-by-case?

2           If there's a rule, the second issue to me is, what does that  
3 rule cover, what materials? And we've heard some people around the  
4 table say it needs to cover a wider variety of materials. I think the  
5 states would agree with that. I think -- we had several people on my  
6 committee who said that if this rule does not somehow cover DOE  
7 material, then there's very little practical benefit for this because  
8 most of the material that we're going to see coming back out of these  
9 facilities is DOE material, and it leaves a big hole if we don't  
10 somehow, are not somehow able to cover that.

11           Another issue I think we need to talk about -- Steve touched  
12 on it, and that's, if there's a rule, is it going to be a rule for free  
13 release or a rule for restrictive release, or both? There are  
14 definitely issues in the continued control of restricted release  
15 materials. How do we continue to track those things and how do we  
16 continue to control them? And at least preliminarily, the state's  
17 position is pretty much that it should be -- if we set a number, it  
18 should be a number for free release because restricted release is gonna  
19 be too hard to track.

20           And then lastly, the question is, what's that level? Is  
21 that level zero, or is that level something other than zero? And what  
22 are the criteria that we'll use to decide what that level's gonna be.  
23 And there's a lot of things that we've heard around the table about what  
24 those criteria could be. But I think that's a discussion obviously we  
25 need to have and figure out whether, is something other than zero going  
to be acceptable to public interest groups? If it's over zero, where do  
we go, and what are those criteria? Obviously there was some discussion  
in the issues paper about protectiveness versus economics. The state's  
position would strongly be that protectiveness is what this number  
should be based on, and economics is truly a secondary feature. And we

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1 just need to have some open discussion about what that would be.

2 Whether we should be consistent with other agencies or not.  
3 Obviously, I don't think anybody wants to repeat the 15 versus 25  
4 NRC-EPA war on this rule. So if we're gonna set a number, let's set a  
5 number that doesn't create a lot of other arguments. I guess that's it.

6 MS. STINSON: Thank you, Jeffrey. And in terms of the  
7 course, the sequence of discussion items that you laid out, I think that  
8 it's possible for you all to use this time and this agenda to move  
9 through that analysis. And by the end of tomorrow, we do hope to have a  
10 summary discussion of really what are the pros and cons of various  
11 alternatives. And not that we expect that you all might converge on a  
12 particular alternative or scenario at this stage. It certainly would be  
13 helpful probably to talk about, you know, some of the elements that you  
14 raised.

15 And definitely, Mike, we want to visit the question that you  
16 raised about allowing stakeholders to give specific input on the issues  
17 over time, in our public participation discussion, which we'll have  
18 before the end of this session.

19 Thank you all for your comments and input. We are going to  
20 take a break now and come back at 11 o'clock.

21 [Recess.]

22 MS. STINSON: We have two representatives that -- interest  
23 groups that have decided to join us for the discussion. We are making  
24 room for Craig Conklin and John -- I don't know, is he coming back from  
25 a break or --

SPEAKER: He's sneaking food and water.

MR. MARHNAK: Yeah, maybe he went after food and water; I'm  
not sure. I just wanted -- ask for Craig to join us here at the front  
& table. Craig will be replacing me with the solid materials work. I'm  
going to be concentrating on D&D of nuclear power plants. I guess I

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1 didn't learn my lesson the first time. So, I'd like you to welcome  
2 Craig and I would be glad to help any -- with any interface and in -- as  
3 we transfer this over to him. This will be my last meeting and Craig  
4 will be taking over after this meeting. He'll be able to be here today.  
5 He has a previous commitment for tomorrow.

6 MS. STINSON: Judith Johnsrud is also joining us. As she  
7 mentioned earlier, she's with the Sierra Club. Do you want to mention  
8 any other affiliations, Judith, and perhaps some opening comments?  
9 We'll ask you to take a microphone, if you don't mind. Someone hand her  
10 -- John, can you hand her that microphone?

11 SPEAKER: Sure.

12 MS. STINSON: Just speak directly into it.

13 MS. JOHNSRUD: Yes. I have been, in the recent past, the  
14 Chair of the Sierra Club's National Nuclear Waste Task Force, but I would  
15 feel more comfortable today representing the organizations that really  
16 asked me to be at the table; in particular, the New England Coalition on  
17 Nuclear Pollution, founded in 1970, and the Pennsylvania-based  
18 Environmental Coalition on Nuclear Power.

19 And if I just might add two points from the prior session that  
20 caused me to ask if I could move over here, as previously invited, and I  
21 appreciate, Don, your permitting it. First is that I was disappointed  
22 that there was not reference to the need for radiation protection, as  
23 international nuclear waste and other nuclear energy regulators are  
24 beginning to focus on protection for the environment for its own sake;  
25 that is to say the various components in the biosystem, not just human  
beings and not just standard man among human beings, as well.

And secondly, I had hoped, as I had discussed at a  
consultation meeting with the staff earlier, that there would be a strong  
focus on the need not just to move, we would say, to a zero release, but,  
also, to a vigorous program on the part of the Nuclear Regulatory

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1 Commission to seek out and recapture and bring back under radiation  
2 control the materials that apparently have been released without the NRC  
3 or anyone else knowing how much, how many, what types, and where they've  
4 gone. So, I think that that would be beneficial to human health, as well  
5 as the environment.

6 MS. STINSON: Thank you. And on your first issue, we'll be  
7 talking about a number of the activities of international organizations;  
8 so, Judith, be sure that we address some of the perhaps international  
9 activities that you might be aware of. And in terms of recapture of  
10 previously released materials, I would say that's a topic for discussion  
11 in the alternatives, which is session four, and be certain that we do  
12 cover that topic as one of the alternatives.

13 Let me just clarify something regarding the public comment.  
14 There was a sheet out front, looks like this, one line sign-in for public  
15 comment. I have 16 public commenters. I fear that some might have signed  
16 in to the workshop on this sheet, rather than on a square, by stapling in  
17 their card and fully filling out the sheet. So, let me just read off  
18 these names. I want to know which of these individuals would like to make  
19 a five-minute public comment at the noon-time slot today.

20 Jim Turner? He's not here.

21 Ray Turner?

22 MR. TURNER: I'm here.

23 MS. STINSON: Okay. Rich Burkland?

24 MR. BURKLAND: Later.

25 MS. STINSON: Later than at noon; so, perhaps, the 4:30 slot.

Peter Hernandez? Where's Peter?

SPEAKER: He was here.

MS. STINSON: He was here, okay.

Terry Civic, is he here? Oh, oh.

John Hendrick?

1 MR. HENDRICK: Yes.

2 MS. STINSON: At noon.

3 Janet Schleuter? Not here.

4 Tim Alsop? Public comment -- do you want to make a public  
5 comment, Tim? No? Thank you.

6 Phil Reid, do you want to make a public comment? Not here.

7 Mike Grasalphe?

8 Winonah Hauter will make a comment at noon, I understand.

9 Jim Schmidt?

10 MR. SCHMIDT: No.

11 MS. STINSON: No comment.

12 Keith Mahowski?

13 MR. MAHOWSKI: No.

14 MS. STINSON: No.

15 George Zinke?

16 MR. ZINKE: At 4:30.

17 MS. STINSON: Four-thirty. Thank you so much. Sorry for that  
18 confusion.

19 Okay, we're going to proceed with session two. Trish?

20 MS. HOLAHAN: All right. Bring it really close. They're  
21 having trouble. Okay.

22 Well, earlier, after the first session, we sort of heard a  
23 number of issues that individuals would like to make sure that we address,  
24 and I think I may touch on a couple of those. And I'm going to try and  
25 keep my remarks fairly brief, so we can leave enough time to open it up  
for dialogue amongst the participants.

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The first question, and we did touch on this a little bit in  
the last session, is what NRC licensees and what types of solid materials  
are we talking about. As I indicated earlier, the amount of radioactivity  
depends on the materials location or use and that, also, depends on who

1 the licensee is and what type of licensee. As we've discussed, we've got  
2 licensees to include nuclear power plants, non-power reactors,  
3 universities, hospitals, fuel cycle facilities, and a number of other  
4 industrial uses, as well, radiators, radiographers. Of the licensees,  
5 most licensees, in terms of the numbers of licensees, are users of sealed  
6 sources, where the radioactive material is encapsulated. As a result,  
7 they'll be typically -- they'll be very -- typically, the material will  
8 have no contamination, and this will include the small research and  
9 development facilities, the industrial uses, such as the gauges and  
10 radiographers that I mentioned earlier.

11 For other licensees, such as reactors, research laboratories,  
12 hospitals, manufacturing and distributors, the materials would generally  
13 fall into three categories. First, there will be areas that have no  
14 contamination, and these will include the cleaner unaffected areas, such  
15 as equipment in clean warehouses, hospital waiting rooms, university  
16 office spaces, metal ventilation ducts in the control rooms in a power  
17 plant. Secondly, there will be process and storage areas that may have  
18 materials with small amounts of radioactivity, and this will be small  
19 amounts below, because of the contamination control procedures or  
20 decontamination activities, and this will include certain lab areas in a  
21 university, for example, or a reactor building. Thirdly, there will be  
22 material that is used for radioactive service, where activation can occur,  
23 and there will be higher levels of activity that may not be candidates for  
24 release or may potentially be candidates for decontamination.

25 Secondly, is what types of materials are we going to be  
talking about. To date, we have looked at -- have some technical basis  
developed for looking at metals, such as steel, aluminum, and copper,  
concrete, and soils that are present at and are used in license  
facilities. This would include equipment, piping, and furniture. And I'd  
like to go back and just clarify once again -- I think we heard a concern

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1 that disposal or reuse might not be also in sort of the mixed for  
2 discussion, and I -- and for example, equipment reuse is -- the primary  
3 issue for equipment would be reuse of that material.

4 The question that we now pose is whether or not other material  
5 should be considered now or down the road. So, we heard Paul Genoa  
6 mention that steel would be a small part of what might be available.  
7 Other materials might include wood, glass, sewage, sludge, trash, etc.,  
8 and what can be done with those materials. For example, even with trash,  
9 could it be disposed of in a regular landfill, as opposed to a low-level  
10 waste landfill. Again, I'd like to reiterate that most of these materials  
11 will have no radioactivity, although some of the materials can either have  
12 activity on the surface or throughout the material.

13 The next slide. We heard a little bit earlier about what  
14 types of doses are we talking about and how does this standard or a dose  
15 that's developed for a standard compared to the dose received from other  
16 radiation sources. Well, in the issues paper, one of the alternatives  
17 that is considered is setting a dose standard and potential dose criteria  
18 would include zero or no dose above background, .1, 1, or 10 millirem per  
19 year.

20 How does this compare with other doses that are currently  
21 allowed or considered by various agencies? The NRC's public dose limit  
22 from licensed activities is 100 millirem per year, and this is the limit  
23 at which we believe the public is adequately protected from licensed  
24 activities. In addition, the EPA allows the use of coal ash that's  
25 recycled into concrete blocks at 10 millirem per year. And then this is  
not a limit, but one of the points I wanted to raise is that the National  
Council on Radiation Protection and Measurements considers one millirem a  
year to be what they call a negligible individual dose. And that's  
basically the boundary below which the dose can be dismissed from  
consideration in the risk calculations for calculating risk from radiation

1 sources. The one millirem per year is, also, consistent with the IAEA and  
2 the European Commission, which established one millirem per year as the  
3 criterion for exemptions and for release for limited quantities of  
4 material.

5 How does this then compare with background radiation, both  
6 from naturally occurring, as well as from manmade sources? And if we  
7 could then go onto the next bar graph, the red bars are naturally  
8 occurring radiation from natural background and the blue bars -- I'm  
9 sorry, mine aren't in color -- are from manmade. And so, this is just --  
10 again, one of the things I'd like to emphasize is what I've got shown on  
11 this bar graph are average doses. There is a range, depending on  
12 location, on lifestyle, the daily activities for individuals, and so,  
13 again, I'd like to reemphasize that what's here is not an absolute number,  
14 but rather an average value.

15 The majority of the average annual background does come from  
16 natural occurring. Radon is a large component and that varies greatly  
17 depending on where you live. Also, the internal component from just what  
18 -- we live in a steady state of the foods that we eat and drink. This is  
19 primarily due to potassium. Also, soil and building material -- again,  
20 this is varied at average. It will be greater if you live in a brick  
21 house, for example, and that's from natural occurring thorium and uranium.  
22 Finally, the cosmic component is the last piece of the natural background  
23 and, again, that varies depending on where you live. It will be much  
24 higher in the Rockies, for example, than down at sea level.

25 For the manmade, it's a large component of it. And we heard  
earlier from Dr. Nusynowitz that this is from x-rays and nuclear medicine.  
And, again, depending on the type of study and what studies you actually  
get, again, it's going to be a range. Also, consumer products -- I  
& mentioned earlier smoke detectors, watches, thorium mantels in camping  
lanterns, all comprise certain consumer products that we're exposed to on

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1 a daily basis. Also, there's another component, for example, from fallout  
2 and other sources of manmade radiation. I just showed that just to try  
3 and give you an example when we're talking some of these doses, where it  
4 falls into in the range of what we're dealing with on a daily basis.

5 The next slide, I'd like to get a little bit into what are  
6 some of the other countries, agencies, and the states doing with regard to  
7 control of solid materials. We heard earlier a little bit about the  
8 international component, as well as the need for a national standard and  
9 looking at where we are nationally. As I mentioned earlier, EPA sets a  
10 generally applicable standards, but EPA is not considering rule making at  
11 this time, although they have completed a number of technical studies on  
12 the environmental impacts of recycling. They are currently, as John  
13 Karhnak mentioned, working with IAEA, the Department of State, and other  
14 federal agencies, developing guidelines on controlling the import and  
15 export of contaminated materials or products. And the NRC is continuing  
16 to work with the EPA on the coordinated efforts in this area, and they're  
17 actually participating in our working group. The U.S. Department of  
18 Energy, it operates facilities that are facing similar issues and they  
19 have developed criteria to release material, which is contained in a DOE  
20 order, and that's currently consistent with existing NRC guidance, as the  
21 criteria that they are using.

22 On the next slide, it's, also, important, in terms of looking  
23 at what we are doing to the international front and, also, what  
24 individuals states are doing. There is a question as to whether there's  
25 a need to have consistency with standards set by other nations and  
international agencies. And this is important because of the import and  
export considerations, and if there are different standards, it could lead  
to confusion and economic disparities, in terms of international trade.  
Currently, the IAEA and the EC, as well as individual nations, are setting  
standards. The European Community has draft standards with clearance

1 levels for individual radionuclides, which they -- and they plan to  
2 implement a one millirem per year standard by May of 2000 for clearance of  
3 metals throughout the European Commission.

4 Individual states, as -- again, as we heard earlier, have  
5 responsibility for the naturally occurring, as well as accelerator or  
6 machine produced radioactive material. There is a committee, an  
7 organization of state radiation agencies, which Kathleen McAllister spoke  
8 with earlier -- or spoke to earlier, the E-23 committee, which is looking  
9 at these issues. All states have the authority to approve release of  
10 naturally occurring and accelerator produced solid materials that are not  
11 regulated by the NRC. And in addition, 31 states have entered into  
12 agreements with the NRC, where they have assumed the regulatory authority  
13 for Atomic Energy Act material or material licensed by NRC. And in those  
14 cases, we've relinquished our authority by agreement; so, therefore, those  
15 states can approve release of solid materials -- each individual state,  
16 themselves. Again, we raise the question and we've heard -- need to  
17 discuss this a little bit further, as to the need for consistency among  
18 state standards. For example, material available for use in one state  
19 could be released by another state and coming into that state.

20 So, with that framework, I'd like to open it for discussion  
21 and see if we could elaborate on some of these ideas a little bit more.

22 MS. STINSON: Again, two elements to the discussion: if we  
23 can first limit ourselves to questions of clarification, what do you not  
24 understand or not sure that you have the interpretation of the material  
25 that Trish has presented; and then, we'll move onto general discussion and  
comments. And I want to invite everyone to weigh in, in the course of  
this discussion. We want to make sure that, you know, we hear from as  
many different perspective as possible. Dan and then Mike?

MR. GUTTMAN: A question: on your last slide, under the  
authority of the states, did Tennessee have the authority to license MSC

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1 in March to release all this volumetrically contaminated material and, if  
2 so, exactly under what --

3 MS. STINSON: You have to speak right into the mic.

4 MR. GUTTMAN: Did Tennessee have the authority in March to  
5 amend MSC's license to permit the release of 6,000 tons plus of  
6 volumetrically contaminated nickel and, if so, under exactly what  
7 regulatory provision or agreement language was Tennessee acting?

8 MS. STINSON: Trish or Don?

9 DR. COOL: My understanding is that MSC is a licensee of  
10 Tennessee. Tennessee issued that license, in general terms, in accordance  
11 with its agreement. The specific issue of the basis for the amendment  
12 that my understanding was that they issued has been asked. General  
13 counsel is, in fact, looking at that to verify the answer and, therefore,  
14 at this point, I'm not going to give any further answer.

15 MR. GUTTMAN: But just to be clear, in other words, having  
16 prepared the slide with the full knowledge of all that has been said about  
17 the Tennessee issue, at this point in time, you're going ahead without  
18 knowing whether what they did was lawful or not. That's my understanding  
19 of the response. That's the way I understand it.

20 MS. STINSON: Mike Mattia?

21 MR. MATTIA: Just as -- if I could, as a clarification, a  
22 follow-up on the issue in Europe, it is true that the European Commission  
23 has issued a standard for free release, based on roughly an equivalent of  
24 one millirem dose per year and that the -- I believe the 11 or 13 member  
25 states of the European Union have until May of the year 2000 to implement  
that. However, just this past week, there was a meeting in Geneva, hosted  
by the Economic Commission for Europe, which is an outlet of the United  
Nations, and it brought together a team of specialists on radioactive  
& contaminated metallurgic scrap, which were, in essence, what we would call  
here the stakeholders, the industries that would be able to -- would be

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1 looked upon to accept that material. The 11 nations present, including  
2 representatives from the United States, and what those nations presence  
3 said was that they were not prepared to accept the European Commission's  
4 release values; that they, the European Commission's release values  
5 weren't necessarily acceptable variance valuables for those companies and  
6 that there is a position currently being developed to be further  
7 discussed; that what industry is willing to accept needs to be clearly  
8 delineated to the various governments of the European Commission,  
9 regardless of the dictums of the European Congress.

10 What was particularly interesting was the comment of one of  
11 the participants, who was in the ferrous industry and was who said very  
12 clearly that his concern was that the material in question was -- the  
13 interest of the government was not who was going to get it, but to release  
14 the material, and that the concern was that since it was the government's  
15 concern to release this material, that you could not be certain that the  
16 government was looking for the -- looking forward for the interest of the  
17 receiver, but was more interested in the interest of the releaser to get  
18 this material off their hand. The person speaking was a Michael Isakov  
19 for the Institute for Ferrous Metallurgy in Moscow. So, it was  
20 interesting to hear those type of comments that were, also, voiced by all  
21 of the 11 nations; that it was the concern and the acceptance levels and  
22 the acceptance criteria of industry and the public that need to be weighed  
23 heavily, not the release values set by the government.

24 MS. STINSON: Okay, thank you. Did you want to add anything  
25 to that?

MS. HOLAHAN: Well, I was not aware of that meeting and so I'd  
be interested in finding out more information about it. Thank you.

MS. STINSON: Martin Nusynowtiz?

MR. NUSYNOWITZ: Thank you. I think I could provide some  
perspective to this body, the participants of this meeting, with some idea

1 of the kinds of exposures we get from medical purposes. I think --

2 MS. STINSON: If you don't mind, Martin, I'm just going to  
3 interrupt you right there, just in hopes of making sure that we stay  
4 focused in our discussion and -- well, no, I think -- yeah, that's exactly  
5 -- I'm sorry, go ahead. This is exactly the time slot for that  
6 discussion.

7 [Laughter.]

8 MS. STINSON: I was on another planet for a moment.

9 MR. NUSYNOWITZ: I thought so. I was following up on  
10 Patricia's discussion of --

11 MS. STINSON: Yes, absolutely.

12 MR. NUSYNOWITZ: -- discussion of a public exposure of 100  
13 millirems as an acceptable safe level of exposure and so, I wanted to give  
14 a perspective on the medical use. First, I wanted to point out that  
15 upwards of 10 million procedures are performed on patients every year  
16 using the dosages I'm going to talk about. Secondly, in an average  
17 diagnostic procedure, the patient gets per episode 500 to 1,000 millirems  
18 and may have a number of diagnostic procedures within a short time frame,  
19 with no detectable adverse consequences. I realize I'm talking now  
20 patient necessity versus public exposure, but I want to give you a  
21 comparison of what's going on. You're talking in terms of ranges of one  
22 millirem per year and I'm talking in terms of 500 to 1,000 millirem per  
23 diagnostic procedure for a patient, which may be repeated many times  
24 during the course of a year without any adverse consequences.

25 Then, we move on to therapeutic applications. Let me give you  
just two examples. When President Bush was treated for his Grave's  
disease, upwards of 10,000 rads, that's 10 million millirems, was given to  
his thyroid gland to make him normally thyroid. The same happened to Mrs.  
Bush. And that's just one dose. Frequently, several doses are needed.  
So, we're talking about tens of millions in just that benign condition,

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1 that is not a cancerous condition, of Grave's disease. And when we're  
2 talking about treating thyroid cancer, for example, we're talking in terms  
3 of 50,000 rads repeatedly given. That's 50 million millirems. To be  
4 sure, these are people who have advanced disease and we may see  
5 consequences at very, very, very high dosages. But, we're talking in  
6 terms of 50 million versus one, and 50 million given several times a year  
7 versus one per year.

8 So, I wanted to give that as kind of a perspective to the  
9 kinds of things we're talking about and have people in the room, who have  
10 had such exposures, an idea of what they've already gotten. I venture to  
11 say there have been a number of you, who may have undergone such  
12 procedures, and these are the kinds of exposures that have been obtained  
13 and puts this in sort of a perspective. Thank you.

14 MS. STINSON: Thank you, and I'm sorry. Steve Larick?

15 MR. LARICK: This is a little bit related. I think that  
16 there's a misunderstanding on the part of some folks, both in NRC and DOE,  
17 about the level of detection capability that currently exists at steel  
18 mills. And so when we're talking about levels that are -- we all know  
19 that medical procedures, you're exposed to a lot of radiation. We're  
20 talking about high levels of radiation in nuclear plants.

21 In the steel mill, we've been forced to put in systems that  
22 detect just about anything over background. If it's twice background,  
23 it's going to cause an alarm at our mill. And so knowing that and knowing  
24 that mills typically will reject material that sets off their alarms, I  
25 guess the point I'm trying to make is just because it gets re-released,  
doesn't necessarily mean it's going to get recycled.

MS. STINSON: Judith and then Mike Mattia?

MS. JOHNSRUD: Am I correct in understanding we're asking --

MS. STINSON: I'm sorry, can you --

MS. JOHNSRUD: Am I correct in understanding that we're asking

1 the questions that we want to have considered in this session?

2 MS. STINSON: Yes, we're trying --

3 MS. JOHNSRUD: We're going into comment, yes?

4 MS. STINSON: Yes.

5 MS. JOHNSRUD: One question that I think follows from your  
6 questions would be the role of the decision-making power of the  
7 individual. A person who works within the nuclear industry is a badged  
8 worker. A person who receives a medical exposure ostensibly is informed  
9 that there is risk, as well as benefit, and the benefit accrues to that  
10 individual. So the question would become: how does the additive risk of  
11 whatever amount accrued to an individual who receives doses from multiple  
12 sources of recycled materials in the future, how does that relate to the  
13 inability of that individual either to detect or to measure and choose or  
14 not choose to receive the additive doses, given the vagaries of an  
15 individual's background and experience perhaps working within the industry  
16 in the past, perhaps having had medical problems in the past? That is a  
17 very fundamental consideration. I think we would want to know  
18 comparatively how that is dealt with in other nations and how it would be  
19 dealt with here.

20 MS. STINSON: Trish, can you begin to address that?

21 MS. HOLAHAN: Okay. I think that's a very good question, in  
22 terms of what is the -- I think you're asking perhaps a couple of  
23 questions here. First of all, what is the accumulated dose to an  
24 individual perhaps from multiple sources or multiple occasions for being  
25 exposed to something that had perhaps been recycled or reused.

MS. JOHNSRUD: As well as potential synergistic relationships  
that are only now beginning to be investigated, with respect to the  
relationship between the ionizing radiation exposure and the exposures  
that one might receive from any of a multitude of other contaminants in  
the biosystem.

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1 MS. HOLAHAN: Okay. All right, and I think that's information  
2 that we are certainly trying to look at and make sure that we have the  
3 right questions, as we're looking at both what are the health and  
4 environmental impacts. I don't have a specific answer yet, but that is  
5 information that we are looking to make sure that we do address  
6 appropriately within the analysis of the different alternatives.

7 MS. STINSON: Mike?

8 MR. MATTIA: To further the discussion on perspective, yes,  
9 every day, there are countless individuals who gain exposure, because they  
10 make a decision to have an x-ray; they make a decision to have some type  
11 of therapy on atomic related material; they decide to walk outside or to  
12 take an airplane ride. But, this is a conscious decision that is made  
13 based on the consequences.

14 But, again, I want to harken back to the two concepts that  
15 were spoken about earlier, that of stakeholders and that of the public.  
16 And if I were to ask all of you for just one moment to be the members of  
17 the public and to consider the fact that you have before you two baby  
18 strollers and you have to place your child or your grandchild in one of  
19 them. And you know that the baby stroller to your left is one that, as  
20 far as you know, was made from materials conventionally recycled and  
21 conventionally created into that baby stroller; however, the baby stroller  
22 on your right has -- was made from material that was culled from a nuclear  
23 power facility. To the best of anyone's knowledge, most, if not close to  
24 all of the radioactive material was decontaminated from the material that  
25 went into making that baby stroller. And I ask you as members of the  
public to take your child or your grandchild and place him into one of  
those strollers.

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That's the -- that's, I think, is the crux of the issue, that  
we have scrap recyclers, who sell material to steel mills, and steel  
mills, who sell material to manufacturers, and the manufactures sell

1 material to the public, and the question is what will the public buy; what  
2 will the public be safe with? And if their perception is not based on  
3 science, it's still their perception, and that's what's driving the  
4 concern of industry, because they have to be able to take material that  
5 they can sell and create it into material that will be purchased and that  
6 you, as the public, will want to make demands that material will or will  
7 not be of a concern to you. Whether the threat is real or perceived, if  
8 it's perceived to you, it's real. And so, the data and the information is  
9 quite informative, but, again, we go back to the issue of the stakeholder  
10 and the public, who they need to be driving what is done, based on their  
11 understanding, based on their perception, based on their willingness to  
12 accept or reject certain material that they are willing to either accept  
13 or reject.

14 MS. STINSON: Okay, thank you. In the queue we have Dan and  
15 then Jill Lipoti.

16 MR. GUTTMAN: Yeah, I'd like to follow up on Professor  
17 Nusynowitz and Judy and Mike's comments.

18 MS. STINSON: Dan, I'll just ask you to pull that down towards  
19 you just a little bit.

20 MR. GUTTMAN: I'd like to follow up on the comments.  
21 Professor Nusynowitz correctly noted that the profession considers many of  
22 the doses to be useful and, of course, their beneficial, although I'm  
23 taught by my nuclear medicine experts that there is no such thing as  
24 riskless exposure; but, they may be wrong. The question I have is in  
25 looking at the lead ongoing case, the BNFL-MS case, we were, as a union  
and representative of workers, quite troubled to find no data on -- any  
evidence of consideration of the exposure pathways to workers; for  
example, both those in the recycling process, but, also, those out in all  
the steel mills, who aren't just, you know, once in a while getting  
x-rays, but everyday are getting x-rays. So my question to the NRC,

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1 because you're the experts, is: did we miss anything; do you know of any  
2 exposure analysis in relation to workers, including, of course, the  
3 precise characterization of the materials?

4 Another thing we found, there was no characterization of the  
5 materials that they be exposed to. We heard from David -- Mike Mobley and  
6 others at Tennessee, you don't have to worry about what goes into the  
7 recycling process, as long as you meter what comes out of it. So, you  
8 don't have to worry about what the workers get exposed to, in that  
9 context, in a precise way. Do you know, are we seeing a case where we've  
10 got a lot of this metal going out without any careful technical analysis  
11 of the worker exposure pathways, both in terms of the physiology, but,  
12 also, the cumulation, in terms of their work patterns and process? Can  
13 you point us to, here, right now, anything that we're missing in the  
14 public record that might give us some insight on the worker? Have you  
15 studied it? Do you know if TEDAC has studied it or BNFL? Or is that a  
16 gap that obviously has to be fulfilled before we go ahead?

17 MS. STINSON: Trish?

18 MS. HOLAHAN: I guess I don't really have a specific answer  
19 for you right now, is to say we're looking at the issue and --

20 MR. GUTTMAN: Is anyone actually doing a study or going out to  
21 meet with our workers and saying how are you working or these folks in the  
22 steel mills, what do you do when you go over to the machine and, you know,  
23 how much dust do you have and do you wear, you know, protective equipment?  
24 Because, in a lot of these facilities, part of the problem, of course, is  
25 at the radiation slice, like MSC, there's a licensed requirement for  
radiation protection; but in these steel mills, of course, and everywhere  
else, there's no requirement. So, who is out there, as a part of this  
rule making process, that is actually doing -- is SAIC doing that kind of  
analysis or who?

MS. HOLAHAN: In NUREG-1640, they do go through and look at

1 the variety of the different scenarios and the pathway analysis for the  
2 critical --

3 MR. GUTTMAN: Workers?

4 MS. HOLAHAN: -- groups and the workers and the individuals  
5 handling the material, everything from the scrap transport drivers through  
6 the steel mills, as well as the consumers.

7 MR. GUTTMAN: So, we have to rely on SAIC? There's no other  
8 source, as far as you know? Is there any other source?

9 MS. HOLAHAN: That's the source that I'm aware of right now.

10 MR. GUTTMAN: Thanks.

11 MS. STINSON: Okay. We're clearly into a phase of offering  
12 comments on areas of concern, as well as posing questions back to NRC, if  
13 there are areas of clarification. Jill and then Paul Genoa?

14 MS. LIPOTI: I'd like to speak to the issue of what material  
15 should be considered as part of this rule making. Steve told about the  
16 gap between the clearance and the steel mill acceptance; that a material  
17 might be cleared under NRC rules, but might not be accepted by steel  
18 mills. I'd like to follow up on Dr. Nusynowitz's presentation about  
19 patients and talk about release of patient waste and the gap between what  
20 is allowed to be released when patients are allowed to be released and the  
21 landfill or resource recovery unit acceptance criteria. There are a  
22 number of incidents that the state gets to respond to, where diapers or  
23 sanitary pads or paper towels that are contaminated with the vomit from  
24 patients that have been released are then taken to, as part of the regular  
25 municipal trash, to a resource recovery unit and certainly are not  
accepted by that facility for processing. So, that's another gap that  
needs to be considered, as you consider materials.

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The other issue, of course, is another material you are  
considering is sewage and sewage sludge. And right now, there's the  
ISCORS, NRC, and EPA group that's working on a survey to determine if

1 radionuclides are a problem in sewage currently. And I guess you would  
2 build upon that work before you would consider what additional burden you  
3 might place on a sewage treatment plant. Because, of course, again, with  
4 patient release, if the patient waste wasn't in the material to go to the  
5 resource recovery unit, it would just go down the toilet and would be into  
6 the sewage. So, that's one we don't get to respond to, alarms at the  
7 sewage treatment plant yet, I'm glad to say.

8 MS. STINSON: Paul -- Paul Genoa?

9 MR. GENOA: Yes. In looking at the question of, you know,  
10 what we're discussing to today, instead of the overall picture, it  
11 occurred to me, at several points, that it's important to reiterate what  
12 we've learned about public perception and the concern about -- and it  
13 deals with the format that the regulations and controls take. And one of  
14 the concerns we've heard about is collective exposure. They release metal  
15 at one value and soil at another value, etc. It's an opportunity for  
16 multiple exposure to multiple material. Clearly, the selective exposure  
17 issue needs to be addressed and, frankly, what I've seen so far of your  
18 approach in 164g document, seem to indicate that you do, in fact, look at  
19 those collective implications and try to deal with them.

20 Another concern is, well, what about chronic exposure. You  
21 let this material out, will I be exposed over time. And, again, I think  
22 it's very important that you point out clearly that that type of chronic  
23 exposure is, in fact, is protective, as well; that your limits understand  
24 that potential and limit it. And, again, what I see is, because you're  
25 basing on an annual release limits, in fact, you are addressing those  
kinds of issues. I guess I just wanted to make that clear.

MS. STINSON: Okay. Let's just do a time check. We have  
seven cards up. I'll ask each of you -- we do need to end right at noon  
-- end this session right at noon and offer public comment, because that's  
the designated time for and people have arranged their schedules

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1 accordingly. Let me ask those of you, who have your cards up, if you can  
2 focus your comments specifically on the elements of session two; not to  
3 cut anybody short, but there are opportunities, hopefully, to raise the  
4 more general statements during other sessions. And let's specifically  
5 talk about the licensees, the doses, protocol and activities in other  
6 countries, and those kinds of associated issues. And David Adelman and  
7 then Kathleen McAllister?

8 MR. ADELMAN: I have more of a question and that's just the  
9 relationship between what DOE is currently doing and EPA's rule making on  
10 import/export standards to the NRC proposed rule making, what it's  
11 considering right now. Does that place any limits on you? Is there other  
12 discussions about harmonizing? Standards that are being considered right  
13 now?

14 DR. COOL: Okay, you really have two questions there. Let me  
15 try to deal with the second one first. My kids gave me a cold; sorry  
16 about that. There are ongoing efforts to try and keep a very close  
17 coordination between NRC and the EPA. That's part of the reason that  
18 we've had John Karhnak and now Craig Conklin working with us on an ongoing  
19 basis to look at that. Certainly, the activities that may look at  
20 standards or at least criteria for import and export need to be factored  
21 into our consideration. Further, if EPA then moves and generalizes the  
22 statute to generally applicable and environmental standards under their  
23 Atomic Energy Act authority, the NRC would have to look at that, in that  
24 context, to be able to implement it.

25 Going back to your first question with relationship to DOE, as  
we've said a little bit earlier, this rule would affect any material that  
was then transferred to a licensee of either the NRC or agreement state,  
but would not, at least under the current regime the Congress has  
established, be immediately or directly applicable to the release from a  
DOE site, itself.

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1 MR. ADELMAN: I guess I was asking more about the practical  
2 implications or impacts of what DOE is doing and what sort of relationship  
3 you have with the people there.

4 DR. COOL: Okay, that gets to be perhaps more difficult to  
5 answer and I'm looking over at Andy Wallo to perhaps elaborate, also. We,  
6 of course, work closely with the Department, in terms of trying to  
7 understand the things that they are doing and coordinate with them. DOE  
8 is, also, a member of the interagency steering committee on radiation  
9 standards, which is the federal government's effort to try and keep  
10 coordination of all of these efforts.

11 MR. WALLO: I guess I would echo that. I'm not totally clear  
12 on --

13 MS. STINSON: Andy Wallo is speaking.

14 MR. WALLO: I'm not totally clear on the question, but I would  
15 say that, in general, we try to maintain, although we regulate our  
16 contractors independent of NRC's regulation of licensees. We do try to  
17 maintain consistent regulatory approaches and -- I mean, it's the --  
18 radioactive material is controlled either by DOE managing its contractors,  
19 it's regulated there, or it must be licensed by the NRC or the agreement  
20 states. And so that when a piece of radioactive material moves from  
21 either the commercial world to the government world or the government  
22 world to the commercial world, there has to be some seamlessness in that  
23 approach. So, we try to be very consistent, and that goes along the lines  
24 with any sort of release and authorization limits, too, and more so, I  
25 think, in the current years than maybe in the past, as well.

So, if the question is, would there be direct effects,  
certainly, any transfer of material from DOE to licensees or back and  
forth, this would affect it. Plus, DOE's own requirements, we would make  
every effort to be consistent and make sure that we're not doing something  
different and creating problems.

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1 MS. STINSON: Kathleen and then Jeff Deckler.

2 MS. McALLISTER: Thank you. Kathleen McAllister, CRC E-23  
3 Committee. I'd like to say that how does what we're discussing today fit  
4 into the overall picture? We -- the committee recommends that there be  
5 rule making, that there be a dose-based standard developed. And then, the  
6 states will be in a position to promulgate and recommend a similar  
7 standard applicable to naturally occurring and technologically enhance  
8 naturally occurring and materials. That's one thing.

9 Now, if I may please take off my regulator's hat and put on my  
10 grandmother's hat, I'd like to just address something that Mr. Mattia  
11 mentioned about choosing between a baby stroller that was made with  
12 recycled materials that may have come from a previously licensed facility  
13 or materials that weren't. I'd like to say that with a dose-based  
14 standard, that all of my education tells me is something that's not going  
15 to have an adverse impact on my grandchild. I'm going to be selecting the  
16 stroller that won't collapse and cause an immediate impact to my  
17 grandchild. I will want a good sturdy stroller that will take other risks  
18 to my grandchildren into consideration.

19 And if I may just do one more, and I'm sorry, I know we want  
20 to wrap it up at noon time, but with regard to NUREG-1640, this -- these  
21 doc -- this two volume set is out for comments and this is not part of a  
22 law or requirement, at this time, and it's there for comments and  
23 criticisms and for improvement. And my sense is that that is what is  
24 being sought, at this time. And the comment period is open and I would  
25 certainly hope that anybody that sees flaws in this document get those  
written and to the NRC, through the mechanisms that have been discussed.  
Thank you.

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MS. STINSON: Thank you. Jeff Deckler and then Tom Civic.

MR. DECKLER: I, also, want to get into the baby stroller  
discussion and relate that back to a dose limit for this rule. I think

1 that the discussion we had in the beginning of this related to acceptable  
2 risks and risks that people know they're taking versus risks that they  
3 don't know they're taking is essential to the whole issue of what kind of  
4 a dose limit we'll be able to set on this and what's acceptable to people.  
5 It's a very tough topic that we have struggled with in Colorado for years  
6 and really not come to a good resolution with the public on those kinds of  
7 risks.

8 But, I think that Mike's example maybe has some fallacy in it.  
9 I don't believe that there are two strollers, because in Mike's example,  
10 there is a risk-free stroller and there is a stroller with risk. And I  
11 don't think that there is any stroller that has no risk. I think that  
12 everyday, we have a number of risks all the time that we have not been  
13 informed about and know nothing about that we are subject to. And so, I  
14 think the question is more in line with what Kathleen said, which is:  
15 knowing that I only have one stroller, is there enough risk in that  
16 stroller that would lead me to not put my baby in there.

17 From a state perspective, I get asked all the time, when we're  
18 dealing with Superfund sites, would I live in this neighborhood. In  
19 truth, the answer most of the time is yes; and, sometimes, the answer is  
20 I do. There are a couple of sites that I am in the "impacted zone" on.  
21 So, I think that becomes the question: is knowing that there is always  
22 going to be some risk, is it at a level that is acceptable? And given  
23 that, what Aswamo is getting behind, in terms of the issues paper, would  
24 be the one millirem per year limit. We thought that that was consistent  
25 with the international community; that it avoided conflicts with EPA and  
probably is in line with their one-in-a-million cancer risk type of a  
number; that it would create minimal impact on industries that are  
sensitive to accepting radioactive materials; and that it was as low a  
& number as we could come up with -- it was one of the lower numbers that  
was proposed and we thought that if any number was going to be acceptable

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1 to public groups, we would have to go with as conservative a number as we  
2 could find, knowing that even that number would be difficult to get  
3 acceptance on. But, that's where we're head. Thanks.

4 MS. STINSON: I appreciate that people want to weigh in or  
5 anxious to weigh in with a standard that they must support, but I want to  
6 ask you to hold back from that temptation, if you can. We're going to  
7 talk about alternatives and a full -- we're probably going to develop some  
8 additional alternatives for consideration by NRC and at the close of that  
9 discussion, give an opportunity for people to weigh in.

10 We have Tom Civic and then John Karhnaak. Tom?

11 MR. CIVIC: I think I've got a perfect lead in here from a  
12 speaker regarding this one millirem. It seems to --

13 MS. STINSON: You're going to ignore what I just said, aren't  
14 you?

15 MR. CIVIC: No -- well, no. My question comes down to is why  
16 -- my question really was, is why one millirem. We have 10. We have 100.  
17 The public is getting this information about what is safe and now we seem  
18 like we jump on a pre -- a one millirem dose, because we've already had a  
19 preconception idea that we're going to pre-release this material. We've  
20 already -- you know, we decided that we're going to pre-release it, so  
21 what's the public going to accept, rather than setting health-based dose  
22 risks that are scientifically valid and then deal with some of the issues  
23 that come out of that, based -- from that point.

24 So, I think the issue about what the international community  
25 -- coming back on one of my earlier comments, what the international  
community is doing is fine. That's good information for you. However,  
are they going to set standards for enforcement of the one millirem, in  
terms of how that material is going to be released? Are they going to  
& have the same degree of enforcement activity as the NRC is going to do  
OCI here, in terms of releasing material? And these countries that are  
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1 signing on, what standards have they developed? They're saying they're  
2 buying into these things and they're signing on, what standards have they  
3 developed? I think that's worth getting some information on, as well.

4 MS. STINSON: Thank you. John Karhnaak and then Joe.

5 MR. KARHNAK: Okay. Mr. Guttman asked earlier about worker  
6 studies and I know EPA, in the study we completed in 1997, did look at  
7 workers beyond the licensed area; for example, the scrap workers, people  
8 in the steel mill handle slag and so on and so forth. And, in fact, our  
9 folks visited some of those sites and looked at, for example, the  
10 likelihood that a guy would wash his hands before he started eating his  
11 sandwich and, therefore, it might get some ingestion through that. I  
12 mean, they tried to look very practically of what was going on. May I  
13 finish, please?

14 MR. GUTTMAN: Yeah, go ahead.

15 MR. KARHNAK: Thank you. We, also, then said, in order to  
16 study what was going on with other folks, looked at who might get the  
17 highest dose, as a result of that, and then rate it -- ranked others  
18 accordingly. And that's the process we went through. This work is on our  
19 website and Neal Durane is here, who could probably give you some more  
20 insight. He knows more of the technical details.

21 MR. GUTTMAN: A point -- I have a clarifying question, because  
22 this is a public record.

23 MS. STINSON: Okay.

24 MR. GUTTMAN: I understand you testified on behalf of BNFL and  
25 DOE in the case. But, my question --

MR. KARHNAK: That's not correct.

MR. GUTTMAN: Well, you filed an affidavit; right?

MR. KARHNAK: I was asked by the Department of Justice to  
& provide some information --

MS. STINSON: This is not the place where we want to debate.

1 MR. GUTTMAN: My question is: did you do a study -- did EPA  
2 do a study of the worker exposures at the BNFL-MSc plant, taking into  
3 account, among other things, the DOE finding that those folks were exposed  
4 to OSHA violations, EPA violations? That's the real world kind of study  
5 we're talking about. Did you do that study?

6 MR. KARHNAK: The study that I just quoted was the one that we  
7 did, looking at risk from the release of material to people beyond the  
8 licensed facilities. We looked at what -- we looked at the area that the  
9 public would be associated with, not people that were within licensed  
10 facility or people that were badged. We did not look at BNFL people. We  
11 looked at people beyond the licensed facilities.

12 MS. STINSON: So, it sounds, Dan, like perhaps the answer is  
13 no.

14 MR. GUTTMAN: The answer is no; the answer is no.

15 MS. STINSON: Yeah, that that study hasn't been completed and  
16 maybe part of your advice back to the NRC is that further consideration of  
17 that be given. I mean, it sounds like you've already --

18 MR. GUTTMAN: It's not advice; it's an imperative. It's not  
19 advice. You can't expose workers without knowing what the heck they're  
20 exposed to. That's more Padducah. It's not advice.

21 MS. STINSON: Okay, thank you.

22 MR. GUTTMAN: This is human, you know, reality.

23 MS. STINSON: Sorry. So, that's your recommendation and --

24 MR. GUTTMAN: It's not a recommendation. You're responsible.

25 MS. STINSON: I'm sorry. Okay, I'm not trying to argue with  
you, Dan; I'm trying to support you, okay.

MR. GUTTMAN: But, you support it by recognizing that it's an  
obvious deficiency.

MS. STINSON: I'm trying to support what you're entering into.  
Joe Ring?

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1 MR. RING: There are other studies that were done, one by  
2 Oregon National Laboratory in '95 and one by the Department of Energy done  
3 at Pacific Northwest Laboratory. I forget the year in that. That was,  
4 also, done in 1995. And those, along with a number of other studies, are  
5 used with the ANSI, American National Standard Institute and 13 committees  
6 and 1312.

7 MR. GUTTMAN: And those were of the workers, who were  
8 experiencing the BNFL recycling, is that what you're telling me?

9 MR. RING: No, not particularly BNFL, but other similar  
10 situations, from what I understanding.

11 MR. GUTTMAN: You need technology there. There's no similar  
12 situation.

13 MS. STINSON: John Wittenborn.

14 MR. WITTENBORN: I'm almost afraid to weigh in, at this point.

15 [Laughter.]

16 MR. WITTENBORN: I, actually, just had a very simple question.  
17 I wanted to ask of NRC, in connection with the comment that Steve Larick  
18 made a little while ago, is there -- has there been established a  
19 relationship between the release levels and the analytical detection  
20 capabilities of the detectors that are in use at steel mills and other  
21 customers? In other words, do you know whether or not a material that  
22 would be cleared at any particular release level will or will not set off  
23 a detector at these mills?

24 MR. NELSON: I guess that depends on the release level you  
25 select. And I'll use as an example: if zero is the standard, how does  
one measure zero? If zero -- so, it becomes -- it's really an  
implementation question. No detector is going to detect every atom of  
radioactive material. That just does not exist. So, when looking at a --  
& whatever your release value is, dose bases, the big -- probably the  
biggest -- one of the bigger questions is how do you measure it; how do

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1 you -- what protocols do you have to use; what measurement techniques must  
2 you use to demonstrate that you have complied with that level; or how do  
3 you control the material to reach -- to assure that level?

4 One way of implementing a zero standard would be that any  
5 material that has ever been exposed to radioactive material or could have  
6 been exposed is not released. So, in that case, you implement a control  
7 by a practice, rather than a measurement. Any standard that's decided on  
8 would have to look at both of those methods of assurance, whether it's  
9 zero, .1, or 1.0.

10 So, I don't think I've answered your question completely, but  
11 I can't and we are looking now at -- part of the research that we are  
12 doing is looking at detection measurement techniques, technology, that we  
13 could use, in developing a regulatory guide, for example, for implementing  
14 at standard, as decided on.

15 MR. WITTENBORN: Thank you.

16 MS. STINSON: Robert Senseny? Did you have a follow on to  
17 that, Steve?

18 MR. LARICK: This might help, but I've got some calculations  
19 that I could share with you. But, if material is released at -- under DOE  
20 Order 5400-5 or Reg Guide 1.86, it is going to set an alarm off.

21 MS. STINSON: Thank you. Robert Senseny and then we'll turn  
22 to public comment.

23 MR. SENSENY: Thank you, although it's not my intention to get  
24 the last word on this topic. But, one comment on the issue of where this  
25 fits in to the overall picture and it picks up on the point of the  
carriage, as well. That is that the Europeans are moving very fast in  
setting a standard and the IEEA is working globally to look at that  
standard. And partly that is because of the threat that they are faced  
with, in terms of materials being sold off or hard currency getting into  
the commercial market. Thankfully, we don't have that same situation

1 here.

2 But, I do think that you have to think in terms of the -- if  
3 you look at the safety or overall safety of materials that you are  
4 purchasing from overseas or an item, say a consumer product, you do have  
5 to think in terms of wanting to know -- having a basis for confidence,  
6 that there is no additional threat from an item that may flow from  
7 overseas, as what you may obtain from the United States. Thank you.

8 MS. STINSON: Okay, thank you. I appreciate all the comments  
9 and issues that you all are continuing to raise. We want to turn to  
10 public comment, at this time. We're going to ask each person that does  
11 ask to speak to limit the time. And I have a list here of a number of  
12 individuals. I'm not sure that everybody wants to speak, at this time, or  
13 even wants to speak at all. So, let me just go through it.

14 Jim Turner -- is Jim here? He must have stepped out.

15 Ray has, also, stepped out.

16 Terry Civic? No.

17 John, I guess it's Hamrick, is our first. If you can state  
18 your name and affiliation.

19 MR. HAMRICK: Yes. I'm John Hamrick, Manager of Health,  
20 Safety, and Environmental Affairs for Umetco Minerals Corporation. And I  
21 would just like to point out that one thing, perhaps a misperception  
22 that's kind of being promulgated here is that there is a lack of a  
23 national standard for release of materials from restricted areas. That is  
24 not true. EPA has promulgated, by direction of the Congress, a release  
25 standard that for uranium recovery facilities that includes soils, that  
standard is five picocuries per gram radium above background. That is a  
release standard. We do clean up our facilities considering that. And  
so, I think that that should be so stated in this process and, also,  
& analyzed, in terms of the standard.

I'd, also, like to point out that one of the things that seems

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1 to be going on here is that, in essence, the NRC is starting from a dose  
2 of zero and kind of working up. The NRC has determined 100 millirems as  
3 protective. If that's the case, starting at zero, the public, of course,  
4 is going to say, well, wait a minute, what's going on here. Do they  
5 really know what they're talking about. They're saying 100 protective;  
6 but, now, some fraction of that is what is protective. So, there's kind  
7 of a, you know, disconnect there, if you start from zero and try and work  
8 back up to some standard.

9 In addition, I'd like to point out that this release -- this  
10 clearance rule will affect DOE. There is a class of licenses that is  
11 affected. That's the Title I cleanup facilities under MTRUCA. They,  
12 also, have the 515 standard. The Secretary of Energy has the authority to  
13 set supplemental standards above five peccories per gram radium. And  
14 those standards to do to the NRC for review and approval before the final  
15 licensing action is taken by the NRC. So, there are -- almost every Title  
16 I cleanup facility is leaving materials in excess of the five peccories  
17 per gram radium, which is a substantial amount of a one millirem standard.

18 One final comment is that one of the potential standards that  
19 the NRC is considering is the 10 millirems from coal ash. Given the  
20 misunderstanding or perhaps disagreement between the EPA and the NRC about  
21 calculating the dose from five peccories per gram radium above  
22 background, is the NRC going to accept the EPA calculation on that dose or  
23 will the NRC staff verify that independently? Thanks.

24 MS. STINSON: Okay, thank you. Janet Schlueter, are you here?  
25 How about Phil Reid? He's actually from NRC. I don't imagine  
he would want to make a comment.

Michael Salthy?

MR. SALTY: No comment.

MS. STINSON: No comment.

Ray Turner, you just came in the room. Did you want to make

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1 a public comment, at this time? You -- I don't know if you signed up for  
2 public comment or --

3 MR. TURNER: Yes, I do. I don't know if --

4 MS. STINSON: Mention your name and affiliation, if you would,  
5 for the record.

6 MR. TURNER: Ray Turner, David Joseph Company. The comment  
7 that I wanted to make is that I've heard a number of different tonnage  
8 figures and I heard this comment made earlier today, I've heard anything  
9 from 300,000 tons to 1.8 million tons, plus about six million tons of  
10 nickel that we're talking about. We, also, have heard discussion that  
11 we're talking about spreading this material out over 20, maybe 30 years.  
12 My question is to the NRC or DOE, whoever: what would be the frequency of  
13 the release of that material? For example, would 60 percent of it be  
14 released in the first year, two or three and subsequent years?

15 I think we need, also, to talk about the frequency of release,  
16 especially on the non-ferrous materials, assuming that they are released  
17 and assuming that some release criteria level is met. If you dump six  
18 million pounds of nickel on the American market, you just destroyed the  
19 stainless and nickel market in the U.S. That's about a six month supply.

20 MS. STINSON: Thank you. Winonah Hauter?

21 MS. HAUTER: I'm Winonah Huater. I represent Public Citizen,  
22 a research, lobby, and advocacy organization that was found by Ralph  
23 Nader. I want to note that we are not part of this process, because we  
24 believe that it's biased and rigged. And the NRC has prejudged the  
25 outcome of this proceeding. We believe that our time is better spend  
educating the public about what is going on, rather than sitting here at  
the NRC and discussing what the NRC has already made up its mind to do.

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The recent decision by the Commissioners to continue with this  
rulemaking, despite the fact that many, many -- in fact, dozens of  
organizations around the nation, who are stakeholders, refuse to

1 participate shows that the NRC isn't really interested in what the public  
2 has to say. And even this discussion that I've heard this morning is  
3 based on a false dichotomy, it's that we either release the stuff on a  
4 case-by-case basis, or we set standard to release the material. There's  
5 no discussion whatsoever of recapturing or setting a standard at  
6 background level radiation.

7 I'd like to just take a minute to look at exactly how this  
8 outcome has been prejudged, by pointing to the NRC's staff requirement  
9 that was released on June 30, 1998. It says that the staff should pursue  
10 and enhance participatory rulemaking process. The proposed standard for  
11 clearance should not be a detectability standard, but should draw from the  
12 IAEA's interim report and the SAIC analysis.

13 Now, I know it's already been pointed out, but I would like to  
14 say it again: this analysis that this proceeding is based on, the essay  
15 I see is a consulting group that has an economic interest in the outcome  
16 of this proceeding. It was part of the BNFL team and it's a firm that has  
17 benefited from the quarter of a billion dollar contract, under which BNFL  
18 is going to recycle radioactive materials. So, how can a proceeding  
19 that's based on a document that's biased even have a fair beginning.

20 Let me go back to the staff requirements. It goes on to say  
21 that is should, also -- will, also, meet --

22 MS. STINSON: Can you just step back a little?

23 MS. HAUTER: -- ongoing practice, with regard to norm and  
24 norm, which we all know is not regulated. The rulemaking should focus on  
25 the codified clearance levels above background for unrestricted use that  
are adequately protective of public health. The level should be based on  
realistic scenarios of human -- of health affects from low doses that  
still allow quantities to be released. So, we're going to use statistics  
& to prove that this stuff is safe and we all know that these abstract  
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1 assumptions and incorrect conclusions. They don't necessarily mean a  
2 thing. It goes on to say that the rule should be comprehensive and apply  
3 to all metals, equipments, and materials, including soil.

4 So if the decision has already been made to release this  
5 stuff, why would we sit around this table and have a discussion of what  
6 the NRC has already decided to do? And let's be clear about this process.  
7 It's part of a far reaching effort by the nuclear industry and its federal  
8 agency cheerleaders to allow the nuclear industry to lower its costs, to  
9 make decommissioning cheaper, and to do this by forcing its toxic trash on  
10 the American public.

11 Let's just review how the industry is operating right now.  
12 They spent between just '97 and '98 about \$11 million on federally-elected  
13 candidates, both in an attempt to get the Yucca Mountain dump, but, also,  
14 to get other benefits.

15 MS. STINSON: One minute, Winonah. Thank you.

16 MS. HAUTER: Like the GAO report that's going to show that the  
17 current theory of radiation health is untrue. We have the DOE study over  
18 the next 10 years to do in the no -- or the linear no threshold model.  
19 And we, also, have the BIER-7 panel. So, all of these things are coming  
20 together and the NRC is doing its part by having this rulemaking.

21 In conclusion, this meeting is not a genuine effort to  
22 consider the concerns of the stakeholders. These meeting are a very  
23 thinly veiled attempt to meet the NRC's legal obligations to involve the  
24 public. And I'm sorry to say, the NRC has just become a captive of the  
25 industry that it is supposed to regulate, and I think that the  
Commissioners and the staff should be ashamed of having a proceeding like  
this, where the outcome has already been determined, before the public has  
even participated in the process.

Thank you.

MS. STINSON: Is Chris Badell here?

1 MR. BADELL: I don't have anything.

2 MS. STINSON: Okay, thank you.

3 And Terry Johnson?

4 MR. JOHNSON: I'm Terry Johnson. I work at George Washington  
5 University as director of Radiation Safety. There has been talk here  
6 about whether we should allow releases down to zero or whether anything  
7 above zero should be regulated. Also, we're talking now about one  
8 millirem per year to a member of the public. I think many of the people  
9 around the table and, certainly, most of the American public are not aware  
10 of what the consequence is at one millirem. As far as we have proven  
11 evidence from human studies, there is none, zero. How about 10 millirem?  
12 Again, none; no evidence. How about 100 millirems? Again, none, no  
13 evidence. How about 1,000 millirems? Again, none. From the Hiroshima  
14 and Naga Sake survivors, of which there were 100,000 approximately in the  
15 exposed group, a very large group capable of very adequate statistical  
16 results, there are -- there's no evidence that doses below about 10 or  
17 20,000 millirem. It does depend a little bit on which expert you talk to.  
18 But, roughly, around 10-20,000 millirem is the threshold, where any  
19 observed consequence can be found.

20 Now, more recently, we have a much larger group in BiloRussia,  
21 Ukraine, and Russia. Now, we're talking instead of 100,000 survivors of  
22 an incident, we're talking about millions -- literally millions. And in  
23 this group, which is now -- this incident is now a very old incident.  
24 There's plenty of time for some of the cancers or whatever to develop.  
25 The only observed affected we've seen so far is an increase incidents of  
thyroid cancer among children. Now, there's some new evidence there,  
because there was, also, a lot of women that were pregnant at that time  
and there's no evidence of an increase of thyroid cancer among children --  
& or born in -- just children that were actually children at the time of the  
OCI incident. And thyroid cancer is one of the cancers that can be treated  
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1 with an enormous success rate. And the main consequence to a child after  
2 treatment -- after successful treatment would be to take -- to have an  
3 artificial dependence on Thyroxin, the table they would take for the rest  
4 of their life.

5 So, why are we regulating one millirem, 10 millirems, 100  
6 millirems, when it's 100,000 millirems, roughly, that's been demonstrated  
7 to have a really pronounced effect. You can at least demonstrate with  
8 100,000 people. Why are we doing this? This is an ethical issue, because  
9 we're burdening our society. We are burdening medical research, which can  
10 be brought to a halt, some of it, by this type of activity. We are  
11 burdening nuclear medicine. We are burdening radiation oncology. We are  
12 burdening the practice of clinical pathology. We are burdening a lot of  
13 valuable things that are done in industry with radiation and radioactive  
14 material. And we're dealing with what is no more than a theory that is --  
15 has not been proven, except at levels thousands of times higher than what  
16 we're trying to regulate now.

17 MS. STINSON: Thank you. Are there other public commenters,  
18 who did not have an opportunity to sign up, who would like to enter  
19 something into the record, at this point? Yes? Just mention your name  
20 and affiliation.

21 MR. D'ARRIGO: My name is Diane D'Arrigo. I'm with Nuclear  
22 Information and Resource Service. I have a statement to read from a  
23 number of organizations, national and international. It's a statement to  
24 the Nuclear Regulatory Commission opposing atomic waste release,  
25 clearance, recycling, into the marketplace. Our call to the Nuclear  
Regulatory Commission is to fully regulate and isolate radioactive waste  
and materials and anything that they contaminate, no matter what level.

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The radioactive legacy of atomic weapons and energy production should be  
isolated from the public and the environment. We don't want nuclear power  
and weapons waste released, cleared, deregulated, exempted, generally

1 licensed, designated de minimis, unimportant, or BRC, below regulatory  
2 concern, or by any other creative direct or deceptive means allowed out of  
3 nuclear facilities and into the marketplace or the environment at any  
4 level.

5 The current methods of releasing radioactive waste from  
6 commercial licensees and weapons facilities must immediately cease. No  
7 future radioactive releases should be permitted, and a full accounting and  
8 recapture of that which has already been released should commence  
9 immediately. Using radioactive waste in consumer products poses  
10 unnecessary, avoidable, involuntary, and uninformed risks. The consumers  
11 and producers, the raw materials industries do not want these radioactive  
12 wastes or risks.

13 It is not credible to believe computer models can calculate  
14 and accurately predict any or all of the doses to the public and the  
15 environment from all of the potential radioactivity that could be released  
16 over time. Projections of acceptable or reasonable risks from some amount  
17 of contamination being released are meaningless and provide no assurance.

18 Monitoring for specific types and forms of radioactivity that  
19 could get out can be very expensive and tricky to perform. Hot spots can  
20 sneak through. We can't trust the nuclear generators to monitor their own  
21 releases. No matter what level the NRC sets for allowable radiation risk,  
22 dose, or concentration, it will be difficult to impossible to measure,  
23 verify, and enforce.

24 Who is liable if the legal standards the NRC intends to set  
25 are violated? The public has clearly opposed releasing radioactive  
materials into commerce and we continue to do so. Naturally occurring  
background radiation cannot be avoided, except in some instances, for  
example, reducing radon in homes. But, its presence, in no way, justifies  
& additional, unnecessary, involuntary radiation exposures, even if those  
OCI exposures might be equal to or less than the background; nor does it  
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1 justify shifting the economic liability from the generators of radioactive  
2 waste and materials to the economic and health liability of the recycling  
3 industries, the public, and the environment.

4 We fully support the complete opposition and "zero tolerance"  
5 policies of the metal and recycling industries, the management, and the  
6 unions, and the workers. We appreciate their efforts, not only in  
7 opposition to legalizing radioactive releases, but their investment in  
8 detection equipment and literally holding a line against the radioactive  
9 threat to the public. They should not have to be our de facto protectors.  
10 The Nuclear Regulatory Commission, the DOE, the EPA must act to prevent  
11 the dissemination of radioactive waste into recycled materials and general  
12 commerce. The problems that have been experienced by the steel recycling  
13 industry with generally licensed sealed sources, getting into their  
14 facilities and costing tens of millions of dollars to clean up per  
15 facility, should serve as a warning not to let other radioactive waste and  
16 materials out of regulatory control. The fact that radioactive waste is  
17 already getting out should not be used to justify legal levels allowing  
18 more out.

19 The NRC, EPA, and DOE should prevent future and correct past  
20 releases. The fact that other countries are releasing radioactive  
21 materials into the market is an excuse for us to legalize it here. The  
22 United States should take a lead in preventing contamination of the  
23 international marketplace. We produce ourselves best by not facilitating  
24 international radioactive commerce. I'm almost done.

25 The fact that it is difficult and expensive to monitor and  
detect radiation does not justify its release. It is all the more reason  
to prevent any waste getting out, so we don't have to check routinely for  
contamination. The nuclear industry and regulators should be aware of  
& what materials are at reactor and weapons facilities and what are waste  
OCI and which have been contaminated. Those materials must be isolated, not  
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1 released, at any level. The mind set of the Nuclear Regulatory Commission  
2 appears convinced that it should legalize radioactive waste being recycled  
3 into the marketplace.

4 Our demand for prohibiting releases has been considered  
5 unreasonable. That is why many of us are refusing to spend two days at  
6 this meeting, until the logical public positions that radiation exposures  
7 should be prevented and that radioactive waste should be isolated, not  
8 recycled into daily use items, are considered reasonable. Our time is  
9 better spent educating the public on what you are planning, than here  
10 debating levels that we will never accept and methodologies that we will  
11 never trust. And the organizations that have signed on to this statement  
12 are mine, Nuclear Information and Resource Service, Safe Energy  
13 Communication Counsel, Public Citizen, Friends of the Earth, U.S. and  
14 U.K., Green Peace, Alliance for Nuclear Accountability, the Low Level  
15 Radiation Campaign, Clean Water Action, and Peace Action. Other  
16 organizations who generally oppose atomic waste release, clearance  
17 recycling into the marketplace include U.S. Public Interest Research  
18 Group, Institute for Energy and Environmental Research, and the Nuclear  
19 Awareness project in Canada.

20 MS. STINSON: Thank you. And thanks' to all the members of  
21 the public, who are here and willing to be patient and hold your comments  
22 to the public comment periods. There will be another one at 4:30 this  
23 afternoon.

24 We are going to find a way to cover all the items in our  
25 agenda for the next two days. And so, we will pick up with session three.  
We'll start exactly at 1:30, so come back a bit before that, if you can.  
Lunch can be obtained in the cafeteria on the second floor or outside,  
there's a number of fast food restaurants across the street, across the  
Pike, and in the shopping center just to the immediate south of this  
building. Please return in time to start promptly at 1:30. Thank you.

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1 [Whereupon, at 12:28 p.m., the workshop was recessed, to  
2 reconvene at 1:30 p.m., this same day.]  
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## A F T E R N O O N S E S S I O N

[1:34 p.m.]

MS. LESNICK: Our first two sessions this morning, we started at a very broad view: what's the nature of the issue; what's bringing the NRC here to talk with you and vice versa; and kind of the nature and extent of the issue. This next session is a bit of transition from a little bit more background, starting to get into specifics, which we will then be doing for the remainder of the day and a half we have together.

A number of your around this table and in this room and others have specifically requested, it would be very useful, just to make sure we're all kind of on the same page, how is the NRC currently handling the control of solid materials and, if possible, can you walk us through perhaps a case or two, so that everyone -- some people might understand it very well and others might not. And before proceeding on with more levels of detail, either about this approach or some other alternatives, people wanted to make sure they understood what is currently going on.

So that is the intent for this next session and I will turn to Tony, as we have, for a little bit of background for you with some leading questions. Then, we'll proceed. Tony?

MR. HUFFERT: Thank you, Mike. My name is Tony Huffert. I'm the health physicists in the Division of Waste Management. I work in the areas of nuclear material safety. Tom, did you want to introduce yourself?

MR. ESSIG: I'm Tom Essig. I'm section chief for Emergency Preparedness and Health Physics in the Office of Nuclear Reactor Regulation.

MR. HUFFERT: Thank you. The title of this section is current NRC case-by-case review of licensee request for the release of solid material. That's what we called it in the issues paper, Section A(1)(3). As Trish pointed out earlier in her session, the NRC does have regulations

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1 for the disposal of solid materials containing relatively large amounts of  
2 radioactive. But, the current NRC regulations do not contain generally  
3 applicable dose criteria for the control of solid materials with  
4 relatively small amounts of radioactivity that is either in or on the  
5 material and equipment. Even though the NRC does not have such criteria  
6 in place that cover the release of solid materials, it' likely the  
7 licensees will continue to seek release of solid materials with small  
8 amounts of radioactivity, when the solid material becomes obsolete or  
9 otherwise unusable during operations or in the facilities being  
10 decommissioned.

11 We do have regulations that require licensees to survey  
12 materials to evaluate their radiological hazard in our Part 20. One set  
13 of criteria licensees use to evaluate solid materials before they are  
14 released in contained in Reg Guide 1.86, copies of which are outside.  
15 This document is similar to an NRC guidance document number SC-8323. That  
16 document is used in the materials program and is called "Guidelines for  
17 Decontamination of Facilities and equipment, prior to release for  
18 unrestricted use or termination of byproduct source or special nuclear  
19 material licenses.

20 Both documents contained a table of surface contamination  
21 criteria. The tables of surface contamination criteria do not apply to  
22 solid materials with contamination spread throughout its volume, such as  
23 soil. For some situations, the NRC allows release of volumetrically  
24 contaminated material to be released, if the survey does not detect  
25 radioactivity levels above background radiation levels. This is sometimes  
referred to as the NRC no detectable policy. This does not mean the  
material is released without any radioactivity present in the material,  
itself. Instead, it means that the material may be released with very low  
levels of radioactivity that is not detectable with a radiation monitoring  
instruments that are at our power plants or materials facilities. The

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1 detection sensitivity levels under this policy are consistent with the  
2 average values in Reg Guide 1.86 and Fuel Cycle 8323 documents.

3 The NRC, also, evaluates specific request for the release of  
4 solid materials on a case-by-case basis, which is discussed further on the  
5 next slide. But, first, I'd like to discuss a little bit further what is  
6 Reg Guide 1.86 and fuel cycle 8323. In 1974, Atomic Energy Commission  
7 published Reg Guide 1.86; and in 1982, we published Fuel Cycle 8323. The  
8 table of acceptable service contamination levels are applicable to various  
9 radionuclides. Some of the limitations of this guidance document is that  
10 it's 25 years old and that the surface contamination levels are stated in  
11 terms of measurable radioactivity levels, and they were based principally  
12 on the detection capability of the survey instruments that were being used  
13 25 years ago.

14 This document only contains numerical limits for the amount of  
15 radioactivity that can be present on the surface to solid materials and,  
16 therefore, does not apply to solid materials with volumetric  
17 contamination, such as soil. The surface contamination levels were not  
18 based on the potential dose that an individual could receive, if they came  
19 in contact with this material. Again, they were based principally on the  
20 detection sensitivity of the instruments 25 years ago. Both documents  
21 were not established under the rule making process, conducted under the  
22 Administrative Procedures act either. As Trish pointed out in her  
23 session, another limitation in this guidance that although surveys do  
24 provide some assurance that elevated levels of license radioactive  
25 materials are not being released from their control, not all licensees  
survey materials with the same detection sensitivity. And this can lead  
to differences in the level of protection from the releases.

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One regulatory option that is available to licensees, request  
approval for alternate disposal procedures. Out of this regulation,  
licensees are allowed to seek NRC authorization for disposal of materials

1 with low levels of volumetric contamination. This is in our part 20.  
2 It's referred to Part 20, .302 previously. Now, it's called 20.20002.  
3 His request typically involved the burial of solid materials on the  
4 licensee sites or at an offsite location, such as a nearby landfill.  
5 Example of some of these materials that are disposed of could be soiled,  
6 sludge, rooming material, other equipment that might be around.

7 The licensees are required to identify and describe the ways,  
8 the disposal site, the pathways of exposure, and to calculate those to  
9 members of the public and workers. The guideline that's in effect now is  
10 that the annual dosage should not receive a small fraction of the average  
11 public dose, and we set at \$100 million per year. And to illustrate this,  
12 I would like to give you two examples of salt material releases that would  
13 clarify our current case by case approach.

14 The first example involves a nuclear power plant that  
15 requested approval of an alternate disposal procedure involving off site  
16 disposal of subtank waste from the power plant. In 1990, the Yankee Rowe  
17 power plant requested NRC approval to dispose of septic waste with very  
18 low levels of radioactivity at a local public center, Cherry Waste Water  
19 Freeman Facility. The total amount of radioactivity in the septic tank  
20 was two microcuries; that's two millions of a curry and it consisted of  
21 cobalt predominantly, with some cesium and radioactive magnesium. The  
22 calculated dose from the disposal was about one-tenth of a millirem per  
23 year to a person exposed to the waste either during transport or disposal.  
24 The NRC staff coordinated the review of case, with the Rowe Massachusetts  
25 Board of Health and based on the projected radiological doses and the  
controls for severing the material before it was released, the NRC  
approved the disposal request.

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The second example is a case of a licensee requesting solid  
materials during decommissioning. For nearly 30 years, the corporation in  
Tuxedo, New York, produced radionuclides for medical research and

1 educational uses. After the radio nuclide production ceased, the licensee  
2 conducted a comprehensive characterization of the radiological status in  
3 the facility, including the building structures, the materials preparation  
4 systems, the laboratory equipment present, berry pipes -- the berry pipes  
5 and the soil. I used both surveys and process knowledge to document the  
6 radiological status and to develop a plan for dispositioning the  
7 structures and the materials.

8           During the decommissioning of this facility, solid materials  
9 containing low levels of surface contamination or survey and release for  
10 unrestricted use. The criteria that was used was a combination of the  
11 more stringent NRC or New York State guidance. It turns out that for the  
12 release of solid materials, they use the NRC no detectable policy and the  
13 version of the New York State criteria, which is essentially similar to  
14 Reg Guide 1.86.

15           Solid material that exceeded criteria for restricted use were  
16 either disposed of as radioactive waste in a licensed low level waste  
17 disposal facility or they were transferred to a licensed radioactive waste  
18 processing firm, so as you can see from these two examples solid material  
19 releases are occurring during operations and during decommissioning and  
20 this raises the question how much material has been released so far.

21           As I noted earlier, licensees are currently required by NRC  
22 regulations to perform a radiation survey and to keep records of the  
23 survey results. However, the survey records are not required to be  
24 submitted to the NRC and therefore NRC does not track the amount of solid  
25 materials that are released from its facilities, which makes it difficult  
if not impossible to estimate how much solid material has been released to  
date.

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          The NRC does not currently track these releases for several  
reasons, one of which is that NRC inspects licensees' rad protection  
programs and the survey records. The solid material releases that are

1 made by licensees are in compliance with licensees' programs which are in  
2 turn consistent with our regulations. Also, we estimate that the  
3 exposures that are associated with the release of solid materials are low.

4 In general, it is projected that the amount of solid material,  
5 such as metal and concrete, that has been released to date is small  
6 compared to the amount available in future decommissioning. Could we go  
7 to the graph?

8 This graph is based on data contained in the 1997 EPA  
9 technical support document that was discussed earlier by John Karhnak. It  
10 is entitled, "Evaluation of the Potential for Recycling the Scrap Metals  
11 from Nuclear Facilities." According to the EPA estimates, the total  
12 amount of recyclable steel from nuclear power plants alone is about  
13 600,000 tons if you assume a 15 millirem per year dose level.

14 The graph also illustrates EPA's projections of when the steel  
15 may be potentially released as nuclear power plants undergo  
16 decommissioning over the next 50 years. It should be noted however that  
17 the 600,000 tons of steel potentially available from the nuclear power  
18 plants is a very small fraction of the total amount that the scrap steel  
19 industry recycles annually.

20 For example, over the 50 years period that we are talking  
21 about, the steel industry could recycle well over one billion tons of  
22 scrap steel and, as indicated in this graph, the amount of potentially  
23 available steel from the nuclear power plants ranges from less than  
24 one-tenth of one percent to about one percent of the steel industry's  
25 annual use of scrap.

Currently the NRC is researching the total amount of materials  
that could be surveyed and released under a potential clearance rule at  
different dose levels. The amount that could be released depends on the  
radiation dose level and the radionuclide concentrations that are  
established. That concludes my formal presentation. I would be happy to

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1 clarify anything I have said.

2 MR. LESNICK: Great. Thanks, Tony.

3 Let's take this conversation in two parts.

4 First, let's limit the first part if there is a need for any  
5 points of clarification to make sure people around the table have an  
6 understanding of the current case by case approach, then let's move on to  
7 your comments about that current case by case approach. That could be  
8 problems you see, opportunities, attributes of it, concerns you have got  
9 about solid materials released or likely to be released under this  
10 scenario, so the first part is only points of clarification and before we  
11 move on, Roy, I apologize. We haven't given you a chance to introduce  
12 yourself since you joined us right before the break, and then we will  
13 start with the cards that are up.

14 MR. BROWN: Thanks, Mike. My name is Roy Brown. I am  
15 Director of Regulatory Compliance for Mallinckrodt, Incorporated based in  
16 St. Louis. We are a radiopharmaceutical manufacturer.

17 I am also here today and tomorrow representing the Council on  
18 Radionuclides and Radiopharmaceuticals. I am Chairperson of the  
19 Regulatory and Legislative Committee. CORREAR is a trade association that  
20 represents the concerns of manufacturers of radiopharmaceuticals for use  
21 in nuclear medicine and radionuclides for use in biomedical research.

22 MR. LESNICK: Thanks. Welcome. All right, John, as long as  
23 you have got the mike there, let's start with you. We will swing to Paul  
24 and Dan over to you. Go ahead.

25 MR. KARHNAK: I just want to remind folks that the chart that  
Tony used now is about four years old and that there have been power  
plants that have come offline. It was based on power plants coming  
offline at the end of their license, regularly scheduled license. That is  
going to be different today than it was four years ago based on some  
plants coming off early and other plants having asked for extended

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1 licenses, so that data, when NRC does their study you will see some  
2 differences but they are explainable differences.

3 MR. LESNICK: Thank you, and remember, this first round is  
4 only clarification about case by case. Paul?

5 MR. GENOA: Yes, two points of clarification. I am picking up  
6 on what John was saying. First was that I noticed the graph for steel,  
7 you mentioned that was based on an assumed 15 millirem standard, so it is  
8 not clear that there is even a linear relationship that would say one  
9 millirem would be one-fifteenth. It may be far less than that, so that is  
10 an important clarification.

11 The second point really has to do with the point that it was  
12 assumed under a -- I am not sure if the assumptions were actually just  
13 license termination dates of the power plants or whether there was any  
14 relicensing activities, but the world has changed dramatically just in the  
15 last two years.

16 We have about 105 nuclear power plants operating today. A few  
17 years ago there were those folks who thought that much of the fleet would  
18 be shutting down and be noncompetitive. In fact, at a recent meeting of  
19 the Low Level Waste Forum in Annapolis last week Commissioner Merrifield  
20 came down. In his prepared statements he was discussing license renewal  
21 and the progress moving forward, and it was his opinion that well over 80  
22 percent of the existing fleet of plants are likely to relicense under  
23 today's economic conditions, so I think that plays heavily into what we  
24 are looking at, moving forward.

25 That would tend to smear out the distribution of this material  
over a much longer period of time. The amount of material from the  
physical plants would not change, but its release would be spread over  
more time.

MR. HUFFERT: Yes, that graph was based on the start dates of  
when the power plant went into operation. They assumed a certain lifetime

1 and then a certain amount of time after that before the materials were  
2 released, so it is all based on the start date.

3 MR. LESNICK: Dan, before we go over, Mike Veiluva has joined  
4 us. Mike, can we ask you to introduce yourself and we are in Session 3 --  
5 the partners on either side there I'm sure will help you tune in.

6 MR. VEILUVA: So I've been briefed. My name is Mike Veiluva.  
7 Real briefly, I am with the Western States Legal Foundation. I am their  
8 counsel. We are an environmental and disarmament organization based in  
9 the San Francisco Bay area.

10 MR. LESNICK: Thanks and welcome. Dan Guttman.

11 MR. GUTTMAN: Yes. I think this is a clarification question.  
12 You talk in terms of -- the discussion so far has been in terms of  
13 millirem and nanocurie and Becquerels rather than the particular isotope  
14 or element and one of the questions that we have expressed in our written  
15 remarks is maybe somebody might think you could release some more stuff  
16 that naturally occurs in nature, but what is the reason for releasing  
17 things like plutonium or transuranics?

18 So my question is, in light of your slides and examples of the  
19 case by case, we understand that in Tennessee that some plutonium is among  
20 the -- is part of the materials that may be released. There is nothing in  
21 the Tennessee license itself that has any standards for plutonium.

22 Can you tell us or tell the public actually how much plutonium  
23 has gone out under all these pre-releases? Do we know? Do you know? Or  
24 what is the standard you have for plutonium or is there no standard for  
25 plutonium, it's just absolute millirems and it doesn't matter whether it's  
plutonium or anything else?

MR. LESNICK: Do you want to handle that as a reactor  
or material?

MR. HUFFERT: Yes. I can't answer or speak to the metals in  
Tennessee and what is contained in that nickel, what kind of contamination

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1 levels of plutonium are in there. As far as the amount of plutonium  
2 that's been released from the NRC, we are currently studying that. We do  
3 not have a handle on exactly how much has been going out to date of any of  
4 the radionuclides.

5 MR. GUTTMAN: Is that to say that some plutonium may be out in  
6 the public now, you just don't know?

7 MR. LESNICK: Hey, Dan, I think we are jumping ahead to where  
8 people may see problems with the current case by case --

9 MR. GUTTMAN: This is not a problem. This is just a fact  
10 question. It may be fine. Some people think plutonium is no big deal.  
11 I mean a lot of the health physicists' business thinks it is fine. I am  
12 just trying to get the facts out.

13 MR. HUFFERT: I don't have a response.

14 MR. GUTTMAN: You don't know.

15 MR. HUFFERT: We don't know how much plutonium is out there.

16 MR. GUTTMAN: Okay, thanks.

17 MR. LESNICK: I've got a feeling we are going to come back to  
18 you during the problems part of this conversation however, and that's all  
19 right. Andy?

20 MR. WALLO: Tony, the other comment again on the same chart is  
21 that when you redo that you'll look under your current case by case using  
22 the surface guidelines what that distribution looks like, those aren't  
23 exactly equivalent to 15 either, so you were talking about the 1 millirem  
24 but you should look also at the current situation.

25 MR. HUFFERT: Right.

MR. LESNICK: Jeff.

MR. DECKLER: In the issues paper it seemed to indicate that  
one of NRC's considerations on whether or not to go forward with the  
rulemaking was the amount of time and resources it would take NRC to do  
that versus the amount of time and resources it takes you to do your case

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1 by case analysis, but the issues paper didn't really give any information  
2 on how much you are putting into the case by case analysis now. Can you  
3 give us any information on how many of these you do a year and how many  
4 hours are spent doing that?

5 MR. HUFFERT: I will try. For materials we have -- well, let  
6 me back it up. For onsite disposal requests like 20.2002 we do not get  
7 many requests. We might have less than a dozen on the books right now and  
8 these reviews can be extremely complex, meaning that we get into some  
9 detail about the environment that the proposed disposal is going to occur  
10 in, and it could take on the order of months to review that. We will do  
11 an independent dose assessment in many cases. We have to take a look at  
12 many different exposure pathways and evaluate it against the criteria that  
13 are in place.

14 I can't give you an FTE allotment. I can tell you that there  
15 is a group of people within NMSS working on this routinely. It is not  
16 their full-time jobs but it is probably several hundred hours a year,  
17 something like that.

18 MR. LESNICK: John Wittenborn and then we will come down to --  
19 I'm sorry --

20 MR. ESSIG: I just wanted to add a point on the reactor side.  
21 We probably receive, oh, just a couple a year maybe, now for onsite  
22 disposal. If it is in an agreement state of course it goes to the  
23 agreement state for its review. We only get the ones that are in the  
24 non-agreement states for our review, and as Tony mentioned, it is rather  
25 an extensive environmental pathway analysis that we require the licensee  
to do and then we independently evaluate that analysis and determine  
whether or not it is a reasonable analysis.

MR. LESNICK: Thanks.

MR. WITTENBORN: Thank you. Two questions, please.

First, the estimates in your chart were from EPA's study four

1 years ago. Did those include the DOE weapons facilities or are those just  
2 fuel cycle facilities, NRC license facilities?

3 MR. HUFFERT: That's only nuclear power plants.

4 MR. WITTENBORN: Okay.

5 MR. HUFFERT: No other facility besides nuclear power plants  
6 and it is only for steel.

7 MR. WITTENBORN: That was my second question. Do you have a  
8 separate assessment for some of the other metals like copper and nickel?

9 MR. HUFFERT: Not yet, no. We will get into this a little bit  
10 in other sessions, but we are currently evaluating that right now and we  
11 don't have numbers for that physical material.

12 MR. LESNICK: John, we assume the folks that you are  
13 representing are involved in that and would be pretty interested and want  
14 to be involved with those discussions?

15 MR. WITTENBORN: Absolutely.

16 MR. LESNICK: Okay. Steve Larick.

17 MR. LARICK: I had a question about the graph also. We have  
18 done similar estimates of how much that material makes up of the material  
19 that is routinely recycled every year. I guess my confusion is that it  
20 seems as though the way it's portrayed it seems to be advocating dilution,  
21 if you look at -- you are showing that this material is insignificant from  
22 a standpoint of how much it makes up of the general scrap supply and that  
23 it is spaced out over time. It seems to be advocating dilution, which is  
24 contrary to EPA's philosophy about other types of waste materials, so I am  
25 confused about that.

MR. HUFFERT: Okay. Could I respond?

MR. LESNICK: Please.

MR. HUFFERT: We used a relatively conservative estimate of  
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about 30 million tons of scrap metal being used by the scrap industry and  
it is my understanding that it is actually much higher than that. It

1 could be on the order of 60 or 70 million tons, so what we tried to do is  
2 simply show a range here from 1.01 to 1 percent, and again we are still  
3 studying this issue. It is mainly for illustration purposes.

4 MR. LESNICK: Let me get John Karhnaak in here because his head  
5 was bobbing up and down and over and out, and I assume it had to do with  
6 this comment.

7 MR. KARHNAK: Yes. If I had known I was going to be asked so  
8 much upon this chart I would have studied it more before I came. The  
9 chart deals, as placed up here, is out of one of our documents and it  
10 deals only with the NRC licensed commercial nuclear power plants.

11 I believe in our documents we have a separate chart that deals  
12 with the DOE facilities. In both cases they are based on the data that  
13 was available in terms of when they were expecting to come offline.

14 As far as your comment on dilution, when I looked at these  
15 charts I looked at them in terms of the amount of material that was  
16 available and whether or not that might have an effect on the market and  
17 one of the things that we did was look at the economics because we wanted  
18 to know how that might play into the public's view of this thing in terms  
19 of the market.

20 The small numbers here would not be forcing the market. I  
21 think that is the important thing to look at. In other words, the scrap  
22 industry is not going to go broke if they don't get it or if they do get  
23 it, either way. It is a relatively small amount of material, so as far as  
24 looking at dilution, no, that was not our intent but rather just simply to  
25 see where it played out in terms of the overall scheme of things.

MR. LESNICK: Thanks, John. As we move through the cards that  
are up, also let's start moving on also to your more evaluative comments  
about the current case by case approach, places where you see problems,  
places where you see attributes, other things you might raise about the  
current approach, and so that will be kind of fair game also for those

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1 with cards up who also have clarifying questions.

2 Mike Mattia, you have been waiting a little bit here.

3 MR. MATTIA: Just a clarification on Reg Guide 1.86. As I  
4 understand it, looking at Table 1, that material that was contaminated  
5 with Uranium-235 or 238 could be released if the maximum levels at 100  
6 cubic centimeters was 15,000 DPM or less, is that correct?

7 MR. HUFFERT: That is correct -- 100 square centimeters. That  
8 is roughly the size of the side of your face.

9 MR. LESNICK: Would you get closer to the mike, Tony?

10 MR. HUFFERT: Yes. Just as a point of reference, 100 square  
11 centimeters is roughly the imprint your face makes on the side of a glass,  
12 so it is about this big.

13 MR. MATTIA: I guess my question is if you had that area and  
14 it had 15,000 DPM or Uranium-235 or 238, what reading would you get, let's  
15 say in micro-Roentgens if you were to put a current day detector next to  
16 it?

17 MR. HUFFERT: Well, that is going to be dependent upon several  
18 factors. I don't have an answer in front of me right now, but I can tell  
19 you what would go into the calculation.

20 You would have to take into account the background of the area  
21 and the instrument, what the efficiency of the instrument is -- for  
22 example, if you are using a pancake GM probe it would be about 10 percent.

23 Basically it is the sensitivity and the background, and the  
24 geometry. I would think that it would be above background. Do you  
25 have --

MR. ESSIG: I would just add we are really talking about alpha  
emitters here, so that is why it is expressed in disintegrations per  
minute of alpha radiation and it really wouldn't be appropriate because  
there isn't much of an external hazard. This is primarily geared to the  
internal hazard of these radionuclides, both the uranium and then the ones

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1 that follow it, the transuranics.

2 It's primarily based on an internal hazard because alpha  
3 radiation won't even penetrate the dead layer of skin from an external  
4 point of view.

5 MR. MATTIA: One follow-up?

6 MR. LESNICK: One quick follow-up.

7 MR. MATTIA: Is there anything in Table 1 under Maximum  
8 Release Levels that would not be above background levels giving all  
9 consideration to all the variables?

10 MR. HUFFERT: Mike, all these levels are above background.

11 MR. LESNICK: All right, let's move on. Let's go next door to  
12 Felix, and Felix, either clarifying comments or any evaluative comments  
13 you want to make about case by case.

14 MR. KILLAR: I actually had a question for some work the NRC  
15 has ongoing that is related to this topic. I just wanted to find out what  
16 the status of it is, if that is all right.

17 MR. LESNICK: Yes, go right ahead.

18 MR. KILLAR: Basically what the NRC is doing is that they are  
19 upgrading the requirements in Part 31.5 dealing with generally licensed  
20 devices and they have established cutoff criteria for reporting and  
21 requiring registration requirements, should I say. Has the NRC looked at  
22 that in relationship to this rule as far as where that falls into either  
23 a dose to the individual if it ends up in a recycling facility or even if  
24 it goes out without recycling, if you just left it out in the general  
25 public what type of exposure that would be.

DR. COOL: Don Cool. That's a good question, Felix, and I  
don't have the numbers in my head right now. The rulemaking to impose  
registration on what were previously generally licensed devices was driven  
in terms of the initial quantities by recommendations that would come up  
with the Agreement States and were more geared towards picking off the

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1 highest couple of orders of magnitude than per se an absolute dose  
2 criteria under a given set of scenarios for exposure.

3 The view quite frankly around here is to make sure that the  
4 system works and then to go look and perhaps pull additional types and  
5 quantities of materials such that that may well not be the ending place of  
6 that rulemaking.

7 That rulemaking has finished public comment and the Staff is  
8 in the process of starting to analyze those comments and that that back to  
9 the Commission.

10 However, there are some studies that have been done trying to  
11 model the movement of sources and separately I could go if you'd like,  
12 talk separately to see if there is in fact a number for any one of a  
13 number of steps of transport or otherwise because again you would have a  
14 number of places where that source could conceivably be, depending on the  
15 quantity, because our Office of Research has in fact been engaged in what  
16 amounts to a PRA analysis, fault tree type analysis of that kind of  
17 situation.

18 MR. LESNICK: Thanks. Let's move on -- Jill -- and I would  
19 like people around the table to give some consideration whether you have  
20 been involved with the case by case approach, whether you have been an  
21 observer of that, some reactions you have to that. I think that would be  
22 very useful to the NRC during this session.

23 Jill and then we will go down to David Adelman.

24 MS. LIPOTI: I think this is a question for clarification  
25 because I am somewhat confused. I understand the application of Reg Guide  
1.86 to solid materials. I also understand MARSIM and its application to  
soils release and its application to a decommissioning standard of 25  
millirem all pathway.

But when we get to the case by case, the one that you offered  
on septic tank waste, and you used a dose estimate of 1 millirem per year

1 and you allowed it to be released, how does that relate to 25 millirems  
2 all pathways and why did septic tank wastes get this special treatment?

3 MR. ESSIG: I will answer that one because it was a reactor  
4 question.

5 The licensee applied to us under 20.2002 for special  
6 authorization to make a disposal of sewage sludge which had a small amount  
7 of radioactive material in it, and so it wasn't a detectability question.  
8 In fact, it was -- that was never at issue. The material was detectable.

9 The 20.2002 allows us to review and approve methods that  
10 aren't otherwise covered in Part 20 for disposal either onsite or offsite.  
11 In this case it would happen to be offsite. It requires the licensee to  
12 do a rather extensive environmental pathway analysis and then we in turn  
13 do a thorough evaluation of what the licensee did and basically considers  
14 an entire range of exposure scenarios leading to what is the ultimate use  
15 of the sewage sludge once it goes to the treatment plant and if it is  
16 going to be used for fertilizer then what dose might that imply for  
17 members of the public and that sort of thing, so we would look at the  
18 licensee's analyses of the sewage sludge, what radionuclides are in there,  
19 and do a very specific environmental pathway analysis.

20 Does that help with your question?

21 MS. LIPOTI: Well, it does, but what does this rulemaking,  
22 what is its relationship with the 25 millirem all pathway soil release  
23 criteria that is otherwise used at NRC?

24 MR. ESSIG: This particular authority that I am citing is  
25 authority that we currently have. The rule itself in 20.2002 doesn't  
prescribe any acceptance criteria in terms of dose. That was, as Tony had  
mentioned during his remarks, we will consider acceptable that which  
doesn't by this rather rigorous environmental pathway analysis, if a  
& member of the public doesn't receive more than a millirem per year from  
OCI just what we would call casual exposure to the material, and then we also  
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1 look at what we call an intruder scenario where either a worker at a  
2 sewage treatment plant, in this case, or other situations where someone  
3 might actually go in and dig up some material that had been land-disposed,  
4 in that case we would ask the licensee to show that the individual would  
5 not receive more than 5 millirem per year from those sources.

6 So it is really -- it really doesn't have anything to do with  
7 the other, the 25 that you cited. This is really authority that we use  
8 for currently operating plants and Yankee Rowe at the time was an  
9 operating plant and we just -- questions like that come up during the  
10 operating lifetime of nuclear power plants that is the authority that we  
11 use to approve the disposal.

12 MR. LESNICK: We have had a request for the transcription to  
13 make sure you please pull the microphones even closer to yourselves as you  
14 do this, so I will try to remind us all as we do that.

15 Let's go to David Adelman from NRDC and then, Eric, we will  
16 come down to you and Judith, and then Joe -- we will get over to this side  
17 of the room. David?

18 MR. ADELMAN: I just have a qualifying question. It is my  
19 understanding that 1.86 is sometimes written into facility licenses  
20 specifically and that that would permit routine releases of materials that  
21 would meet the limits under the Reg Guide. I just wanted to get a sense  
22 of whether that is correct and how frequently people are releasing.

23 Do you guys have a sense of how often operators are utilizing  
24 that?

25 MR. HUFFERT: I can speak for materials facilities and I guess  
Tom would answer for reactors. In materials facilities, yes, they do have  
numerical limits contained in license conditions for certain types of  
facilities. These releases occur on an ongoing basis. We do not track  
& the number or the amount of curies or microcuries that are released. It  
would be done during an inspection and we do not have those records here.

1 MR. ADELMAN: And you don't maintain any kind of estimates of  
2 the amount of materials that might be --

3 MR. HUFFERT: Under Reg Guide 1.86 not to my knowledge, no.  
4 It is different for a 20.2002 or 20.302 disposal. It's a finite amount of  
5 material that is being assessed at one time, whereas under Reg Guide 1.86  
6 or its equivalent in the materials area, no, it is not tracked routinely.

7 MR. ESSIG: I would just add that on the reactor side the  
8 basic requirement like it is on the materials side is for licensees to  
9 make an adequate survey. That is contained right in Part 20 of our  
10 regulations and then we have defined through other means, we have had  
11 information notice, circular, Reg Guide 1.86 that you have mentioned.

12 All of those have collectively provided guidance to reactor  
13 licensees in the kind of survey that we expect them to perform prior to  
14 the release of this material, and so there really isn't anything other  
15 than the requirement to perform the survey, which is then inspected on a  
16 regular basis by our region-based inspectors.

17 MR. ADELMAN: Do most facilities have that authority? Is the  
18 1.86 written into the license of most of them?

19 MR. ESSIG: On the reactors it is not.

20 MR. ADELMAN: Okay.

21 MR. ESSIG: It is not written into the license to my  
22 knowledge.

23 MR. HUFFERT: I am looking to Don Cool a little bit for this,  
24 but in materials the answer is not all facilities have it.

25 MR. LESNICK: Don, did you want to comment on this?

DR. COOL: A great number of the materials facilities who work  
with unsealed materials and would therefore be looking at a potential for  
having material that they would have to survey out would have things like  
universities' medical research facilities, the processors like  
Mallinckrodt and some of the others that he's talking about, however the

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1 number of facilities, if we have roughly 24,000 licensees between the NRC  
2 and the Agreement States, probably 70-80 percent, and don't hold me to  
3 those numbers because I don't have them specifically in my head, deal with  
4 sealed sources. They would not need to have those written into their  
5 license except under circumstances where there was a problem with a source  
6 would not have that kind of survey need, so relatively speaking, it is not  
7 a large number of facilities and it will tend to be some of the larger,  
8 more sophisticated university research folks who are using unsealed  
9 materials.

10 MR. LESNICK: Okay. Should we move on? Eric, you are with  
11 Southern Cal Edison, right?

12 MR. GOLDIN: I was just going to make a comment that from a  
13 generator's perspective as far as clarifying remarks goes, the decision is  
14 made when material is presented at the appropriate exit point from the  
15 plant and the material is surveyed and our limits are no detectable and  
16 therefore we surveyed the material. The decision is made is it  
17 contaminated or not. If it is not, then it is released. There is no  
18 radioactive material recycled into the commercial sector.

19 If it is contaminated then you get the chance to make a waste  
20 management decision as to whether you can apply for a 302 or 2002 process  
21 depending on Agreement State status and all that sort of stuff and those  
22 are fairly few and far between, but I think the distinction needs to be  
23 made carefully that these case by case approaches using 302 and 2002 are  
24 waste disposal decisions, not free release decisions.

25 MR. LESNICK: Eric, as long as you have got the mike, any kind  
of evaluative comments about the strength, the attributes, problems with  
the current case by case approach? Any feedback to the NRC about that?

MR. GOLDIN: I think maybe in the next couple of sessions some  
of the discussion of problems. Survey techniques present problems based  
on the fact that you have surface contamination limits, no detectable with

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1 one type of survey meter may be something different if the material is a  
2 solid form that is contaminated throughout the material, so survey  
3 detection techniques are a very important issue.

4 MR. LESNICK: Okay.

5 MR. GOLDIN: That's what we are looking for is consistency.

6 MS. STINSON: Just in some of the prior discussions on the  
7 issue, what you are saying is on the reactor side, if there is material to  
8 be released and it is processed through, if there is no detection of any  
9 radioactive material, then it can be released, otherwise it is not  
10 released, is that correct?

11 MR. GOLDIN: That is correct.

12 MS. STINSON: Is that true on the materials side as well?

13 MR. HUFFERT: No, it is not. There is a difference between  
14 the no-detectable policy and the Reg. Guide 1.86 criteria. As I mentioned  
15 in the opening remarks, they are essentially the same when it comes to how  
16 hard you have to look into the no-detectable policy. The no-detectable  
17 policy has thresholds of on the order of Reg. Guide 1.86 levels. That is  
18 stated in a Circular 81.07, if I remember correctly, that the Office of  
19 Inspection and Enforcement issued in 1981, and that is what is currently  
20 in place.

21 On the materials side of the house at NRC, there is not a  
22 no-detectable policy, per se, it is more Fuel Cycle 83.23, which has the  
23 same table as Reg. Guide 1.86, and that is what you are measuring against.  
24 So there is a slight difference between the two, but, in essence, they are  
25 similar.

MR. LESNICK: Judith, your card is down. Do you want to make  
a --

MS. JOHNSRUD: No, my question got answered in part.

MR. LESNICK: Okay. Great. Joe Ring, you have been waiting  
very patiently.

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1 MR. RING: I would like to make two observations. One is we  
2 have talked an awful lot about steel and metal recycling, and I think I  
3 have heard in the last few people commenting, we are looking at something  
4 that is much more wide than simply recycling of those two components. If  
5 you take a look at, for instance, other hazard agents, if you have a  
6 hazardous chemical and it comes in contact with something, so long as it  
7 is empty, that is deemed non-hazardous, but they don't look at what the  
8 definition of content is. That may still have a residual amount of  
9 hazardous material, but it can go out.

10 I think the difference here with the radioactivity is we are  
11 trying to decide what that residual amount is and that maybe, in part,  
12 part of the problem that we have got, is we are actually asking the  
13 question.

14 Observation Number 2 is that Reg. Guide 1.86 is actually a  
15 1972 version of ANSI M 13.12.

16 MR. LESNICK: We are going to take about 10 more minutes for  
17 this. So I want to make sure it open about either clarifying questions or  
18 comments you want to make about case by case. So I will take the cards  
19 that up. And Mike Veiluva, I am going to sneak you in in the queue here  
20 because we haven't heard from you yet today, so let me turn to you for any  
21 comments about this case by case approach.

22 MR. VEILUVA: I tried to call from the plane, but nobody  
23 picked up the phone. The discussion of the sewage sludge I think is  
24 interesting. It points up one of the problems in trying to focus on these  
25 different materials, and I am hope I am not covering somebody else's  
comment, but when you put steel aside, and look at what, soil, sewage  
sludge and the like, dilution becomes the issue, because I would like to  
ask what was your, what was the volume sewage-wise that was accepted under  
this problem that you had. Because with enough buckets, you could dilute  
radioactive material almost to a point of one would think insignificance

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1 except from the biosphere perspective you would still have this  
2 radioactive material going out.

3 And one thing that I would like, in my own mind, to keep in  
4 mind is how you differentiate between materials where dilution is a real  
5 possibility for the generator to squeak in under a release rule, versus  
6 items like steel which are finite for recyclable, issues like that? I  
7 know from our experience with DOE sites, these sites, is dilution is a  
8 major issue because it is so easy for the generator in those circumstances  
9 to meet virtually any standard you want as long as they have got the  
10 resources, time and the willing municipal sewer system to do it.

11 The last example, for instance in Livermore we had repeated  
12 instances of radioactive material being released in the municipal sewer  
13 system. We now have detectable levels of radioactivity in the local park  
14 because that is where the sewage was disposed of. So, I think this raises  
15 the case by case problem to a heightened level that isn't just simply a  
16 steel problem.

17 MR. ESSIG: I can't give you the exact figures that we had in  
18 the Yankee Rowe case for dilution, but I do recall that the volume of  
19 sewer sludge that we are talking about was pretty small compared to the  
20 volume available for dilution. And I think in all cases, this one  
21 included, any evaluation that we perform of an environmental pathway  
22 analysis would take credit for an appropriate amount of dilution.

23 That is, you don't -- you would look at the receiving body of  
24 water, in the case it was -- say, it was a liquid discharge of the kind  
25 that normally is associated with a nuclear power plant, and you would look  
at the volume available for dilution, and typically take credit for it,  
although there are some scenarios where we assume, for example, that fish  
inhabit the immediate vicinity of discharge and that they are harvested by  
& a fisherman and consumed, and that enters into the pathway analysis. So,  
in that case, there isn't a whole lot of dilution, just a small amount of

1 prompt dilution.

2 So it is -- I am probably not answering your question totally,  
3 but the dilution is credited to the extent that it is appropriate. It is  
4 not done overly so, it is done in a manner that we believe to be  
5 realistic.

6 MR. LESNICK: Okay. I am going to take the cards that are  
7 remaining for this session, Barbara, and then we will go on to the next  
8 session. So we need to move through this with some vigor. Okay. Mike.

9 MR. MATTIA: Just one more question on current release. Is it  
10 true that even though Reg. Guide 1.86 does not provide a guide for release  
11 of volumetric contamination, that material that is volumetrically  
12 contaminated can and has been released if detection does not detect  
13 levels, even though the levels may be present volumetrically, and even  
14 though those levels could be released if the material is melted?

15 MR. HUFFERT: I can tell you that I am not aware of anybody  
16 making a materials release that has volumetric contamination in it. I  
17 think what does happen is if you have a piece of equipment, let's say a  
18 metal lathe, what they would do is they would try the best they could to  
19 get into that lathe and try to find out all the nooks and crannies where  
20 that material could spread and try to measure it. I know of some  
21 instances where licensees have actually gone to the instrument  
22 manufacturers and had specialty probes made up so they could get inside  
23 crevices to try to measure the inside of things like pipes or equipment.

24 The general rule of thumb is that if you can take it apart to  
25 measure it, you will try to do that. But at the same time, you are  
basically destroying the equipment, so that is a tradeoff that licensees  
have to wrestle with.

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MR. MATTIA: If I could read from the proposed rule that set  
this procedure going, where it says for some situations, the NRC allows  
release of volumetrically contaminated solid material if survey

1 instrumentation does not detect radioactivity levels above background.  
2 This does not mean that the material is released without any radioactive  
3 contamination present on it or in it, instead, it means that the material  
4 may be released with very low amounts of contamination that is not  
5 detectable.

6 I read that to say that if you can't detect it, but it could  
7 be volumetrically contaminated, that it is released, even though the  
8 volumetric contamination can be released in, let's say, the melting  
9 process.

10 MR. LESNICK: Don Cool.

11 DR. COOL: Okay. That statement is true, although I don't  
12 know of it being the case for metals. The case that was being referred  
13 to, because we were looking at all materials, is that there are a number  
14 of medical licensees who have, in fact, a provision built into their  
15 license for holding for decay of their various materials, and upon a  
16 certain number of half-lives, and then a survey which must show no  
17 detectable activity, they then deal with those materials in whatever way.  
18 It may mean they have to go a biohazardous landfill or some other  
19 criteria, but those would be solid materials which would be released from  
20 the radiological control standpoint following a survey which showed no  
21 detectable levels.

22 I don't know of that being the case for a metal, a solid metal  
23 like I-beam material. But there have been cases such as that in the  
24 materials arena for other kinds of materials.

25 MR. LESNICK: Let's roll through here. Paul, and then we are  
going to come down to Dan. Thank you both for your patience.

MR. GENOA: Yeah. To follow up on that last comment, there  
are several other types of volumetric material that has the potential to  
be contaminated, and I think that is the difference. We don't know if it  
is, but if you can't detect it, I mean the potential is there, but, you

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1 know, you wouldn't know if it was there or not. But examples are soils,  
2 sediments, water treatment resins, incinerator ash from facilities. All  
3 of these things are subject to survey and analysis. If they pass the  
4 criteria, whether that criteria is a level or a non-detect level, then  
5 they are released and they go for disposal or whatever else.

6 I don't believe there has been a recycle of those materials to  
7 date, but, yes, the volumetric materials have gone out, to make that  
8 clear.

9 To answer an earlier question for clarification, there was  
10 discussion of Reg. Guide 1.86 and some of the values in it. I think it  
11 was Mike Mattia. I am not sure about the uranium values being alpha  
12 emitters. I think you asked if they would be detectable on a micro  
13 R-meter, and I think the answer is no. But they would be detectable  
14 perhaps with the right alpha survey instrument, and probably in the same  
15 range, or perhaps lower, than something like coal ash or similar soil in  
16 your back yard.

17 I do know, though, about beta/gamma emitters and the value  
18 there of about 5,000 disintegrations per minute. This is just detectable  
19 above background. This is material similar if you were to take commercial  
20 no salt from the grocery store. If you have a sodium restriction on your  
21 diet, you would buy potassium iodide and you would use that on your food.  
22 If you sprinkled that on the table and put your detector down, you would  
23 get about the same reading as we are talking about for the release of this  
24 metal.

25 Very much lower -- or very much higher than that would be  
other commercial products, for instance, the Coleman lantern mantle you  
discussed earlier, that is over 65,000 disintegrations per minute reading  
on an instrument. Some Fiesta ware that you or your grandparents may use,  
& the bright colorful stuff, several orders of magnitude above those levels.  
And fertilizer that you get from the grocery store or from Home Depot

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1 would be up well above those levels as well. So just to give you an idea  
2 of some of the things that are in our background.

3 And, finally, you asked about personal experience with the  
4 2002 alternate disposal. I personally was involved with gaining the  
5 approval to remove about 50 drums of gravel and soil -- excuse me, gravel  
6 and rock matrix from the top of a roof structure. It is typical in some  
7 parts of the country to build a surface with various layers of asphalt and  
8 so forth and to cover that with gravel. That material, because it was  
9 coming from a nuclear power plant, was subject to the type of rigorous  
10 analysis and survey that we talk about. Upon surveying that, we just  
11 barely detected, using sophisticated gamma spectroscopy, cesium isotopes  
12 and some trace cobalt isotopes at very, very low levels, background  
13 environmental levels.

14 Well, we saw it, we had to deal with it. We went to the NRC  
15 and, of course, the State of Florida, an agreement state, we did our dose  
16 assessment, the rigorous analysis that Tom spoke about earlier. We showed  
17 that the exposure was probably a small fraction of a millirem under any  
18 foreseeable condition and, finally, approval was granted for that material  
19 to go to the local landfill. And I believe that that was a safe approach.

20 My only comment was that we had to break the ground. We had  
21 to determine whether or not it met an acceptable criteria, one that wasn't  
22 fixed clearly in regulations. There was a level of uncomfort by the state  
23 regulatory agency because they would be looking to the federal agency for  
24 a national standard to compare it to, and have since commented they would  
25 be happy to see a national standard so they could be a little more  
comfortable about those decisions.

MR. LESNICK: Thanks, Paul. Let's go -- final comments here  
for this session. Dan Guttman, and then Steve and Val, we will get to  
that corner.

MR. GUTTMAN: Yeah, Mike had asked about personal experiences,

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1 which I guess I am obligated to report. I didn't see here what --

2 MR. LESNICK: Can you pull a little closer, Dan?

3 MR. GUTTMAN: I didn't see here in the case by case what I  
4 presume is the most recent licensing of free releases, which is Tennessee  
5 and our limited ability --

6 MR. LESNICK: I knew you were going to bring this up.

7 MR. GUTTMAN: Our limited ability to observe that. And I want  
8 to know in each case whether this is what -- if I can assume, when you are  
9 talking about case by case, you mean the same characteristics that I  
10 observed. One, is it that the filings were all in secret by BNFL or its  
11 subsidiary MSC, so members of the affected public weren't allowed to see  
12 any of the risk analysis or anything, period. There was no public notice  
13 and comment.

14 In part, because of those aspects, you, the NRC, which is in  
15 charge of TDEC, doesn't know what authority, if any, they acted under. So  
16 today, six months later, we have no clue what the basis for the licensing  
17 was. There was no analysis of the effect, no pathway or exposure analysis  
18 on workers in relation to recycling, much less public comment. There was  
19 apparently no analysis of the 1998 findings by the Department of Energy  
20 that the MSC licensee didn't have the ability to comply with OSHA  
21 lock-out, tag-out, protective orders, training quality and a whole lot of  
22 other things, and the license requirement protects ostensibly against  
23 technetium, if we are lucky, but not plutonium or any of the other things.

24 Query. Can I assume by inference that TDEC was following what  
25 you described as the case by case method, or is there any way in which  
what you have described differs from what we at least -- at least we  
apparently observed in the TDEC case?

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MR. HUFFERT: As I said before, I am not familiar with the  
TDEC case to that level of detail. I can tell you, though, that at the  
NRC facilities, they would be conducting the surveys under a radiation

1 protection program. The radiation protection program would be reviewed  
2 and approved and inspected, and that, hopefully, the workers would be  
3 protected.

4 MR. GUTTMAN: But would there be specifically, all the filings  
5 would be open, available for public comment, there would be a pathways  
6 analysis for workers with specific characterization related to the  
7 materials, not some surrogate like something that happened 4,000 years ago  
8 in Japan or something? There are going to be actual serious analyses?

9 MR. HUFFERT: I thought all our records are open.

10 MR. GUTTMAN: No, no.

11 MR. LESNICK: Dan, I'm sorry, are you talking about in the  
12 future, as things go forward?

13 MR. GUTTMAN: Well, I am confused because this was supposed to  
14 be a discussion of case by case, and my experience and the, as far as we  
15 know, preeminent episode of what we are talking about here is release of  
16 solid materials is case by case, and nobody from the NRC seems to be  
17 familiar with that. And I was curious why that would be when you were  
18 preparing for something like this, that you wouldn't familiarize yourself  
19 with the seems like precedent example.

20 MR. LESNICK: Steve Larick.

21 MS. LARICK: One of the things that I have noticed, it is  
22 similar to the no discussion about controlled release. Everyone says that  
23 -- that has gotten up so far today has said that the majority of the  
24 material that they have to deal with is either at background or barely  
25 above background. Everybody says that you have only got a small  
percentage that is actually steel that needs to go into the recycling  
process.

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It may be that if you were to break things up, I know it would  
be a lot easier for everyone to come up with some blanket number for  
everything, but if you were to take the 80/20 approach and start attacking

1 things that were not a problem for people, you could work your way down to  
2 have an ever-decreasing percentage volume-wise of material that comes from  
3 these facilities that you would have to deal with. If you have 50 percent  
4 of the material that has no detectable reading, then that shouldn't even  
5 fall under any regulation, let it go. Then you are dealing with 50  
6 percent that is left.

7 Of that 50 percent, you have got a certain fraction that is  
8 soil, a certain fraction that is concrete. If you were to come up with,  
9 by process of elimination, some -- maybe some separate rules for separate  
10 things, instead of trying to have some blanket rule that covers  
11 everything, it may be that you could solve about 90 percent of your  
12 problem. And then, you know, a year from now we would still be sitting  
13 around here talking about recycling steel. But if that is truly only a  
14 fraction of your problem, why don't you deal with the other 95 percent and  
15 some up with something to address that.

16 MR. LESNICK: Bill. No? Pass. Kathleen. Quickly.

17 MS. McALLISTER: Thank you. Kathleen McAllister. I would  
18 like to speak to some of the difficulties with case by case. I am with  
19 the State of Massachusetts, an agreement state, but prior to working,  
20 beginning working with the State of Massachusetts, I worked for a small  
21 state and case by case situations that involved release of solid materials  
22 can tie up almost a quarter of the staff to really review and evaluate and  
23 ensure that disposal is protective of health and the environment. And  
24 that is just a small state perspective that case by case, without a clear  
25 standard, really does involve a great deal of research, and it takes staff  
time away from other concerns that have more immediate health and safety  
impacts such as radiographers in the state conducting activities. Thank  
you.

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MR. LESNICK: Thank you. Jill, is your card up from before or  
is it a new?

1 MS. LIPOTI: No, I have a new one. You asked for experience  
2 with the use of Reg. Guide 1.86, and I would like to tell you about a  
3 clean-up that the state did. Well, we had two of them, with tritium signs  
4 that -- tritium exit signs contain about 25 curies of tritium, and they  
5 can be damaged. We had a 15 year old boy take one apart in his basement,  
6 and we had a school for developmentally disabled individuals break one of  
7 these signs. So we had two clean-ups.

8 We used Reg. Guide 1.86 for our clean-up levels. It was  
9 really difficult to clean up tritium, which just goes everywhere, to these  
10 levels. We worked very hard to clean up the home of that 15 year old boy  
11 so that he would be able to go back and use his bedroom, and we reached  
12 those acceptable surface contamination levels.

13 In the school for developmentally disabled individuals, we had  
14 a lot of difficulty because of the materials that were used in the room.  
15 And one point we checked in every day with phone calls with the NRC. Don  
16 Cool was on the other end with a number of those phone calls. At one  
17 point the NRC said, well, would you like an exemption to Reg. Guide 1.86?  
18 In other words, not clean up even to these levels. We didn't take it. We  
19 said that if we could reach it in the other case, were going to keep  
20 cleaning until we could reach it in this case.

21 But I guess in terms of your case by case examples and your  
22 case studies, what would be interesting to this group is to know how many  
23 times not even Reg. Guide 1.86 was used, but some exemption was given to  
24 materials or to nuclear power plant licensees to go above these levels.

25 MR. LESNICK: Okay. I am going to go to Tom Civic for a last  
word on this. I love you, Joe Ring, but I waved down four other folks  
after I did the cards. We need to keep moving through. We are together  
two days, so I have a feeling those of you I did wave down, you will get  
& your oar in the water. Thanks for understanding.

MR. CIVIC: I have one question and one comment, actually,

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1 simply. When we use a term here that measurements were made on materials  
2 on a case by case basis, and it was determined that it was not above  
3 background and it was released, then I guess the question I have is, what  
4 was -- you know, what do you define as background? It was not above  
5 natural background? Or was the meter set at 1.86 cut-off levels, and if  
6 it was below those levels, it was released, and if it was above it, then  
7 it was held? So the question is, you know, what do you mean by background  
8 versus -- natural background versus, you know, setting your meter to these  
9 1.86 levels?

10 And the other comment I have is I am not necessarily taking a  
11 position on case by case or whatever, but it does take time, obviously,  
12 but passing the time on to the others downstream to deal with the issue is  
13 not an acceptable solution either. And the people that have the  
14 experience and the expertise, and the training are more capable of dealing  
15 with this problem than the general public, and we consider ourselves in  
16 the steel industry as members of the general public, so that is handled as  
17 well.

18 MR. LESNICK: Thanks, Tom. Do you guys care to comment at  
19 all?

20 MR. HUFFERT: Sure. The question, yes, is basically  
21 clarification of the no-detectable policy and how Reg. Guide 1.86 fits  
22 into that. Again, the background levels they were referring to, when it  
23 comes to Reg. Guide 1.86, on the materials program are what the meter  
24 would be reading when there is not a source present. Your meter is going  
25 to be reading something just because we are bathed in background radiation  
continuously. What you would then do for Reg. Guide 1.86 is go above and  
beyond that reading. So it would be the difference between what your  
meter is reading with background and what it would be reading when  
contamination was present.

You know, in the case of the no-detectable policy, they are

1 saying how hard you have to look is nothing above background. However,  
2 the way that the instruments are set up and the way that the operator  
3 diligently goes about his job, it is equivalent to Reg. Guide 1.86 average  
4 levels, so they are fairly consistent. The difference between the  
5 no-detectable policy and the Reg. Guide 1.86 is really not that much.  
6 Does that answer your question as far as how -- what we mean by background  
7 in those two different programs?

8 MR. LESNICK: If you are going to talk, you need a microphone,  
9 sir.

10 MR. CIVIC: Again, I understand the principles of measurement  
11 here, but when the person goes out with the meter, is his meter set to  
12 alarm at the 1.86 levels, or some action level, or is it set to say, if I  
13 measure my background, I am going to control my measurement so that I am  
14 going to minimize background and I am going to look for levels above  
15 background, and if they are above that, it is not going to be released?

16 MR. LESNICK: Tony, why don't you answer it, and then I will  
17 just remind folks we are going to spend a good chunk of time on  
18 measurement related issues also, Tom, in Session 5. But let's finish this  
19 up and then we will roll.

20 MR. HUFFERT: On a no-detectable, they are basically set at  
21 the Reg. Guide 1.86 level for how hard you have to look.

22 MS. STINSON: Okay. Great. Let's do a bit of a time check  
23 before we move on to our next session. We have -- we are now in Session  
24 4, and while I am doing this if you all need to shift, you can do that.  
25 Section 4, we are going to talk about the alternatives to the case by case  
approach. There are a number of alternatives enumerated in the issues  
paper. There are other alternatives that have already come up in  
discussions at prior workshops. There are other alternatives that I know  
individuals would like to raise and discuss at this meeting. And we  
really have focused the time on alternatives for -- to try to cover all

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1 those issues during this time. So we really, we have a lot to cover.

2 We have also heard raised the question about reuse and  
3 disposal of material, the potential for recapture, and the development of  
4 a national standard that might apply to all federal agencies. So there is  
5 wide array of issues for this session.

6 Session 5 is meant to cover all the various controls that  
7 could be in place, including ones that you might brainstorm and suggest to  
8 the NRC that are not currently used. We will talk quite a bit about  
9 survey equipment and survey activities, which I know there is a number of  
10 questions that need to be raised. So that is a fairly hardy discussion as  
11 well.

12 And then we have reserved the discussion on public  
13 participation, and what the enhanced participatory process should really  
14 be about, for the end of this day, if we can accomplish it. So we really  
15 have quite a bit to cover in the next two hours. We may end up shifting  
16 part of that. That is just to give you a bit of a window into the future.  
17 We may move the materials control discussion to tomorrow and try just to  
18 cover the alternatives and the public process, take some comments, some  
19 public comment. And we do still need to adjourn by 5:00, because that is  
20 what we noticed to people, and you may have made plans accordingly.

21 So, be forewarned, and I will introduce Frank Cardile, or  
22 actually let you introduce yourself, Frank.

23 MR. CARDILE: Hi, I am Frank Cardile with the Office of  
24 Nuclear Materials Safety and Safeguards. To facilitate the discussion in  
25 Session 4, we have prepared a flow diagram to help understand some of  
these alternatives, and they are being passed out right now. I apologize  
for not having included them in your packet, but this is a large size  
diagram so you can make notes on it.

Okay. We have just spent the previous session discussing  
NRC's current approach for current control of solid materials. We are

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1 also examining what other approaches we could use to effectively control  
2 solid materials and have developed a preliminary list of broad  
3 alternatives.

4 The purpose of this session is to explain the broad  
5 alternatives, make sure that they are clear before we get into the  
6 following sessions, and then to explore some other alternatives that you  
7 may think of that we may not have thought of.

8 In the next four sessions, as Barbara was just mentioning, we  
9 will explore in some detail how you would evaluate these alternatives, as  
10 well as others that we can discuss here today.

11 In the first alternative listed, on the next slide, NRC would  
12 continue its current approach for controlling releases, that is surveys  
13 based on existing guidance. The issues and problems and questions  
14 associated with this approach have been discussed in the previous session.  
15 And as also noted in this previous session, this approach would continue  
16 to result in some releases.

17 To formally establish criteria for control of solid material,  
18 NRC could go through a formal rulemaking process with analyses of health  
19 and environmental impacts, and economic impacts. In such a rulemaking  
20 process, three broad levels of control that are listed here could be  
21 considered.

22 All of these options that you may bring up today are on the  
23 table for our discussion. These levels that we have listed differ in how  
24 much they tighten the controls on release of solid material from licensed  
25 facilities.

I will discuss these options further by using the flow diagram  
that we have just passed out. This flow diagram is intended to be a --  
have we got it? Yeah. It is intended to be a simplified explanation of  
the alternatives and it allows us to talk about some of the issues  
associated with each of them.

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1           In the first alternative, which is illustrated by the lower  
2 line on the flow diagram, a regulation could be issued establishing that  
3 solid materials from areas in the licensed facility, as shown in the tan  
4 box, where radioactive material was generated and was used and/or stored  
5 would, based on the fact of its specific location in the facility, not be  
6 allowed to be released for either an unrestricted or restricted use, but,  
7 instead, be sent for disposal to a licensed low level waste disposal site,  
8 as shown by the purple box.

9           The rationale for this alternative is that there would not be  
10 release of certain solid materials, thus, removing concerns associated  
11 with allowing solid materials in the products for public use. This paper  
12 envisioned that this alternative might apply, for example, to equipment  
13 such as steel tanks or pipes in areas where radioactive material was used  
14 or stored, for example, and this would be the bottom item in the licensed  
15 facility tan box.

16           MR. CARDILE: This could be perhaps process areas in the  
17 containment or auxiliary buildings of a reactor. You could also apply it  
18 to equipment or furniture, like piping or chairs in a laboratory area, in  
19 a hospital or medical facility.

20           A question open for discussion is how or whether such a  
21 limitation would apply to other unaffected areas of a facility. This  
22 would be the upper -- as noted by the upper item in the licensed facility  
23 box. For example, material in a clean warehouse. Material or furniture  
24 or equipment in administrative offices, or site fences that are away from  
25 any facilities, or any buildings.

          Another question for discussion, and we kind of have already  
touched on it a little bit, would be what potential materials this  
limitation should apply to. For example, should it apply to only  
& potentially recyclable materials that could wind up in consumer products?  
Or, should it apply to other, more varied materials that we've talked

1 about?

2 A second alternative, illustrated by the middle line on the  
3 flow diagram, would be to set a dose limit in regulations allowing some  
4 material to be released, but restricting where this material could go to  
5 only certain restricted uses. For example, girders in a bridge. These  
6 restricted uses are sometimes referred to as authorized uses, as noted on  
7 the flow diagram. And this path is shown by the green box on the flow  
8 diagram. An advantage of this alternative would be that it make some  
9 productive use of these solid materials, but would limit these uses to  
10 only those that were less likely to cause public exposure.

11 To make this alternative work, by which I mean to ensure that  
12 the material only goes to its restricted or authorized use, it may be  
13 necessary for NRC to issue a license to those persons receiving the  
14 materials. This would, therefore, create a new set of licensees beyond  
15 which -- beyond just the generators.

16 A question for discussion is at what point the license control  
17 should extend? To understand this, the green authorized box should be  
18 considered to include the steps for manufacturing the restricted use  
19 products, for example a scrap dealer and or a steel manufacturer, and a  
20 manufacturer of the products, and the actual authorized use itself; that  
21 is, the bridge or other large facility like that.

22 Thus, in order to ensure that the material goes to its  
23 restricted use, would it be better for the license control to end at the  
24 point of release from the nuclear generating facility? That is, after the  
25 yellow survey box. Or should the scrap dealer or manufacturer be licensed  
so that license control ends after the manufacturing process? Or perhaps  
should the authorized use itself be licensed? For example, the authorized  
use could involve maintenance of an NRC general license.

26 The questions that we're asking here revolve around not only  
what would make the restrictions work, but also what would be the

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1 practical aspects and impacts on whether or not they could work at all or  
2 whether or not they would be able to work in a positive way.

3 Of course, a bridge only last so long, and eventually the  
4 lifetime of the authorized use will end, and the material will be  
5 available for unrestricted use, which is shown at the end of the flow path  
6 in the blue box. Thus, what restricted use essentially does is defer the  
7 ultimate decision about what should be done with solid material while  
8 allowing radioactive decay to occur over the lifetime of the authorized  
9 use.

10 For some radionuclides, this decay could cause substantial  
11 reductions in the radiation levels.

12 In a third alternative, as illustrated by the upper line in  
13 the flow diagram, a dose level could be set in a regulation below which  
14 materials could be released for unrestricted use by the public. The  
15 rationale for this alternative is that it would allow some productive use  
16 to be made of these materials in a safe way rather than just throwing them  
17 away.

18 In this alternative, before any material is released from a  
19 licensed facility, it would be monitored, as noted in the yellow box in  
20 the flow diagram, to ensure that it met acceptable levels. Material above  
21 the acceptable level would go to licensed LLW disposal site or it could  
22 stay on site for storage. Material that was below the acceptable level  
23 would then be no longer under licensed control and then could go to any  
24 unrestricted use, as noted in the blue box, including into a recycle  
25 process, by which it could wind up in a variety of products. It could  
also be reused in -- the material could also be reused in its current  
form, or it could be sent directly to a landfill.

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Within this alternative there are sub-options. And we have  
talked about these a little bit already. The level at which material is  
to be monitored in the yellow box could be set at progressively more

1 restrictive dose levels, including those noted in the issues paper, such  
2 as 10, 1, or 0.1. millirem above background, or monitored to a dose level  
3 that is no higher than or cannot be distinguished from background.

4 This list is not meant to be all inclusive. And, therefore,  
5 we have included other alternatives in the issues paper that can be  
6 proposed at these meetings or in written comments sent in to us.

7 Each of these alternatives has pluses and minuses. The  
8 purposes of our examination and the purpose of any rule making effort is  
9 to evaluate each one of them and the health and environmental impacts of  
10 them, and the economic impacts in an open forum, and evaluate the  
11 tradeoffs between the alternatives so that an informed decision can be  
12 made that protects public health and safety and serves the interests of  
13 the country.

14 This examination will also examine the capability of each of  
15 the alternatives to assure that appropriate controls are maintained. And  
16 now, with that as background, and I think what we can do is just go ahead  
17 and leave the flow diagram up on the wall for -- to facilitate discussion.  
18 We invite your questions and comments on the alternatives that we've  
19 listed and also other alternatives. These other alternatives could be  
20 suggestions for those not proposed here or variations on what we have  
21 proposed.

22 MS. STINSON: Let's start with questions. Any questions or  
23 clarification? Judith, and then Steve.

24 MS. JOHNSTRUD: You are assuming the setting of an acceptable  
25 to you exposure limit. Is this based upon the elimination of the linear  
hypothesis? That's one question.

The second question is, I really don't see anything here with  
ANN respect to the recapture--finding, tracking, and recapturing--materials  
RIL that have already been released into the biosphere, which may also be  
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1           And I guess a third question would go to how would you be  
2 determining subsequent dose levels and distribution within the recipient  
3 of the radioactive components as they continue to decay during secondary,  
4 tertiary, and subsequent reuses of the material?

5           MR. CARDILE: Let me answer the second question first.

6           The options that are laid out on the flow diagram are based on  
7 the -- are trying to illustrate the alternative that we discussed in the  
8 issues paper.

9           As I noted, we're open in this discussion today to hearing  
10 your comments and your suggestions for other alternatives.

11          MS. JOHNSTRUD: That's a suggestion for another alternative.

12          MR. CARDILE: Okay.

13          MS. JOHNSTRUD: And we would like to have it discussed rather  
14 than simply sort of cast aside.

15          MR. CARDILE: No, I -- I'm certainly not intending to indicate  
16 that we're casting it aside. One of things we've thought about -- we need  
17 to get into, learn a little bit more about, what the potential aspects of  
18 recapture are. One aspect of that is, of course, that the material has  
19 been -- that has been released we've looked at. You know, we've got a  
20 consideration of the levels that's been released at the levels that Tony  
21 has just discussed--the Regulatory Guide 1.86 levels, and, you know,  
22 detectable levels; and, to date, we -- considering a recapture program  
23 would have to be based on the -- whatever health impacts might be  
24 considered to have occurred based on the material.

25          With regard to your first question on the potential dose  
rates. The 1, 10, and 0.1 millirem and how they relate to the linear,  
no-threshold theory, let me start, but then I may ask Trish or Don to jump  
in.

          At the moment, the NRC's technical basis for establishing  
regulations is based on -- four -- for regulatory requirements is based on

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1 the tools that we have at hand, and that's the, you know, the criteria or  
2 the approaches in the -- used by the LNT methodology.

3 DR. COOL: This is Don Cool. I think you've actually raised  
4 a very interesting question. The criteria that were posed made the  
5 assumption that you were using a linear model and that you were, in fact,  
6 describing some probability of harm associated with the level, no matter  
7 what that level was, the range to include 0, as close as you could sort  
8 out between that which you could measure to other various other levels,  
9 and constitutes the range which covers the same risk level as the EPA uses  
10 during its Superfund cleanup.

11 What's particularly interesting, of course, is that if, in  
12 fact, you had a non-linear relationship that would change the way in which  
13 not only this regulatory structure but all regulatory structures would  
14 have to be set up.

15 MS. JOHNSTRUD: You mean a super linear?

16 DR. COOL: If you had a super linear or a threshold, either  
17 one, because then that would alter the control mechanism. For purposes of  
18 trying to lay out a control system, that is, the regulatory analogy at  
19 this point, we have assumed a linear hypothesis.

20 MS. JOHNSTRUD: And have you assumed also only the lifetime  
21 probability of fatal cancer and severe genetic defects or are you assuming  
22 that there may be other non- -- fatal non-cancer impacts on human health,  
23 particularly as these materials, if they were released, would be combined  
24 with other sources of exposures as well -- both from radiation sources and  
25 from other contaminants in the biosystem? And I would add also dependent  
upon the nature of the recipient age, state of health, fetal development,  
pregnancy, and so forth.

DR. COOL: Judith, I think I hear about four questions.

MS. JOHNSTRUD: Right. They boil down to really to only a  
couple.

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1 DR. COOL: The answer to the first one is yes, it certainly  
2 has the fatal cancer induction in it.

3 MS. JOHNSTRUD: But not other health impacts?

4 DR. COOL: Let me keep going, because that was your second  
5 question.

6 ICRP and others have moved towards a broader spectrum of risk,  
7 including morbidity, and that would also be looked at, although that isn't  
8 part of the number depending on which number you use. ICRP and other  
9 institutions, in fact, now have two numbers, and they both tend to get  
10 looked at.

11 Question number three with regards to synergistic effects, I  
12 would expect would be looked at although perhaps not directly in the way  
13 that you were thinking about as part of the environmental impact analysis.

14 And question number four is, in fact, a question that we're  
15 going to pose to you a little bit later about specific unique populations  
16 that would need a greater degree of protection.

17 MS. STINSON: Okay, thank you. Felix, and then David. I  
18 think we must have taken too long for Steve.

19 MR. KILLAR: I have a clarification on the -- your diagram,  
20 plus a question and maybe a suggestion as well.

21 When -- when from a licensee perspective, we only see that we  
22 have two alternatives and then possibly a request for exemption. It  
23 either has to go to a low-level waste disposal facility or else we  
24 determine that is, basically it can be free released because we have no  
25 radioactive material contamination. So, by having a third one in here,  
this authorized use, you're bringing in a new category that we're not  
currently used to seeing.

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The thing that we have, though, that, of course, we have with  
that is that when you do assume that after that authorized use is done it  
will go to a reuse, recycle, product use landfill. That may not

1 necessarily be the case. It may come back to the original person who  
2 supplied it to that individual. It could also be used as feedstock for,  
3 say, for instance, if you're looking at metal or what have you, for making  
4 B-52 boxes, which is then used for disposal of low-level waste. It ends  
5 up in a low-level waste burial ground.

6 And so I think you have to think a little bit beyond -- your  
7 diagram is basically too simple. I think you need to think about some  
8 other alternatives along those lines to use these products and possibly  
9 continue them, recycling them back to the licensees for use for other  
10 products and other applications.

11 MS. STINSON: It sounds like in particular you're thinking of  
12 some permutations on the -- in the second tier of this under -- in  
13 authorized recipient activities?

14 MR. KILLAR: Correct. Actually, what I would -- I would  
15 envision after the authorized use, you'd actually have your yellow cube or  
16 whatever you want to call it--your yellow box next there where you're --  
17 after the authorized use is done, they survey and then they look at what's  
18 your alternatives are, either going to a low-level waste burial ground,  
19 going back to another licensed or another authorized used, or maybe at  
20 that time, because of the decay that has occurred, it now can be free  
21 released to a low-level waste disposal facility -- I mean, to a landfill.

22 The other alternative you might look at for your authorized  
23 use is similar to a general licensee, and that the general licensee who  
24 has certain obligations, even though he's not licensed by the NRC, he now  
25 has the ability to handle this radioactive material, but he has an  
obligation to return or to dispose of that within the NRC regulations and  
stuff.

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So -- there is a little -- another perturbation, another  
possible approach to take to this.

MS. STINSON: David?

1 MR. ADELMAN: This may be a variation on the question that was  
2 just asked, and that's you could look at this as applying to all releases  
3 or you could look at it as applying to specific types of releases or  
4 specific radionuclides or specific materials and kind of break it down.  
5 And I guess my general question is, are you looking at it in a way that  
6 could be applied in a more broken down or not in a -- not being viewed as  
7 applying across the board, and if so, what kind of factors are you  
8 considering?

9 MR. CARDILE: Well, as I -- I think the answer is yes, we  
10 would look at it in a variety of ways. As I was noting, you might look at  
11 it differently for materials that could potentially be recycled and wind  
12 up in a consumer product--you know, the types of things we talked about  
13 earlier today. You might look at that -- so that might be something where  
14 you would say, well, let's put a restricted use-type of limitation on a  
15 certain types of metals, for example, that could recycled and wind up in  
16 a consumer product. That might be different than another type of material  
17 that really has no recyclable ability, but -- so, therefore, you might  
18 look at -- you might take a different tack. So I think we would be -- I  
19 mean, I guess, I'd be -- I tend to agree with you, and we would kind of  
20 take it -- if we could, take it on the material by material basis.

21 MR. ADELMAN: Yes, I guess--

22 MR. CARDILE: If that's practical. That raises some  
23 interesting questions that we've talked about at earlier meetings. Is  
24 there some sort of pilot that we could say, well, let's -- pilot program  
25 which we could say, well, let's consider this type of situation for this  
and this type of situation for that.

MR. ADELMAN: I mean, and I guess the other sort of regulatory  
considerations I was thinking about are uncertainties in the data or the  
risk assessments that you have. I mean, there may be some radionuclides  
for which you have better information, but you have the better sense of

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1 how it might be used, and other things, for which you aren't really able  
2 to predict how it's going to be used or who might be exposed. And that  
3 based on those sorts of circumstances, you would limit the alternatives  
4 that you're considering under those circumstances?

5 MR. CARDILE: Yes, I would think that -- I would hope that in  
6 the session tomorrow in particular, the sessions seven and eight, or  
7 really six, seven, and eight on environmental impacts, we may evolve into  
8 some of the -- further into some of the questions you're just raising.

9 MS. STINSON: Keep in mind that part of our purposes is sort  
10 of just where David is headed--to not only understand the alternatives  
11 that are characterized in the issues paper, but to begin to think about  
12 what kinds of permutations or other alternatives might be developed. We  
13 have John Wittenborn in the queue and then Tom Civic and then we'll go  
14 over to Martin.

15 MR. WITTENBORN: Thank you. This may be similar to Felix's  
16 comment, but I was wondering whether or not NRC is giving consideration to  
17 looking at a dedicated facility as an alternative to release of  
18 contaminated material? And if so, what kind of facility would that be,  
19 and how much material would it handle, and what kind of products would  
20 come from that facility or where would the materials from such a facility  
21 go? That's -- I'll guess I'll stop there, and I have another question to  
22 follow up.

23 MR. CARDILE: I would think it would give consideration to  
24 that. Some of that I think will evolve as part of our discussion amongst  
25 the various parties here, because NRC could say, well, that might be a  
good idea, but it would take, you know, parties to actually bring that  
about.

MS. WITTENBORN: I see that as different than the authorized  
use box, at least you explained it a little while ago. So I would like to  
see that set out and discussed separately, whether we do it now or we do

1 it in which session doesn't matter.

2 MR. CARDILE: Something like that perhaps we could explore a  
3 little further right now, because what you're trying to discuss is a  
4 permutation on these alternatives. We'd -- I guess what we'd like to  
5 accomplish in this session today I think is to lay out, like I say, not  
6 only these alternatives that we've heard -- clarify these alternatives  
7 that were put out in the issues paper, but develop some others, and let  
8 people beat up on these different alternatives.

9 MS. STINSON: So as you make your comments around the table,  
10 you might point out some issues that you'd see with a dedicated facility.  
11 Think about the recapture question. What would it really take to pursue  
12 recapture, particularly of materials that -- where there might be  
13 extensive contamination or, you know, major issues to deal with  
14 potentially those you'd focus on first to give it some serious  
15 consideration.

16 Tom and then Martin, and then we'll go to Dan Guttman.

17 MR. WITTENBORN: Barbara? Barbara, I wasn't quite through.

18 MS. STINSON: I'm sorry.

19 MR. WITTENBORN: Okay. The second question I have is to what  
20 extent are the materials coming out of NRC facilities, and if you can  
21 answer for DOE facilities as well, already segregated in the sense that  
22 you've got materials that are either from unaffected areas or from the  
23 radioactive areas. Are these being co-mingled before the release  
24 decisions are made? Or are these materials maintained in a segregated  
25 form as they go through these determinations?

MR. CARDILE: I may want to let a couple of my colleagues  
answer this question specifically, but I think the reason we listed them  
separately here, on this diagram was from a -- the sampling of what  
perhaps would make some sense as to perhaps -- and that's what the issues  
paper did -- it would make some sense to say, well, certain materials,

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1 from certain areas, you might at least consider a -- one type of option or  
2 option or alternative. Whereas, other materials from other areas, like  
3 administrative office, somewhere far-removed from a auxiliary building,  
4 you would perhaps consider a different alternative. So they're laid out  
5 separately here, now exactly how they--

6 MR. WITTENBORN: That's fine.

7 MR. CARDILE: I might -- you want to.

8 MS. STINSON: And--

9 MR. WITTENBORN: My question really is in the volumes of  
10 material that we were talking about earlier today, are we talking only  
11 about metals and other materials coming out of the radioactive areas, or  
12 are we talking about everything coming out of the decommissioned  
13 facilities regardless of whether it's been a file cabinet in an  
14 administrative area or a piece of the reactor vessel itself?

15 MS. STINSON: That's one of the questions that's on the table  
16 now is really sort of what types of materials, what areas. As we've  
17 gotten through some of the discussions and talked about the various  
18 options, if you're talking about any material that is in a radioactive  
19 area that would go to low-level waste landfill, it could include things  
20 like file cabinets. And I think one of the things that we're looking to  
21 today is to begin that discussion, the dialogue back and forth amongst all  
22 parties here as to how would we separate, for example, material in  
23 unaffected areas versus radioactive areas, and so I -- I guess I'd turn it  
24 to try and open it up and sort of expand on that discussion.

25 Did you have any thoughts you'd want to offer on that, and  
then we'll let Andy address some of the questions you've raised, too.

MR. WITTENBORN: Well, it certainly makes a lot of sense if --  
to segregate these materials right up front so you don't have to deal with  
a file cabinet or a fence in the same way that you're going to deal with  
a piece of metal that comes out of an obviously radioactive environment.

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1 And I think if you can segregate them and the numbers can change in terms  
2 of the volume of materials that are being recycled or how different  
3 materials have to be handled, that's certainly going to change the  
4 economic analysis of this as well.

5 MS. STINSON: Andy, do you want to? And then Felix.

6 MR. WALLO: I would just speak from your question, since you  
7 asked about DOE.

8 Yes, if we have an area that "is unaffected," that's never  
9 been involved with radioactive materials, we don't co-mingle that with the  
10 area where we're capturing recyclables from an area that did process  
11 radioactive material.

12 However, what I would say in that is even in the areas where  
13 radioactive materials were used, these are typically large and most of the  
14 areas, and I mean, there's a very small area that really becomes  
15 contaminated so that you have most of even what we call the radiological  
16 areas -- only small areas have significant contamination on them,  
17 particularly when you're pulling off surfaces from these things, the  
18 buried material is reasonably clean or is clean, for the most part.

19 And then you go back to the unaffected areas, we're talking  
20 about facilities that are decades old and depending on process knowledge.  
21 So we have to be certain, too, that when we say unaffected area, we can go  
22 back and actually say that it's unaffected before we segregate those. But  
23 the short answer to your question is, yes, we try to keep things apart to  
24 the extent we can verify that they are different.

25 MS. STINSON: A quick one, Felix, in response as well.

MR. KILLAR: Very similar in the commercial act sector. We  
basically have what we call control areas that basically anything that  
goes into a controlled area can conceivably be contaminated. And so  
& anything that's in a controlled area, even though it may be a filing  
cabinet in an office or what have you, will be surveyed and verified that

1 there's no contamination that's on it.

2 At the same extent, we also have what we call clean  
3 warehouses. Any time we get any material that's going to go into a  
4 control area, we'll take all the shipping material, all the crating, the  
5 packaging, anything that doesn't need to go in there off that package and  
6 we would not even give it a chance to get contaminated; and, therefore, we  
7 can dispose of that or whatever in the normal commercial disposal methods  
8 are.

9 So we do control those to minimize that, and we do that mainly  
10 from the aspect that we feel anything that goes into a control area can  
11 end up being low-level waste, and we want to reduce our volumes of  
12 low-level waste, so we do it that way.

13 MS. STINSON: Okay. Thank you. Tom?

14 MR. CIVIC: I'm only going--

15 MS. STINSON: And then Martin.

16 MR. CIVIC: I would like to comment that we seem to be  
17 breaking down some of these things in terms of trying to segregate  
18 materials, because we do think that some materials are going to be --  
19 could be treated differently than others.

20 Again, from steel, we don't want any radioactive contaminated  
21 steel regardless of level being free released. So in terms of the  
22 restricted release, we see that that box could be expanded to, you know,  
23 recycling it back into the licensed facilities as well as going to  
24 landfill, without going to low-level waste landfill as well. So we think  
25 that that's a viable option. But, again, I can't speak for what would be  
done with all these other materials. Our main concern is to try to  
prevent the contamination from steel.

MS. STINSON: Martin?

MR. NUSYNOWITZ: I'd like to make--

MS. STINSON: And then Dan Guttman.

1 MR. NUSYNOWITZ: I'd like to make two comments. One relative  
2 to the alternatives of non-release of solid materials or equipment entered  
3 radioactive areas, and, a corollary to that, very highly restrictive rules  
4 for release from those areas.

5 Both of those situations I think would certainly impair the  
6 health care delivery system. Let me just give you an example. Clinics,  
7 hospitals, biomedical research facilities receive much of their material  
8 into radioactive areas in cardboard boxes, ranging from 18 inches on a  
9 side, the shape of a cube to maybe two feet. We are required to survey  
10 those boxes to make sure that they're free of contamination, remove the  
11 contents that is frequently in a box. We have to survey those as well.  
12 If, by virtue of the fact those boxes entered our clinic areas or our  
13 research areas, they could not leave or could leave only under very  
14 restrictive circumstances -- we pretty soon find ourselves eyeball deep in  
15 cardboard and unable to take care of our patients. So in relationship to  
16 the principles they stated earlier that there should be a balance between  
17 a good level of public and professional health protection on the one hand,  
18 and yet the freedom to enable us to take care of our patients with severe  
19 diseases on the other hand. We cannot tolerate, if we are to effect our  
20 mission, regulations which would really hamper our ability to function by  
21 virtue of space and economic considerations and removal of these  
22 materials.

23 The second comment is to reference to the theoretical risks of  
24 very low levels of radioactivity of the order that was described I believe  
25 by Terry Johnson in the public comment section. No observable effects  
have been seen at levels of 1 millirem a year or 10 or a 100 and so forth,  
as he pointed out.

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You have to balance the debatable theoretical risk of inducing  
public health problems in terms of observable physical effects or  
potential genetic effects on the one hand with the actual adverse health

1 consequences to you and your families and to other people who are ill,  
2 serious diseases, and who can be helped tremendously in terms of health  
3 maintenance and health preserving and life saving techniques at the  
4 present time. That's a health consideration also, and it's one that's  
5 real and present and faces us all the time.

6 As I -- just put it in perspective that a debatable  
7 theoretical risk for future generations balanced against somebody in this  
8 room may have a cancer and may need diagnoses or treatment, breast cancer  
9 and skeletal surveys to see if a metastasis is present and which would  
10 determine which way therapy goes--whether a woman gets a simple mastectomy  
11 or a lumpectomy on the one hand, or a gets a life saving attempted cure.  
12 That's the kinds of decisions, of health decisions, that we're confronted  
13 with. And one set is real kinds I face every day. The other set is  
14 theoretical and debatable at best.

15 MS. STINSON: Thank you. Okay. Dan Guttman, and then we want  
16 to go to Jill.

17 MR. GUTTMAN: Well, I would just like -- the question is there  
18 more -- I'm probably confused, but I don't know that MSC and BNFL are  
19 going to take their material and put it into nuclear medicine. I thought  
20 they were just going to dump it on the street. I didn't realize that --  
21 they were helping the progress in medicine. I just don't see any  
22 connection between the concerns you're expressing--

23 MS. STINSON: Okay.

24 MR. NUSYNOWITZ: I wasn't -- I wasn't addressing--

25 MR. GUTTMAN: Yes.

MR. NUSYNOWITZ: The things that are obviously concerning you.  
I was addressing the fact if a regulation is promulgated--

MR. GUTTMAN: Obviously, that you don't want it to--

MR. NUSYNOWITZ: That it affects all of us.

MR. GUTTMAN: Yes.

1 MR. NUSYNOWITZ: It affects all of us from several points of  
2 view, from point of views of our professional activities, our economic  
3 activities, the fact that we are all members of the general public as  
4 well. And I would like to see a rule that's balanced between the  
5 protection of the public on the one hand, and enabling all of us to do our  
6 business economically and safely on the other.

7 MS. STINSON: And he's entitled to that.

8 MR. GUTTMAN: He's absolutely right. No, he's right. I just  
9 wanted to--

10 MS. STINSON: Go ahead, Dan, you had another point.

11 MR. GUTTMAN: The question is the only precedent I know for  
12 what we're talking about here are the free release without any specific  
13 use value be the atomic bomb testing or the secret releases that you  
14 people, AEC, you know, the RALA (\*\*check word and spelling\*\*), whether  
15 it's the RALA releases in Los Alamos and the green ruin and so forth.

16 MS. STINSON: If you can pull the mike just a little closer.

17 MR. GUTTMAN: You know, the secret releases that were secret  
18 from the public until '93, '94, and '95. And the conclusion of the panel  
19 of experts, which included some very prominent, the preeminent, well, the  
20 head of nuclear medicine at Wash U, and Ron Newman, who's, you know, was  
21 staff director for nuclear medicine at NIH, the conclusion that was  
22 reached is you don't want to release any radiation generally into the  
23 public unless it's a particularly, you know, like a watch or a smoke  
24 detector, without a, having a pretty damn good providence, you know,  
25 record of exactly every step of that material; two, active commitment to  
follow through. You're studying that population god damned well.

MS. STINSON: Excuse me, Dan. We have a ground rule. I'm  
sorry. Excuse me.

MR. GUTTMAN: What?

MS. STINSON: There's a ground rule that perhaps wasn't

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1 explicitly stated, but it had to do with the respect--we really can't have  
2 any cursing at the table.

3 MR. GUTTMAN: I didn't realize it was cursing.

4 MS. STINSON: Thank you.

5 MR. GUTTMAN: I listen to Imus and those people, and I didn't  
6 realize it was cursing, therefore.

7 MS. STINSON: Sorry. Thank you for complying.

8 MR. GUTTMAN: It's not cursing. Gosh darn well. I apologize  
9 to anybody that was offended. Three, that you have a provision, a  
10 mechanism, in advance for accountability. Who's going to pay for this?  
11 This gets into the, you know, we aren't necessarily -- we don't have any  
12 necessarily disagreement as to the low-dose/high-dose question, but it's  
13 the other side I think of Judy Johnsrud question, taking liberty with her.  
14 But where in this chart are you talking about what well, what happens when  
15 we have to recapture, when 20 years from now people say, gee, I got  
16 cancer. Did I get it because of what happened because of Commissioner  
17 McGaffigan? And where is Commissioner McGaffigan? And where is the data,  
18 NRC? I want to know why I got cancer? Precisely because 30 percent of  
19 the population is going to get cancer, they're going to want to know  
20 what's the providence? How do I trace? How do I know that it wasn't this  
21 spoon that my kid bit that instead it was the peanut butter or was  
22 genetics. How do I know? Where's the providence? And where in your rule  
23 do you provide for providence? Where in your rule do you provide for a  
24 systematic and continued and publicly transparent, and publicly  
25 accountable and not run by SAIC oversight of this? And where do you  
provide that anybody who's got a problem can go -- do we go to the steel  
manufacturers? They're not here -- take -- saying they want to get  
involved in this. Who does someone go to with their complaint?

MS. STINSON: I think you're raising a number of important  
questions.

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1 MR. GUTTMAN: Where is this in this chart? I'd like to see  
2 where it is in the chart. I don't see it.

3 MS. STINSON: So recapture for--

4 MR. GUTTMAN: Providence. Providence.

5 MS. STINSON: I understand. I'm just, you know, for the  
6 purposes of making sure everybody's clear--

7 MR. GUTTMAN: Yes, yes.

8 MS. STINSON: About the issues. Recapture and monitoring and  
9 other kinds of devices for tracking the materials, and we do have a  
10 session -- we're hoping and we can start, you know, we can start that  
11 discussion soon if people would rather. Understanding what kinds of  
12 controls in kinds of scenarios would be necessary. Is there anything you  
13 all would like to add to that?

14 MR. GUTTMAN: And legal liability.

15 MR. CARDILE: I was just going to add--

16 MR. GUTTMAN: I don't expect Price Anderson's going to cover  
17 this, too.

18 MR. CARDILE: I would just add to that that the control is  
19 intended to be where it says survey. That's where we would --  
20 specifically -- definitely have the controls.

21 The only other thing I was going to add was that -- that we  
22 should -- it's very important that we are clear that I think what Martin  
23 was pointing out was not so much that materials would go from one place to  
24 his facilities for use in medical applications, but that any rule making  
25 we do here or anything we do here affects all NRC licensees. And NRC, as  
Trish pointed out this morning, has licensees that range all the way from  
nuclear power facilities to universal reactors to a large number of  
medical facilities. So all the medical facilities who have much smaller  
quantities of materials, but nevertheless have to deal with a lot of  
day-to-day operations, as Martin pointed out, have to deal with, well, we

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1 have these boxes now that we have to get rid of. They're affected by  
2 anything we do here, especially when you start talking about different  
3 materials--steel, you know, and other materials.

4 MR. GUTTMAN: But you can -- but that's not the question.

5 MR. CARDILE: So that was just a clarification that it wasn't  
6 that he was talking about material coming from other places to him. He  
7 was talking about how to get rid of his material.

8 MR. GUTTMAN: But the question -- the difference here is it  
9 seems to me this is the first time ever, short of an atomic bomb or the  
10 intentional releases, where you're putting radioactive materials--the NRC,  
11 the AEC is--in the hands of non-licensed people. And the question is how  
12 are you going to control what's the providencing? What's the mechanism  
13 for surveying? Do people have, as someone said, do they meters in their  
14 frying pans, or what do they do? You know, or how do you go back later  
15 on, when they're -- one out of every three of their kids is going to get  
16 cancer at some point--statistical fact. How do we know what caused it?  
17 What are you guys going to do to put that in here for the non-licensed  
18 250,000,000 people that are going to be exposed to this?

19 MS. STINSON: Good point. Thank you. Jill?

20 MS. LIPOTI: I think the authorized use in RAL has really  
21 captured my attention, and has some good points and some bad points.

22 The first one I'll make is that I do read the Health Physics  
23 Society Journal, and in the issue, the same issue, March '98, that had Joe  
24 Lubinal and Jimmy Yesko's review of radioactive materials in recycle  
25 metals, there was an article about steel reinforcing rods that were used  
in a Chinese apartment building, and the fact that people had to go back  
and recreate doses to residents. And I certainly would not want the  
authorized use to be steel reinforcing rods that might be used in building  
& materials. And your example of girders on a bridge still gave me some  
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1           So I like the idea that Felix mentioned, which was an  
2 authorized use in RAL, which was reused in licensed facilities. It seems  
3 to me that nuclear power plants are aging. They need new steam generators  
4 or core spray spargers, so why don't we make those things out of metals  
5 that might have some contamination. Now, I know that there's a whole  
6 bunch of metals experts in this room who are going to say, well, what  
7 about what about intergranular stress, corrosion cracking and how can you  
8 make it out of something -- and I'll be happy to listen to all of your  
9 arguments.

10           But maybe the DOE needs new metal things, and they could use  
11 this kind of metal. But that leads to the issue of the dedicated facility  
12 for recycle, and my caution there would be the worker dose. And I would  
13 be very concerned about workers that were only dealing with recycled  
14 metals. That doesn't get to the issue of reuse of soil of reuse of sewage  
15 sludge. I'm not sure you want to reuse sewage sludge for anything, but  
16 you might. And reuse of soil, I'm confused on how that scenario might  
17 play out.

18           But I surely am interested in this authorized use possibility.

19           MS. STINSON: Okay, thank you. Kathleen, you've been waiting,  
20 and then we'll come over to Paul.

21           MS. MCALLISTER: E23 discussed -- Kathleen McAllister, chair  
22 of E23. We did discuss the alternatives, and I have a question of  
23 clarification. If there were a dedicated facility or a restricted  
24 facility that took a level of contaminated -- some materials that were  
25 above a particular release standard. I'm a little bit confused, and I  
won't blame the rest of the committee for this, but I'm a little bit  
confused as how this would be outside the scope of authorized transfer  
from one licensee to another. It seems to me that that would capture it.  
And so I'm a little bit unclear on how it would create a new set of  
criteria and whether that would be cost saving. And I'd like to just read

1 two consensus bullets that E23 wishes to offer.

2 And that is that clearance limits for unrestricted use would  
3 be more conservative than those for restricted use would be, but they  
4 would be more efficient and universal in their application. Any rule  
5 should have provisions for case-by-case evaluation and exception for  
6 unique circumstances that vary from the dose limit, but provide an  
7 equivalent level of protection for human health and the environment. So,  
8 certainly, it would be important to have the case-by-case as the  
9 occasional exception with the more efficient clearance criteria as the  
10 rule. I guess literally.

11 And restricted release would incur tracking and control  
12 mechanisms that would decrease the regulatory resources conserved through  
13 rule making we believe. Nevertheless, options for restricted use of some  
14 materials should included in deliberations of the issues at this time.

15 And I wish I had some really brilliant suggestions at this  
16 time, but I'll leave at this. Thank you.

17 MS. STINSON: Thank you. Paul Genoa, and then Mike Veiluva.

18 MR. GENOA: Yes, I wanted to make a couple comments regarding  
19 the flow diagram and restricted release. And actually my comments follow  
20 up very well on Kathleen's comments.

21 First of all, there are restricted released activities that go  
22 on today. We have talked about recycling materials within the nuclear  
23 community, within from licensee to licensee. That goes on today. It is  
24 not at all uncommon for specialized components--pumps, motors,  
25 whatever--that have value, that are contaminated to be transferred to  
another like facility that can reuse that component.

There are also waste metal that cannot be reused beneficially;  
can go to a facility that has the -- a license to receive it. Absolute  
& protection of the workers as does every other commercial facility I know  
of licensed by the NRC or (\*\*inaudible\*\*) state. But has a facility to

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1 melt that down and to produce a useful product, one being shield blocks  
2 for use within the DOE complex, for accelerator shields. So that is a use  
3 of contaminated metal being recycled to another end use that is beneficial  
4 to society. It saves about \$16 million a year or something like that for  
5 accelerator shield blocks.

6 Another example is for the -- going to shield blocks would be  
7 for large components from a nuclear power plant that is decommissioning,  
8 such as the shield blocks or steam generators that will be ultimately  
9 (\*\*inaudible\*\*) and turned into shield blocks. We heard about that  
10 recently from GTS-Virotech.

11 There are also -- in the past MSC has tried to use recycled  
12 contaminated stainless steel, and this is only metal after it's -- there's  
13 been an attempt to decontaminate it. If it doesn't meet the criteria,  
14 then that material was fabricated into boxes and drums. Apparently, I  
15 understand from today's economics, it was economical to do so. But times  
16 change. But you cannot force that restricted opportunity on the industry.  
17 The industry can only deal with it when it makes sense. I mean, the  
18 economics just -- you know, you can say you need to go do that, build a  
19 bridge out of recycled steel, but if there isn't a steel manufacturer who  
20 wants to make it, or a bridge company that wants to put it up, that isn't  
21 going to work. So I caution you. But there are examples where it works  
22 today. And the real situation is if you establish a safe release criteria  
23 at which you can comfortably look at -- the public in the eye and say,  
24 this is safe, you're going to have to need -- you're going to need that  
25 before you can get to restricted release anyway, because, as you point  
out, at the other end of your diagram is another oval yellow box that is  
a decision point. After this authorized use is over, is it now safe? As  
a matter of fact, you need to know that before you release it in the first  
place to that authorized use. So you have to come up with what is that  
safe level where the material can be released.

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1           Also, I was going to say that alternate disposal has been  
2 used. The old 310 CFR 20, 302, now 2002, those are examples really in  
3 mind of restricted (\*\*inaudible\*\*) setting. You're saying that this  
4 material, this well defined material, with this well defined radiological  
5 component can go in this one pathway that has been analyzed and is  
6 approved for use, whether that's disposal on site or disposal off site.  
7 There are constraints and controls on that, and I would view that as a  
8 type of restricted release.

9           To sum up, my point is you need to have a pre-release criteria  
10 first before you can ever really develop effective restricted scenarios.  
11 And those, I believe there are examples today that work, and there are  
12 probably other examples that will come up with (\*\*inaudible\*\*). I was  
13 approached during this workshop process by a small, I guess they call it  
14 a specialty steel mill that is interested in what the market would be, not  
15 really looking at commercial NRC facilities, but rather looking at the oil  
16 and gas industry that produces a large amount of contaminated drill pipe  
17 from norm contamination. And they wondered if, in fact, there were a  
18 streamlined NRC regulatory structure that would allow them to get a  
19 license that would be protective of the public, protective of the workers,  
20 and not be an undue burden; and if there were limits on them -- activity  
21 they would receive, and if, in fact, there were controls on the waste  
22 product, such as the slag and the dust bag house stuff, and if there was  
23 a restricted end use for the material, such as new drill pipe or new pipe  
24 for the oil and gas industry, would that be feasible? And I said, I don't  
25 know. It depends on the rule that we come up with. But there are people  
out there looking to see if a market will exist, and if there's an  
application to solve some of the problems you're trying to correct.

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MS. STINSON: Okay, we're going to take the five cards that  
are up. As we move through this discussion, hopefully you're beginning to  
get a sense of some different perspectives. What are different

1 alternatives really going to look like and what are some different  
2 structures to the different alternatives. Begin to, if you can, think  
3 about structures perhaps that you would not necessarily gravitate towards  
4 first, but what might be some of the implications of them, and let's get  
5 that feedback into the mix as well.

6 We have Mike Veiluva and then Joe Ring and then John  
7 Wittenborn. Oh, I'm sorry, then Roy.

8 MR. VEILUVA: Thanks. It's amazing how many normative minds  
9 there are in a simple flow chart. It seems to me that starting from the  
10 left and moving toward the right that the user of -- or the generator --  
11 the identity of that entity matters. I don't know how you treat a  
12 hospital which uses small sealed sources the same way you would treat a  
13 nuclear power plant that happens to have 10 or 20 cubic meters, 20,000  
14 cubic meters of soil that they have to get rid of. I think that has to be  
15 taken into account.

16 When you survey, the material has to be taken into account,  
17 because if the material is subject to dilution, I for one would like to  
18 see the material surveyed before it's diluted rather than after it's  
19 diluted so that we know what we're dealing with.

20 Addressing the center of the diagram, if you look at the  
21 material that I suppose falls within the bar of -- some sort of bar you  
22 set of clearance limit and zero, and you call it restricted or authorized  
23 use, it really class -- it seems to me you're classifying the what --  
24 you're creating a new classification of waste. And if you call it waste,  
25 the public perception of it is different from if you're saying, well, it's  
just stuff we're going to recycle, because if you call it just stuff we're  
going to recycle, issues, like public notice or involvement or those sort  
of things tend to fall away. It's the old concept of when we were  
debating with DOE whether plutonium from used warheads was a national  
resource and treasure versus waste. So to that extent, I'm looking at a

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1 category called low, low-level waste, LQW. You heard it here first.

2 [Laughter.]

3 MR. GUTTMAN: You going to patent that or?

4 MR. VEILUVA: It goes with Y2K. And if you look -- if you  
5 treat it as waste, you come up with a different, the public is going to  
6 come up with a different set of normative relationships to it than if you  
7 call it recycle materials. My problem with recycled materials is also I  
8 haven't heard any economic need emerging here. The steel people say they  
9 don't want it, or at least most of them do. There may be exceptions. But  
10 -- and I think Paul did make a point, which is you're just putting off the  
11 day of judgement in the end. You recycle, you recycle. Sooner or later  
12 you come to the fork. Do you release it? Do you not release it? How  
13 many times do you survey it during the process? If you call it waste,  
14 albeit whatever, to me conceptually it's easier to understand. And it may  
15 be that you ultimately arrive at a whole new category of waste sites which  
16 are not the problematic ward valleys, but may be something less. But at  
17 least the public understands. And all of this ties into public perception  
18 -- public attitude, public acceptance in the end if you're honest about  
19 it.

20 I think if you release this material as we saw from the  
21 Tennessee experience. You just let it out, and you say, well, it really  
22 wasn't of regulatory concern. You may not think that it had regulatory  
23 concern, but people get angry about that. And I think justifiably so.  
24 And we'll get into that I'm sure later, because within any release,  
25 there's an uncertainty about the material you're releasing, depending upon  
your survey, depending your characterization. So if we call it waste, we  
don't try and pass it off as recycled materials. We don't try and pass it  
off as a product, a product, a resource. This is stuff we're trying to  
get rid of.

I think from a regulatory perspective you look at it

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1 differently.

2 MS. STINSON: Joe Ring, and then Roy.

3 MR. RING: After listening for a long time, I have so many  
4 things I want to say. I don't think I can get them all into one short  
5 period of time.

6 MS. STINSON: You know how everybody -- notice how everybody's  
7 comments are getting longer and longer and longer. They have to wait to  
8 the end of the queue.

9 MR. RING: What I'd like to do is--

10 MS. STINSON: Say ditto. Feel free to say ditto if you have  
11 any of those.

12 MR. RING: Well, it's almost ditto. What I'd like to do is  
13 pass around a position statement by the Health Physics Society and as a  
14 recommendation on an alternative method, I'd like to recommend that the  
15 NRC consider adopting American National Standard Institute Committee N13's  
16 report, N1312, which is on clearance. And let's see if I can get it right  
17 this time -- too many acronyms. ANSI N13 is a consensus committee of the  
18 American National Standard Institute that is housed at the Health Physics  
19 Society. We've considered these issues. We've gone through -- this  
20 process has taken decades to go through this particular study or sets of  
21 interest. And our standard was just adopted and accepted by ANSI this  
22 past summer.

23 I will answer questions later on, but trying not to hold you  
24 all to this discussion, I would like to just leave it with that.

25 MS. STINSON: Thank you. Roy?

MR. BROWN: Let me start off with addressing Frank's comments  
from before and Dr. Nusynowitz's comments. Although most of these  
problems are coming from the reactor end of the business and the fuel  
cycle business, it is important to remember whatever NRC does here will  
affect all materials facilities, including biomedical research and nuclear

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1 medicine. So I appreciate, Frank, your comments and, Dr. Nusynowitz, your  
2 comments as well.

3 Let me start off by saying that we're not -- the medical  
4 industry is not really comfortable with a case-by-case procedure that's  
5 being done now, and we would like to see this codified in the regulations.  
6 And I guess we have a couple of reasons. I know these comments go back to  
7 session three, but I have been -- had my (\*\*inaudible\*\*) I think since  
8 then.

9 We're concerned about non-uniformity of the case by case. We  
10 could have one situation -- apply for a license in region one, for  
11 example, and base it on 10 millirem standard, a dose to all pathways. We  
12 do one in region three that would be based on one or one-tenth of a  
13 millirem. So right now, there's non-uniformity, and depending on who,  
14 what you put in for and which region you put it in, you could have 10  
15 times the dose factor or 100 times the dose factor depending on what you  
16 put in and where you put in, so we see if you codify the regulations, this  
17 would present uniformity rather than potential for non-uniformity that we  
18 have now.

19 Also, we're very concerned about having to go back and dig  
20 something back up once it's been buried. I mean, if we put in an  
21 application today based on one millirem per year does, considering all  
22 pathways, what happens two years from now if we set a standard of the  
23 tenth of a millirem? Do we have to go back and dig it up? You know,  
24 search through a landfill to try to find this material? That would be  
25 ludicrous to try to do that. That's why we'd rather see it codified now  
so we know what the standard is and we're not going to be second guessed  
a year or two or ten years from now.

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Also, the reason we would like to see this codified is we'd  
like to see it totally dose-based rather than just survey information. I  
know the original survey data in reg 1.86 was based on a casual dose

1 relationship. But if you really look at, consider all pathways and do a  
2 true dose assessment, I think that type of methodology is much preferred  
3 over the reg 1.86.

4 Also, a couple of other comments. We also would love to seen  
5 an intermediate type of facility like Envirocare, where you don't have to  
6 go to a full-fledged waste facility, but use material that's maybe not  
7 appropriate for a local landfill, an intermediate facility like Envirocare  
8 might be a perfect way to go.

9 And also, definitely ditto on what Joe is saying on ANSI N-13.  
10 We would love to see an independent standard be used for this type of rule  
11 making.

12 MS. STINSON: Okay. John Wittenborn, and then Judith, we're  
13 going to let you have the last word for this session.

14 MR. WITTENBORN: Just two comments on the implementability of  
15 these alternatives as I see them up there.

16 One is the authorized use box -- I don't know how you can ever  
17 control that once the material leaves government control basically,  
18 whether it goes into a bridge, whether it goes into a building, whether it  
19 goes into a road, steel is infinitely recyclable. And whether it happens  
20 in 5 years or 20 years or 50 years or 100 years, that steel eventually is  
21 going to be recycled. We don't know what the half-life of the  
22 radionuclides in that steel will be, but we know that when it's recycled,  
23 there may or may not be somebody there to control what happens to that  
24 material at that time. My guess is if it's 50 or 60 or 100 years from  
25 now, and a building gets torn down or a bridge torn down, nobody's going  
to know where that steel came from; and it's going to right back to a  
steel mill. And if it gets through the detector, it's going to be made  
into some consumer product. So all the concerns that we're worried about,  
from the steel industry perspective, are still going to be there. I don't  
know how you can ever keep control over material once it leaves a

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1 dedicated-type operation. So that's why we think if there's going to be  
2 an alternative here to free release, and we think there has to be, it  
3 should be controlled release in the sense that the material does not leave  
4 DOE or NRC control, period.

5 The second question is even if the material is determined to  
6 meet whatever the health-based limits are, we're very concerned that it's  
7 still going to create practical problems at the steel mills, because as  
8 Steve Larick mentioned earlier today, the mills, in order to avoid  
9 accidentally melting a shielded source, set their detectors at or near  
10 background level. And regardless of what the health-based levels are, any  
11 scrap metal that comes into a steel mill is going to have to pass through  
12 the detectors. And if it doesn't, if it sets off the detectors, that  
13 metal is going to be rejected.

14 Where it goes from there, I don't know. I guess that becomes  
15 Mike Matia's problem, but it will not be recycled if it sets off our  
16 detectors. So I'm thinking that perhaps on this diagram, maybe in  
17 addition to the survey step in that yellow box, we should have a radiation  
18 detector there that's set at or near background levels that are designed  
19 to coordinate with the levels that the steel mills use for measuring the  
20 material that comes into the mill so that material doesn't go out on any  
21 kind of a free release until it can pass through those detectors.

22 MS. STINSON: Okay. Thank you. Judith?

23 MS. JOHNSTRUD: Thank you, again, Jill. I've been sitting on  
24 my state's low-level waste advisory committee for a decade and have been  
25 astounded at the ability of generators to reduce the volumes of the  
low-level waste that they produced in the past. They have shown that it  
can be done. Unfortunately, that hasn't done much to reduce the curies  
that have been generated, and that probably is where we really are going  
to begin to run into some problems with this proposal.

It isn't just a matter of getting rid of cardboard boxes. Far

1 more, we can take care of that by being careful to a substantial degree.  
2 The fundamental concerns in the environmental community go to the  
3 multiplicity of sources, no matter how dismissive some voices may be of  
4 that factor, for once out of control, there is, indeed, no way for an  
5 individual, assuming that, indeed, each dose is small, to be able to  
6 detect and to know nor be willing to accept additive doses. That  
7 individual may need to go to the hospital, may need the radiation therapy.  
8 And there is a strong sense among many in the public interest community  
9 that that individual should, indeed, have the choice to be able to do so,  
10 to reject doses.

11           It comes, I suppose in one sense, to that wonderful term  
12 species responsibility, our concern that goes beyond our own well being  
13 and our own financial benefits or losses to those who, indeed, will follow  
14 us. And finally, we like to operate on the basis of what is known as the  
15 precautionary principle. And that principle would say that given the  
16 continuing controversy with respect to the impacts of low-level radiation  
17 still under consideration and, in many respects, only now beginning to be  
18 able to be assessed in terms of impact on human health, that the  
19 precautionary principle says to us when in doubt, don't. The society has  
20 spoken in the past with regard to the release and recycle of radioactive  
21 materials and wastes. And the society's conclusion is there is doubt,  
22 and, therefore, don't. And so I must go back to reiterating the position  
23 that we've heard today from members of the environmental community which  
24 says we can ignore most of that diagram because it doesn't go to the  
25 fundamental issue, which is the need to continue to maintain control over  
the radioactive materials and wastes that have been generated.

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MS. STINSON: Thank you, Judith. Let's just take a time  
check. Keep in mind here that a, we're going to return to a discussion of  
the alternatives at the close of tomorrow's session by talking about --  
given all the information that we will have covered by that, we're going

1 to talk about what are some of the pros and cons of various alternatives,  
2 and try to hone in a little bit more on some of the details and the  
3 understandings of each as we develop them. So that's one point.

4 The second point is that we did this morning want to reserve  
5 time to talk about the enhanced participatory process, and what are some  
6 of -- what should be some of the elements of this process from this point  
7 forward. If we take a break now for 15 minutes, we return at 4:00 p.m.  
8 We have to break by 4:30 p.m. for public comments, so I would suggest that  
9 that's the topic we spend for the half hour between 4:00 p.m. and 4:30  
10 p.m., and tomorrow morning, we'll return here and talk about control of  
11 solid materials--the issues that Dan Guttman raised in terms of how do you  
12 assure those controls. Get into some of the survey equipment questions  
13 and issues, et cetera. So if people are comfortable with that. We'll  
14 start with that in the morning and then move in -- through the other three  
15 topics tomorrow.

16 Did you have a comment about that, Tom?

17 No, you're just stretching. Okay. Fifteen minute break.  
18 Back at 4:00 p.m. Thank you.

19 [Recess.]

20 MS. STINSON: Let me just start by asking a question. We have  
21 five -- Mike Lesnick, we have five people lined up for public comment.  
22 Mike, could you just read those names off? People will know in what order  
23 they're going to be called.

24 MR. LESNICK: Clarifying -- (\*\*inaudible\*\*) all right. So  
25 we've got--

MS. STINSON: Wait, we've got to get you to a mike here.

MR. LESNICK: Sorry.

MS. STINSON: Mike needs a mike.

MR. LESNICK: All right, Rich said he'll wait until tomorrow.  
George from Entergy? You're still going to do it at 4:30 p.m., right?

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1           Okay. Let's see, Tony. Yes. And Judith, there's a formal  
2 Sierra Club statement that needs to be read. And Terry Johnson, back  
3 again from GW. I know he read a statement. He made some comments at  
4 noon.

5           MS. STINSON: Yes, he wanted another round.

6           MS. LESNICK: I don't see him. But let's hold that time. So  
7 that's -- those are the five. Anyone else thinking they're want to do a  
8 comment at 4:30 p.m.? We got, all right. Great. Thank you.

9           MS. STINSON: Okay. Great. I want to take the opportunity  
10 now to talk a little bit more about enhanced participatory rule making.  
11 My understanding in the past, it has involved meeting like this in advance  
12 of rule making proceeding and then rule makings with the normal notice and  
13 comment and public hearing process. What we have heard from the NRC  
14 Commission, and because we have heard it from many participants around the  
15 table is enhanced participatory rule making in this case needs to be more  
16 significant. And there's really two phases of it that I think we should  
17 talk about today. And I understand some people around the table are  
18 prepared to make some specific suggestions on this.

19           The first phase is between now and March of 2000. And that is  
20 in the pre-decisional phase, there's a meeting in Chicago. It will be  
21 held on December 5th and 6th. That -- I'm sorry -- 7th and 8th --  
22 represents the -- December 7th and 8th for that meeting. This represents  
23 the final meeting of these initial public discussions, and there has been  
24 room left for the staff to conduct other meetings between that point and  
25 the point in March when the staff will supply some recommendations. Based  
on everything they've heard so far and some analysis completed, they'll  
make recommendations back to the Commission about whether or not to  
proceed with rule making and perhaps some other details.

          From that point forward, NRC will presumably enter into either  
a rule making process or not, and it might be useful if they -- in the

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1 event that they do proceed with rule making for them to have some advice  
2 about what kind of process, public involvement process, would be expected  
3 by stakeholders such as yourselves for that rule making process.

4 So, with that framing, two different phases, what kinds of  
5 suggestions and advice might you offer to the NRC? Did anybody want to  
6 add anything to what I just said? From NRC? Okay. Judith.

7 MS. JOHNSTRUD: Yes, just a question. You indicate other  
8 staff meetings would take place after the Chicago affair, but before the  
9 March whenever recommendations to the Commission. Will those be publicly  
10 announced and advertised? Will they be open to the public? Will they be  
11 closed? What will they be?

12 MS. STINSON: Yes, my understanding is that they be noticed in  
13 public, but, again, this is an option left open by the Commission. Don,  
14 can you speak to that?

15 DR. COOL: Yes. Judith, any additional meetings would, of  
16 necessity, follow our public notification process, which means they would  
17 have to be noticed 10 days in advance.

18 MS. STINSON: Can you speak up just a little bit, Don?

19 DR. COOL: There may be a number of interactions and phone  
20 calls, as there have been, which, for obvious reasons, don't necessarily  
21 get announced.

22 MS. JOHNSTRUD: Are they noted and is information concerning  
23 them--summaries or notes--available?

24 DR. COOL: If they are anything other than as we have had with  
25 some of you calls asking questions about what was going to happen and  
transmitting that information. What we have left ourselves open for is  
the opportunities for a couple of the meetings of the working group that  
would be preparing the recommendations to actually be held in open forum,  
noticed in advance, so that they could be observed and additional comments  
and input provided. One of the things that we're, in fact, interested in,

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1 is whether or not people feel that it would be a value to that. What  
2 sorts of opportunities at what sorts of time lines, as well as other  
3 things that might be done in preparing the report and information which we  
4 need to provide to the Commission, which is the first step in the process.

5 MS. STINSON: Dan?

6 MR. GUTTMAN: Yes, I wasn't sure--

7 MS. STINSON: Oh, I'm sorry. Paul is that current?

8 MR. GENOA: Yes. I'm sorry. I have to go back to Dan.

9 MR. GUTTMAN: Absolutely I enjoy it. Yes, I know it's  
10 painful. I hope I'm not going to use any six- or four- or three-letter  
11 words now.

12 At the risk of presumption, the questions that we were -- I  
13 was ranting or asking were not idle. Is there a way in this public  
14 participation process for we to get from the government answers to the  
15 questions we've been asking? I thought that would be part of what -- to  
16 me, public participation is. It's an actual interactive dialogue, as  
17 Hazel O'Leary used to say.

18 You know, like, we'd like to know what happened in 53? Have  
19 you guys been releasing material without telling the public or how do you  
20 explain Union Carbide's letter. How much plutonium is out there now? The  
21 whole bunch of questions. How do we go about getting that set of answers  
22 from you in a systematic fashion, because it's obviously stuff that's  
23 relevant, and we'd like to know the answers. So what's the best way, and  
24 I'm not asking you to give me an answer now, but as part of the outcome of  
25 this, you could have some procedure by which questions that we have that  
are relevant will be systematically answered.

MS. STINSON: Do you have some ideas about that, Dan, that  
you'd suggest?

MR. GUTTMAN: Well, I -- we have -- in the thing that I gave  
to Mike and actually gave to the Secretary of the Commission, we have a

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1 list of specific questions, and obviously I'm here -- we're here to be  
2 able to discussion -- you know, you call us up and say, what can you get  
3 us, I'll clarify or amplify the questions. We want to -- really want to  
4 know what happened in '53? We really want to know what happened with  
5 Tennessee. How the Tennessee thing could have happened. We really want  
6 to know what the limits of state authority are. We really want to know  
7 where are serious, rigorous worker analyses and the actual not abstract,  
8 but in the real world. We really want to know who's going to be actually  
9 doing the on-site OSHA RAD protections when we find that a break -- you  
10 know, these are real kind of questions. They're not kind of academic SAIC  
11 type questions. They're really world, rubber-hits-the-road questions, and  
12 who do we talk to and who can give us that information?

13 MS. STINSON: Don?

14 DR. COOL: Can I clarify something, because a comment you just  
15 made, you say, you've given a specific set of questions to?

16 MR. GUTTMAN: I filed it with the -- with your -- you know, in  
17 the Federal Register notice, it said, please file comments with the  
18 Secretary, so I did.

19 But here -- actually, let me give you--

20 MS. STINSON: Great. You have copies of it, though. Can you  
21 pass those around also to your left?

22 MR. GUTTMAN: Sure.

23 MS. STINSON: That would be great. Since you hauled all that  
24 paper over here.

25 MR. GUTTMAN: Yes, glad to -- glad to get rid of it.

MS. STINSON: Oh, it looks like you may have enough for the  
audience, too, but let's make sure that they get around the table and then  
we'll.

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MR. GUTTMAN: Anybody who wants them is welcome. Yes,  
obviously.

1 MS. STINSON: Pass them around to observers as well.

2 MR. GUTTMAN: Yes, I'll be embarrassed if you leave them on  
3 the table, so pretend to take them with you.

4 MS. STINSON: Paul, and then Jeff.

5 MR. GENOA: Yes, I guess this was -- this has been couched as  
6 perhaps a suggestion or an offer, and in listening to Mike Mattia, both  
7 here today and in Atlanta, there was sort of a little bit of exasperation,  
8 a little bit of concern that, you know, we as stakeholders moving through  
9 this process don't really know each other and our business. His concern  
10 is the steel industry, you know, understand how a nuclear power plant or  
11 another licensee might actually release material -- what kind of material,  
12 how much material. There's a lot of unanswered questions out there.

13 And also challenges have been made that perhaps the NRC don't  
14 understand the steel industry and the scrap industry as well.

15 Also, there's this continuing focus on recycled steel, almost  
16 to the exclusion of what I see is a much larger part of the problem of  
17 other materials that need to be cleared day to day.

18 And I guess sort of an offer or suggestion. If it was  
19 properly facilitated, NEI would be happy to facilitate a tour of one or  
20 more facilities if that was useful to stakeholders that had specific  
21 questions. If they really wanted to, you know, get a hands on feel for  
22 what we're talking about, what are the materials, why is it that we need  
23 to release things from our facilities. You know, seem to be on a pretty  
24 fast time track, but if there was an opportunity, I just wanted to extend  
25 that offer.

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We routinely take members of the public in  
tours--congressional and policymakers, and you know, I guess I would offer  
that extension of that offer to anyone who felt that that would benefit  
them in their deliberations. I think it's been yet to take anyone to a  
facility where they weren't impressed with the level of diligence and

1 control and concern placed on our activities.

2 We offer that out as perhaps a suggestion--an approach  
3 forward.

4 MS. STINSON: Jeffrey Deckler?

5 MR. DECKLER: I'm going to tee off of what Paul is saying,  
6 too, and I'm not sure what the logistics of this are, but it's kind of  
7 recommending smaller group interaction between us so that we can  
8 understand each other better and our positions better and that so NRC can  
9 understand things in greater depth. It seems to me in this meeting, you  
10 know, a lot of people have come out and said, I fell this way, and I feel  
11 this way, and I feel this way. But there hasn't been a lot of opportunity  
12 to really get into any depth on any of those subjects to find out well  
13 exactly why do you feel that way, and what's the evidence that you have  
14 for why you feel that way and then, you know, we can kind of talk about it  
15 and see where we are. I think that's very difficult in a group that's  
16 this size. I don't know how you get it smaller and not have some people  
17 feel like they're excluded. But I don't know that this kind of forum  
18 facilitates that kind of discussion, and I think somewhere along the line  
19 NRC's is going to need that level of understanding for them to make some  
20 decisions on these subjects. So I don't know how you get there exactly,  
21 but, you know, and my example at the moment is the issue on recapturing  
22 this material. Okay, I understand people want to recapture this material.  
23 I don't understand yet what the evidence is that the material that's out  
24 there is causing a problem and needs to be recaptured. I hear that there  
25 are some problems in that we've never tracked a lot of this material, so  
I don't know how we'd ever recapture it, even if we decided that it needed  
to be recaptured.

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So, you know, just on that one issue, there is probably a  
whole day of discussion that can be had on that.

So maybe, you know, topic-specific meetings that say, okay,

1 here's the one issue we're going to discuss today and nothing else. And  
2 anybody who wants to come in and tell us in depth what, you know, how they  
3 feel about this and why, let's talk about that. Just a suggestion. I  
4 know it's tough, because everyone's flying in from all over the country,  
5 and, you know, people can't fly in for nine meetings on nine different  
6 topics.

7           So I realize there are logistical problems in doing that. But  
8 I think there's some merit in exploring some kind of approach that gets to  
9 more in-depth discussion.

10           MS. STINSON: Jeff?

11           MR. LOISELLE: In the interest of gathering information,  
12 there's tremendous information gap on this huge steel supply and  
13 production that we call in the United States. What is the activity of  
14 that steel today? If we're risking a steel supply with an outlandish plan  
15 to insert more activity, well, what's the baseline? We need to know that.  
16 We certainly don't be accused of something that we haven't done, speaking  
17 for those people who are recycling the metal.

18           MS. STINSON: What other issues of concern? What other ideas  
19 do you have? You know, we're hearing that, at a minimum, the working  
20 group meetings that take place or at least a couple of them could be made  
21 available to the public noticed, and people can link in and participate in  
22 those. There's some critical questions that have been posed. People want  
23 to hear answers to those. It may be useful to share specific information  
24 in the way of studies and just bringing together information about what  
25 material is out there. How much are we talking about, et cetera? A tour  
of facilities as a way of sharing information, gaining more understanding  
and then the idea of smaller group interaction or some kind of interaction  
to get into more depth on specific topics. What other ideas? Mike  
Veiluva, I hate to put you on the spot, but--

MR. VEILUVA: She's going to do it, anyway.

1 MS. STINSON: I know you have some thoughts about this before  
2 you took an all-night flight to get here.

3 MR. VEILUVA: Well, what was the question, again?

4 MS. STINSON: Public--

5 MR. VEILUVA: I'm stalling for time. What?

6 MS. STINSON: Participation. What the enhanced participatory  
7 process ought to look like from this point forward?

8 MR. VEILUVA: Well, I want to second what someone said a  
9 moment ago about the difficulty of large groups and small groups. And  
10 there are so many bedrock philosophical and scientific issues underlying  
11 virtually every issue that comes up. You can take a flow graph with 12  
12 points, and you have 24 points of disagreement. Some of those points, I  
13 mean, let's face it, I think are almost too divisive. I mean, you're just  
14 going to have certain fundamental issues of safety and public  
15 participation that are not going to be shared by the participants in this  
16 room, and I think we have to be honest and acknowledge that.

17 However, that being said, I don't know that you can have too  
18 much interaction between participants in trying to hash out some of these  
19 areas where there are room -- there is room for disagreement -- room for  
20 agreement -- that's what I meant to say -- because I don't -- the way each  
21 of the major rules have come down -- we saw BRC -- now we're into -- we  
22 had decommissioning -- by and large, there were issues emerging in  
23 decommissioning where I think ultimately the environmental community lost,  
24 but there were certain points raised particularly in issues of public  
25 participation and public notice of decisions as they're going to be made  
in the future, which have -- I think will have an impact ultimately. I  
see the process as important as the rule. If you allow the public not  
only to be in on the rule making half, but to make sure that they've got  
a place later on down the road -- and you have governments, too. You have  
the tribal governments, and they're treated as governments. You have

1 other stakeholders, and you make allowances for that in the future, and  
2 it's part of a continuum -- I -- you may have something there. But again,  
3 having said that, I want to make something very clear, which is there is  
4 a shared normative perception among I think the -- that the environmental  
5 stakeholders who are here, and those who are not here, that the level of  
6 risk of moving materials, radioactive materials, from a regulated  
7 condition to an unregulated condition in perpetuity -- the movement of  
8 that material requires a very high level of prescience, a high level of  
9 understanding, a high level of knowledge that based on the history we  
10 have, we don't have.

11 And so I think going into the future, I hope that those of use  
12 from the environmental community can extend our -- at least make our  
13 position more understandable as to why we think that's the way it is.  
14 Because I think that's the way most of the public thinks ultimately. I  
15 mean, we can have the best rule in the world. We can have -- we can set  
16 a clearance rule at 25, 100, 200, but if the public distrust remains, as  
17 it has been historically because we all know what happened to BRC, well,  
18 we're just rearranging deck chairs on the Titanic, from a regulatory  
19 perspective. And the only thing to overcome that is better public  
20 participation, more notice, and a real interaction. Questions that are  
21 answered, not just asked.

22 MS. STINSON: Just to follow quickly on that, Mike. I think  
23 you're aware of the steps that are earmarked for the remainder of this  
24 process. Do you have any specific suggestions for the NRC in terms of  
25 what would satisfy and build that public trust and confidence. And maybe  
Judith and David can think on this question as well.

MR. VEILUVA: Well, I can only speak for one small  
organization. I can't -- I am not the environment -- I am not the public  
-- I am not the environmental community. All I can say is you have -- you  
have to approach this from a very frank historical perspective. You have

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1 to acknowledge that mistakes have been made. I think you have to -- I  
2 think you just have to be honest with the public about what you're trying  
3 to do and what are the economic drivers of this all? I mean, there must  
4 be some because, so far, I'm hearing all the industry folks are not  
5 exactly champing at the bit to recycle this stuff, just the opposite.

6 So at least from our perspective as an environmental  
7 organization, I think we need to understand where people are coming from  
8 and what the genesis of the origination of this rule is. And then once we  
9 understand what it is, then I think it needs to be debated, and it would  
10 be very useful to have that debate. And maybe the debate ought to be a  
11 context other than an NRC-sponsored event.

12 I know there's been suggestions, maybe the League of Women  
13 Voters, maybe the -- okay, forget that.

14 [Laughter.]

15 MS. STINSON: Please.

16 MR. VEILUVA: Maybe -- I know there was the -- name escapes me  
17 right now. There are several institutions who could pull this off. And  
18 maybe that debate has to be held because this rule is so loaded with  
19 normative issues, that to approach it as an abstract health physics  
20 problem, I don't think does it justice.

21 MS. STINSON: Thank you. People have asked also from the  
22 state perspective. Jeff, will speak of it, but maybe Jill and Kathleen  
23 can also -- you participated in your states in what activities that go on  
24 there, what can you all recommend? Jeff?

25 MR. DECKLER: Well, I already gave my recommendation, I guess.  
But I just had a potential solution to this logistic thing, and I don't  
know whether it works or not because I am not Internet savvy, but I love  
e-mail. I'm wondering could you set up like chat rooms for each specific  
topic, where, you know, the thing I love about e-mail is I can respond to  
it when I want to. It's there. If there's a question that's sitting out

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1 there, I can get into that conversation when I want. I don't know how  
2 chat rooms work exactly, but it seems like if you had one on individual  
3 topics where people could come in and express their views and then all of  
4 a sudden. I see, I don't know, David's got something in there, and I've  
5 got a question about it, so I fire off a question saying, could you tell  
6 me more about that.

7 Maybe that's a way without having to fly people around the  
8 country all the time. People can, at their leisure, so to speak, have  
9 input into some of the technical issues.

10 MS. STINSON: And is this a way that we could use the new  
11 listserver that you all have established?

12 MS. HOLAHAN: Yes, we have just, as of last week, established  
13 a list server that allows that capability where we -- folks can put --  
14 subscribe to the list server. There is also the technical conference form  
15 Web site which is an opportunity that we could explore further use of that  
16 as two mechanisms for a specific issues that could then be -- individuals  
17 could put comments on and raise questions and fire back and forth.

18 MS. STINSON: Jill, you were reaching for your mike. Did you?

19 MS. LIPOTI: Yes, I guess I had similar concerns as Mike.  
20 Yes, I'm from a state, but I would guess that my opinions are probably not  
21 indicative of all 49 others. Yes, I'm a member of the Health Physics  
22 Society, but although this was adopted in September of 1999, no one asked  
23 my opinion, and I don't agree with it.

24 So, you know, this is an issue that really many of us have  
25 come at through different experiences in life, and we have very different  
opinions. And perhaps in small groups we could hammer out some of those  
differences. But maybe this is not one on which you will get a genuine  
consensus among all of the involved parties.

MS. STINSON: Yes, and I think for the purposes of this  
discussion, we're not venturing into the territory of consensus yet, or at

1 all. We're exploring ways to a, be sure that the NRC has a sense of what  
2 the range of views are on various issues, and that there is more depth to  
3 the discussions. David?

4 MR. ADELMAN: I just have a few points. The first is that one  
5 thing we've done in working with DOE is had a DOE point person. And we've  
6 -- just -- you know, been able to seek information from and also have our  
7 questions answered. So that's one issue.

8 The -- let's see if I can read this -- the second I would say  
9 is in approaching this, we obviously have a number -- I mean, there are  
10 philosophical differences on this rule making. And there are also a  
11 number of technical questions. I think among the most important are just  
12 the reality of how it can be implemented in a safe way. And as  
13 regulators, both EPA, I guess DOE as well, and NRC I'm sure have a number  
14 of concerns about the realities of implementing this rule. And to the  
15 extent that some of the debate over this seems to be NRC coming forward  
16 and defending the proposed rule making and then a number of other groups,  
17 like NRDC, and others, critiquing it -- I think it would be useful for NRC  
18 to raise some of its concerns about the realities of implementing a rule  
19 like this, which is going to be very complicated, and it does raise a lot  
20 of public concerns.

21 Another thing that could be done is I think that one thing  
22 that always challenges public interest groups in dealing with these highly  
23 technical issues is feeling like they are being assessed in a fair and  
24 unbiased way. Some of the concerns that Dan has raised I think go  
25 directly to that issue, so insofar as an independent technical consultant  
could be engaged in the issue whom the various interest groups have  
confidence in, I think that would assist the process.

MS. STINSON: Good, thank you. Robert?

MR. SENSENY: Yes, thank you. Just one comment. I thought  
the suggestion of smaller groups was really an excellent one because there

1 hasn't really been an opportunity for a great deal of give-and-take in the  
2 dialogue. The only cautionary note would be to perhaps not just have a  
3 single issue meeting because then people who just felt, who didn't agree  
4 with the issue just might not show up entirely.

5 I mean for example I think one issue that I don't know that we  
6 have really had an opportunity to really get into greatly is what would be  
7 the impact of the international community going forward with a rule, with  
8 a guide, with a standard and the U.S. not, and what would be the economic  
9 impact on the steel industry, what would be the impact on other industries  
10 as well downstream.

11 That is an issue that this doesn't really lend itself to that  
12 type of a discussion but we might want to explore that a little bit  
13 further as this issue goes further because that -- economic issues usually  
14 do color people's bottom line perceptions or conclusions, so I do think  
15 that is an item we might want to cover further.

16 MS. STINSON: Thank you, Robert. Judith?

17 MS. JOHNSRUD: In virtually every such proceeding I have been  
18 involved with, every stakeholder group, every hearing the issue that  
19 repeatedly is attempted to be raised by those in the public  
20 interest-environmental community has to do with the continued generation  
21 of radioactive materials and wastes in light of the difficulty, near  
22 impossibility of what we term disposal.

23 That issue of continued generation must be put on the table  
24 and the NRC must permit and encourage it to be part of the discussion, for  
25 it greatly will influence the outcomes of any and all decisions relating  
to what we are going to do with the radioactive materials and wastes that  
we already have, not to mention future ones.

MS. STINSON: Jeffrey, is that current or --

MR. DECKLER: No.

MS. STINSON: Mike, you were just returning to the table a bit

1 ago, but we are having a discussion on public involvement and  
2 participation in the process.

3 Do you have any -- since you have raised some issues before,  
4 I just wondered if you wanted to weigh in before we close the discussion?

5 MR. MATTIA: I think we have heard clearly here, we have heard  
6 it in the past, that on the one hand there is a problem, there is material  
7 now and in the future that something needs to be done with.

8 Some of it may not be contaminated. Some of it may be  
9 moderately contaminated. Some may be greatly contaminated. It could be  
10 decontaminated to moderately. But in any case it is a problem and I also  
11 understand that this material cannot in volume stay within the complex  
12 that it was originally originated or cannot stay within the nuclear  
13 industry. I have heard about creating boxes for highly hazardous  
14 material, but there is a limited potential there.

15 On the other hand you have the stakeholders. You have the  
16 public -- the stakeholders being the recycling industry, the steel  
17 industry, to whom this material could go to for recycling if it was  
18 acceptable and their material would then go to the public if the public  
19 wanted to receive it.

20 The problem still is one of what is really there, how much of  
21 this material is there, what is it contaminated with. If a scrap  
22 processor wanted to go in and purchase something, is he purchasing  
23 material that has no contamination, is he purchasing material that was  
24 decontaminated that is free released but still has contamination that may  
25 go to the steel mill and set off the alarm and then cause all the problems  
all over again?

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Is it something that the scientists would say is so low that  
it never going to cause a problem and it gets sent to the steel mill and  
made into automobiles and then 10 years from now a major automobile  
manufacturer is having to explain to its customers why they created

1 automobiles out of radioactive material?

2 Is it true? Of course it is true. Was the material  
3 radioactive? Yes. That is all that the public perceives.

4 Before there can be a rulemaking, before the NRC can begin to  
5 start making rules for dealing with this material, the NRC needs to turn  
6 to the stakeholders and make sure that they get a grasp on the issues, on  
7 the problems, on the parameters, on the hundred-plus questions that we  
8 generated here and the hundred-plus that we can generate easily, so that  
9 there is an understanding on the behalf of the stakeholders and the public  
10 here is what the material is, here is what we will accept, here is what we  
11 will accept unconditionally, here is what we will accept with condition.  
12 Here is what we don't want.

13 On the basis of that, then the NRC can create a rulemaking,  
14 and the rulemaking could say if it is not contaminated this is how we're  
15 going to release it and here's the assurances we will give to the people  
16 purchasing it. If it is contaminated to "x" degree, this is what the  
17 public has said they will accept. This is what the stakeholders said they  
18 will accept and therefore we will make a rule that says this is what you  
19 do with it and therefor the NRC, the Government, is making a rule that  
20 truly does protect the public in the way that the public wants, instead of  
21 creating a rule that says we will tell you what is okay and you just go  
22 ahead and accept it, even though the public is screaming I don't want it.

23 There has been a lot of discussion about what is safe and what  
24 isn't. It just does boil down to perception. If I perceive a threat,  
25 that threat is real, as long as I perceive it to be so, and if I perceive  
that you are threatening me, I will continue to believe it until I am  
convinced otherwise. The stakeholders and the public perceive  
radioactivity, any amount of radioactivity above zero, to be hazardous and  
we have to work within that perception.

If it comes through this learning process that the public can

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1 say, you know, if it's radioactive but it is below detectable limits, I  
2 will accept it in these types of materials, in the bridgework, in the  
3 railroad ties, in something that I don't have to sit on or brush my teeth  
4 with every day I'll accept it within these parameters -- if it doesn't  
5 have any radioactivity I will accept it in all parameters -- to me that is  
6 the easiest and the best way to go.

7 I mean I can make the absolute best buggywhip made but if my  
8 consumers don't want to buy a buggywhip what does it matter how well it is  
9 made? If the consumers will accept no radioactivity in everything and  
10 will accept certain amount of radioactivity in certain products and never  
11 accept a certain amount of radioactivity in any products, and we bring  
12 that back to the NRC and say, here -- here is what the public and the  
13 stakeholders will accept, you create a rule that makes it so. That will  
14 then take it out of the form of the pros versus the cons, the scientists  
15 versus the steelmakers, the environmentalists versus the regulators.

16 It basically says "We, the public, would like it in these  
17 parameters, you, the Government, make it happen that way.

18 I think that will happen when the public and the stakeholders  
19 in conjunction with the regulators are allowed themselves to investigate  
20 this issue, to ask their questions, to poke their nose around various  
21 corners, answer the issues for themselves to their satisfaction, and then  
22 turn over to the Government this is what we will accept -- make it happen.  
23 Thank you.

24 MS. STINSON: Thank you. Felix? Just a quick thought. We  
25 have to move on to public comment.

MR. KILLAR: In discussing the process itself, how the process  
could be improved I go along with what Jeff said. I am a big Internet  
user, big e-mail user and things on that line. I think it would certainly  
be helpful if the NRC would have put up maybe a chat room or something  
like that with all the issues beforehand as well as a list of, okay, what

1 are the questions, what are the issues you want to see addressed in  
2 developing this rule prior to coming into the meetings, because what you  
3 see going around is that the reason we can't get into any in-depth  
4 discussions is because there is so much baggage that has to be brought out  
5 and discussed.

6           There have to be questions about, gee, should nuclear power  
7 even continue on, or there have to be questions about are the workers  
8 being protected. Things like that should have already been addressed  
9 before we sat down. Those are things that are part of the common law of  
10 the day, things that are currently going on, and we don't need to spend  
11 time on those, yet we spend a lot of time on those and so where we could  
12 have got into more depth discussions of some of the specific issues we  
13 spent basically re-reviewing these issues that have already been resolved  
14 in the past, so I think if we could have had more groundwork laid prior to  
15 the meeting, then we could have gotten to more substantial issues here at  
16 the meeting itself.

17           MS. STINSON: If I can, let me just elaborate on what you just  
18 said, because I think one of the reasons that the range of issues has come  
19 out at this table the way that it has today is because there hasn't been  
20 the forum, the opportunity, the regular opportunity for addressing some of  
21 the issues that people are bringing to the table.

22           As a facilitator, as someone who conducts dialogues among  
23 conflicting parties every day, you know, there really are no illegitimate  
24 issues. There may be issues that need to be addressed in some forums and  
25 other issues addressed in other forums, but the way that you build  
progress on particular issues is to acknowledge and deal with each issue  
around the table as much as possible.

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Let me just say that Mike Mattia is suggesting a process that  
is -- to some of you might be just completely counter to what you think  
the public decisionmaking process should be, and I just want to highlight

1 one element of it.

2 I don't think what Mike is saying is -- I am not trying to put  
3 words in your mouth or support what you are saying but I am just -- I  
4 don't think what Mike is suggesting is that you would turn over your  
5 decisionmaking authority to public perception. I think what he is trying  
6 to say is that you need a forum for including the technical and scientific  
7 information that needs to be the basis for decisionmaking, but there needs  
8 to be some sharing of views about that information as some gaining of  
9 common understanding about that information, and feeding into that, that  
10 public perception has an impact on decisionmaking, and I didn't hear that  
11 come out a lot in what you said today, but I have heard it before, so I  
12 just wanted to elaborate on that.

13 Martin, if you have something just very quickly, we are going  
14 to move on then to Mike has a closing comment and public comment.

15 MR. NUSYNOWITZ: I promise to be very brief.

16 Frankly, I am puzzled by what Mr. Mattia said about the public  
17 perception.

18 I have met the public and they are us. We have  
19 representatives of the national government, state government, the Sierra  
20 Club, the National Resources Defense Council, business, labor, nuclear  
21 energy industry, medicine, pharmaceutical manufacturers and many many  
22 other representatives of the public.

23 How else can you get the public to participate? How do you  
24 define the public? I think this is a very good cross-section of what the  
25 public is and I think that is the purpose of this forum.

I am sure if any segment of the public wishes to participate  
they will not be barred so I am very pleased that the public is getting  
representation at this table.

MR. LESNICK: You know, Martin, that reflects I just wanted to  
say to the group is when we got kicked off today Don Cool talked about

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1 this being an enhanced workshop and the notion of early and ongoing, Don,  
2 were the two things you mentioned.

3 The NRC, I think many of you would agree, this is early and  
4 it's part of an early first foray if you will -- these workshops, these  
5 four and this one today, is about why does the NRC think this is an issue,  
6 what are they thinking about doing regarding this issue, what are the  
7 range of solutions they are considering and what are the problems with  
8 implementing those and then tearing that apart.

9 At the very first blush I daresay that the NRC -- thinking  
10 about this is probably evolving from the first workshop to the second to  
11 today.

12 My guess is that it has evolved during the course of today and  
13 I dare guess for at least some of you around the table and around the  
14 room, your thinking about this issue has evolved.

15 I think this is doing what it is supposed to be doing. it is  
16 very early-on. It is a sorting. It is a scan.

17 What I hear these comments in the last half hour or 40 minutes  
18 are about is many people saying okay, I am ready to jump in in a little  
19 more detail now -- I really want to engage -- there are some things I  
20 heard that either I don't understand, I disagree or I agree with that I  
21 want to go into more detail, and think that is part and parcel of the  
22 agency coming out very early in the game and saying let's scan this --  
23 here is what we see -- and people starting to pick up on issues, so I  
24 think it is working, quite honestly.

25 Let's go to public comment, is that all right?

MS. STINSON: I think Judith has a comment.

MS. JOHNSRUD: Just one quick point. Be very, very careful  
ANN about the use of stakeholder processes. Not a single person in this room  
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ASS can speak for everybody else and I would hope that none of us is so  
OCI arrogant as to claim that any of us does.  
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1 MR. LESNICK: Good warning, Judith, about presumption. Okay.  
2 Let's move on to the Public Comment period, and we apologize for being a  
3 little bit late on this today.

4 PUBLIC COMMENT PERIOD

5 MR. LESNICK: George? I said you would be first up, and  
6 please if you would identify yourself and remember a maximum of a  
7 five-minute comment period.

8 MR. ZINKE: George Zinke, Entergy, Maine Yankee.

9 Listening today, there's certainly a lot of differences of  
10 opinion and some very vocal opposing special interest group views from all  
11 sides.

12 It seems to me that we are going to have opposing views for  
13 some time and one of the things I would like to caution the Staff against  
14 is too-easy solutions to that, but I hope we won't go down that road.

15 One easy solution is to say we will just accept the status  
16 quo. You know, this is too hard to resolve, and I think that that would  
17 not serve the public well. Even if we can justify to ourselves that  
18 conflicting standards are all protective of the public health and safety,  
19 I think the public deserves better.

20 The second easy path that I see we could end up going down is  
21 we have rulemaking and we establish a new standard and put it in our bag  
22 of already conflicting standards, so we just have one more and I think  
23 that we need to really come to some resolution of the problems that we  
24 have rather than creating another one.

25 In that, I would like to encourage the NRC to continue the  
efforts on the participatory enhanced rulemaking. I also don't think that  
the total solution lies in that rulemaking, but I think the rules are  
broader than that and that I would recommend that the NRC, when they  
& report back to the Commissioners, that you recommend that the Commission  
OCI also be involved with the other regulatory agencies both Federal and  
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1 State, and that we do end up with a national policy that would include  
2 these same issues of imports of all these same kinds of things coming into  
3 our country. Thank you.

4 MR. LESNICK: Thanks, George. Tony -- and please remember to  
5 identify yourself, if you would.

6 MR. LaMASTRA: Tony LaMastra, representing American Iron and  
7 Steel Institute.

8 A couple questions were posed to me throughout the day, and I  
9 heard some discussion, dealing with scrap monitors and how they work and  
10 how sensitive they are.

11 One comment was made that if a load is uniformly contaminated  
12 with radioactive material that that uniform contamination would  
13 effectively prevent its detection because it would raise the background  
14 and prevent any detection. That is mistaken. That is absolutely wrong.

15 Essentially how they work is that as a vehicle approaches, it  
16 doesn't even have to get into the monitoring station, but as the vehicle  
17 approaches close to the monitor it starts to suppress the background. You  
18 have sophisticated algorithms in there that do a lot of things including  
19 looking at the beginning of the suppression of the background and predict  
20 where that background ought to go to. That is only one factor, but the  
21 monitor is monitoring as the truck goes through or as the railcar goes  
22 through and it stores that data and at the end of the process when the  
23 vehicle leaves it starts to analyze the data.

24 If you have contamination, uniform contamination that  
25 effectively raises the background it will be detected if for no other  
reason than the fact that the system predicted a reduction in background  
that it never got to, so that in effect is one way.

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The current state-of-the-art detectors that are out there now  
are capable of alarming at somewhere in the range of 5 to 8 percent above  
background, and if you really push them you can get down effectively to 3

1 percent above background, but at that 5 to 8 we are talking of an  
2 extremely low false alarm rate.

3 One facility that I do a lot of work with receives anywhere  
4 from 70 to 90 trucks a day, five days a week, 52 weeks a year. They have  
5 had to my knowledge three what I would call false alarms in the past five  
6 years. One of those false alarms we essentially found out was due to coal  
7 dust within the pipes. When you got all the pipes together you had enough  
8 for an alarm. When you spread them out on the ground, you really couldn't  
9 see much of an increase over background, so we are essentially saying two,  
10 maybe three false alarms out of thousands and thousands of trucks.

11 To me that is a very low false alarm rate at an extremely,  
12 very sensitive detection system.

13 The second misunderstanding I think is with the level of  
14 detectability. If you take a shielded cesium source where the effective  
15 energy is in the range of 200 to 250 Kev coming out of the lead shield and  
16 where the exposure rate at one foot from the source capsule itself is less  
17 than .1 MR per hour at a foot, put that in the center of a vehicle,  
18 whether it is a truck or a railcar, dump demolition scrap around that, you  
19 will detect that source essentially every time -- definitely greater than  
20 a 90 to 95 percent detection rate, and so you are talking of extremely  
21 sensitive detection.

22 MR. LESNICK: Another two minutes here, Tony.

23 MR. LaMASTRA: Okay. Taking that data and using the models in  
24 NUREG-1640 we basically calculated that there's probably about 20  
25 radionuclides that have a reasonably good detection capability if they are  
contaminating about three to five tons of steel on a load, so it appears  
that at the levels that are in 1640 we should be able to see a lot of  
gamma emitters.

I am somewhat still confused even from the Atlanta meeting  
about this whole concept of detectability and it seems like the NRC has

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1 two guidelines, one for materials licenses and one for the reactors. To  
2 me that adds to the whole confusion of the general public.

3 If it is safe for one, why isn't it safe for the other, and if  
4 the NRC keeps persisting in dual standards or triple standards or  
5 whatever, all they are doing is confusing the public and reinforcing this  
6 idea that, you know, this level is not safe even though you say it is  
7 safe, so again, as Tom was saying earlier, we have 100, we have 25, we  
8 have 1. Next year are we going to drop it down to .1? You know, take a  
9 position, guys.

10 MR. LESNICK: Thanks, Tony. Thank you very much. The next  
11 comment is from Sierra Club. Judith, are you the one reading that  
12 statement?

13 MS. JOHNSRUD: Yes.

14 MR. LESNICK: And remember the five-minute limit, please.

15 MS. JOHNSRUD: This is a brief quotation from the Sierra  
16 Club's Low Level Radioactive Waste Policy Statement, Section 1: "The  
17 public policy goals regarding 'low level' radioactive waste should be the  
18 termination of production of fuel cycle wastes and the isolation of such  
19 wastes in the safest and least environmentally damaging way achievable."

20 From Section 2: "Low level waste, as presently defined by the  
21 NRC, should be isolated by technology that results in zero release  
22 activity over the hazardous life and one that minimizes inadvertent  
23 intrusion."

24 And from Section 5: "The Sierra Club recommends that  
25 radioactive material and wastes that the NRC Department of Energy or other  
agencies classified as radioactive materials or low level radioactive  
waste as of January 1, 1989, shall continue to be classified as  
radioactive materials or low level radioactive waste, to be isolated only  
& in facilities licensed specifically for that purpose. The Sierra Club  
OCI recommends that radiation-generating practices of licensees including  
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1 brokers not be deregulated."

2 Thank you.

3 MR. LESNICK: Thank you, Judith. Terry Johnson?

4 MR. JOHNSON: I'm Terry Johnson from George Washington  
5 University. I have some comments about the representation at the table.  
6 Even though this honorable physician I think has made the most rational  
7 comments possibly of anybody at the table, I would hate to disagree with  
8 him about one point, there is only one physician at this table and that is  
9 not enough when you consider the economic burden that is going to result  
10 from any new regulation regarding solid waste. There is only  
11 representative at the table from a broad scope or research licensee. And  
12 as the -- that is not enough.

13 As the definition of solid radioactive waste goes to lower and  
14 lower levels of activity, specific activity, it progressively moves more  
15 and more into research facilities and medical licensees. We have very low  
16 level waste. Most nuclear power plants would love to have waste with our  
17 level of activity. But if it is defined low enough, the activity levels,  
18 we will have legions of radioactive waste that we don't have now, and this  
19 can have an enormous economic benefit.

20 I will give you a couple of examples. Not only is there only  
21 one nuclear medicine physician here, but there is no pathologist. Now, if  
22 there were a pathologist in the audience, they might be surprised. They  
23 would think, well, why would I even be mentioned? They don't even see NRC  
24 inspectors. Most pathologists have never written a letter or read a  
25 letter to the NRC, but they do dispose of radioactive waste, and they  
dispose of it under what is called a general license, which means a  
license that is actually printed in the book of regulations.

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And that regulation is 31.11, and that allows them to dispose  
of the radioactive materials that they deal with in a way that a nuclear  
medicine physician couldn't. They can throw it in trash.

1           Somebody up at the top of the table, I think it was Trish who  
2 said that most of that might be medical waste, and a lot of it is, but a  
3 lot of it wouldn't have to be, because a lot of it is not a biological  
4 hazard, so it can literally go in the trash.

5           Now, the NRC has analyzed that situation in the past and they  
6 have approved it, they are aware of. These are microcurie levels of  
7 radioactive material. They tend to be the isotopes that are not  
8 particularly hazardous, although it does include iodine-125, which is not  
9 exactly a lightweight isotope. But this material can be disposed of in  
10 trash.

11           Now, depending on where this regulation goes, it may be that  
12 the pathologists in the country could no longer -- that is to say the NRC  
13 could no longer support a dichotomy of inequality such that steel mills  
14 had to do this, and pathologists could do that, something -- you know,  
15 dispose of much more radioactive material. Therefore, the NRC, as I see  
16 it, would probably have to rescind the general license to pathologists.  
17 This would create a whole new class of licensees, people who aren't  
18 licensees now, both in agreement states and NRC states, and I think that  
19 is an enormous economic impact.

20           A couple of other economic impacts. When I came on board at  
21 George Washington University, my waste disposal budget was \$120,000 a  
22 year. Now, simply by using decay in storage, and other provisions of NRC  
23 regulations, I reduced that waste to less than \$5,000 per year. But if  
24 the definitions change, and particularly since I now learned from comments  
25 of Dr. Cool that I am disposing of a volumetric waste, that is to say it  
has been decayed for 10 half-lives, but I may not be using as sensitive an  
instrument as I could, like one of these 10 inch round plastic  
scintillators that they use at dump sites these days, I may not be using  
the most, you know, up-to-date instrumentation.

MR. LESNICK: Two minute warning, Terry.

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1 MR. JOHNSON: So, therefore, I may not be able to detect the  
2 radiation that is there. So if I am required to use more sensitive  
3 radiation detectors, I would find radiation there, so that would increase  
4 my budget enormously, and maybe back up to \$120,000, besides which I would  
5 have to hire another staff member. I think it would increase my budget 35  
6 to 40 percent, depending on how the rules were changed. So there are  
7 enormous economic impacts here that may not be recognized.

8 MR. LESNICK: Thank you, Terry. Ray Turner.

9 MR. TURNER: I want to speak very briefly -- Ray Turner, David  
10 Joseph Companies -- very briefly about the economic impact. And someone  
11 over here asked a question a little while ago about the international  
12 emphasis or economic impact, I am aware of about four cargos, I am talking  
13 about ships, of radioactive material, or of recycle scrap metals,  
14 quote-unquote, normal scrap metals that were rejected over the last two to  
15 three weeks on an international basis, some in Europe, some in Asia. And  
16 the criteria for that rejection in -- I am aware of more cases than that,  
17 but in the case of four rejections of cargos, ships, was normal materials  
18 that was barely above background. And one of those, which was in Europe,  
19 was some refractory material that was adhering to some titanium. That was  
20 a partial cargo rejection.

21 One that occurred in Asia involved some oil-filled pipe that  
22 was contaminated with norm or pipe scale. It had been run through a  
23 shredder. In another case it was a pipe that was in hold.

24 At the discharging point, the criteria was zero release -- or  
25 zero tolerance. So when, very early in the discharge, I will just address  
one of these, in the case of the norm material that was shredded, and we  
are talking about material now that is 75 pounds a cubic foot, which is  
about probably twice as dense as what Tony was talking about in the  
demolition material a little while ago. That material, that cargo had to  
go back to its point of loading.

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1           And I know that we are not addressing oil-filled norm pipe  
2 here, and I know we are not addressing little pieces of refractory that  
3 might be adhering to some recycled metals. But what we are addressing is  
4 zero tolerance levels on an international basis. When scrap metals, for  
5 example, come into, we will say my facility and are loaded on the cargo to  
6 go to Europe or to Asia, it may be from a hundred or 200 different  
7 shippers that goes into that cargo. And once it all goes into the cargo,  
8 it loses its identity. There is no way to identify where that came from.

9           And in discussions with some of the people here today, I  
10 understand that some of this material can still have hot spots. Based on  
11 the statistical sampling method that is used to survey the material, it is  
12 possible that it could still hot spots and set off a radiation detector.  
13 And when we are talking about the economic impacts, one cargo of about  
14 40,000 tons that goes from here to Europe, or say from here to Asia, the  
15 economic impact on a scrap dealer, if that is rejected and comes back to  
16 the U.S., is anywhere from \$5 to \$10 million, and that is paid for  
17 upfront. So that is quite an impressive economic impact.

18           MR. LESNICK: Thanks, Ray.

19           MR. TURNER: Thank you.

20           MR. LESNICK: Would anyone else care to make a public comment  
21 that may not have had an opportunity to sign up ahead of time? Anyone?

22           [No response.]

23           MR. GUTTMAN: I would like to say I think the public comments  
24 have been at least as valuable as the -- I mean anybody -- they are really  
25 very --

          MR. LESNICK: Dan Guttman, it is not a Tennessee comment, and  
you are very positive. I am happy to hear this. By the way, you look  
good on camera, too.

          MR. GUTTMAN: You get different perspectives, real members of  
the public, as opposed to interest group representatives.

1 MR. LESNICK: Good point. And we are really trying hard, we  
2 want to stay diligent with the time periods that we talked about. We  
3 apologize for being a little bit late today, but, hopefully, the topic was  
4 relevant to that.

5 Before we turn to Don Cool to close us out, Mike Mattia had a  
6 quick point of clarification on something Barb had indicated earlier.

7 MR. MATTIA: Well, I have had several comments clarifying what  
8 I said, and I thought I would give a shot at clarifying what I said.

9 MS. STINSON: That's fair.

10 MR. MATTIA: Some years ago the Occupational Safety and Health  
11 Administration realized that people were dying in the work place because  
12 they were going down into confined spaces. And then they issued a  
13 statement of the problem was employees were dying and we should prevent  
14 this. Does anybody have any problems with that? A resounding no. And  
15 they went forward and studied the problem and created a rulemaking on how  
16 to keep people from dying. And it was debated, and researched, and  
17 refurbished, but, finally, a rule came out on how you prevent people from  
18 dying in work place hazardous confined spaces.

19 The problem with this issue is that we don't understand the  
20 problem. On one hand we will say, well, the problem is the release of  
21 radioactive material, and another group will say, no, no, no, that is not  
22 the problem, we don't want you to release the radioactive material. So  
23 then we go back and redefine the problem. Okay. The problem is that you  
24 have to understand the effect of radiation and how it varies, and how  
25 certain variable materials can be released. And the response is we  
believe it is all dangerous.

MS. STINSON: Can you kind of fast-forward, Mike, we are kind  
of at the end of the day?

MR. MATTIA: What I think we need to do is go back and  
determine truly what the problem is, what are all of the various facets

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1 and then, once that is determined and defined, and all the stakeholders  
2 and all the public all understand the same definitions and the same scope  
3 of the problems, then the NRC can create a rule that will satisfy the  
4 stakeholders and the public, because we will understand what the problem  
5 is. They will have the marching orders for how to solve that problem.  
6 But I think we are far away from that right now, because we don't  
7 understand all of the facets of the problem.

8 MS. STINSON: Thank you.

9 MR. LESNICK: Thanks, Mike. Don Cool.

10 DR. COOL: Thank you. Let me just say that I think this has  
11 been a very interesting and useful day. I appreciate very much all of you  
12 putting in your thoughts, giving us a great flavor and texture, if you  
13 will, that is appreciated. We still have another day to look at these  
14 issues, and part of the value that I have seen in the past of having  
15 sessions which go to more than one day is it allows people to go back and  
16 reflect a little bit before they have to come back and continue the  
17 discussions.

18 And so let me encourage you to leave one of the co-processors  
19 sort of running back there in your mind as you do whatever you are going  
20 to do this evening, enjoying Rockville, to the extent that you might wish  
21 to do that. Get a good night's sleep, and come back tomorrow morning,  
22 8:30. We still have a number of topics and a number of opportunities, a  
23 number of the things that have been raised, we will have additional times  
24 when we can try to refine, elaborate and help put a sharper point on some  
25 of these issues. Thank you very much and good night.

MS. STINSON: See you at 8:30 tomorrow morning. We will start  
promptly. Thank you.

[Whereupon, at 5:08 p.m., the meeting was recessed, to  
reconvene at 8:30 a.m., Tuesday, November 2, 1999.]