UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

OFFICE OF THE SECRETARY

***

MEETING WITH STAKEHOLDERS ON EFFORTS REGARDING

RELEASE OF SOLID MATERIAL

***

PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Building 1, Room 1F-16
11555 Rockville Pike
Rockville, Maryland

Tuesday, May 9, 2000

The Commission met in open session, pursuant to notice, at 9:00 a.m., the Honorable RICHARD A. MESERVE, Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:

RICHARD A. MESERVE, Chairman of the Commission
GRETA J. DICUS, Member of the Commission
NILS J. DIAZ, Member of the Commission
EDWARD McGAFFIGAN, JR., Member of the Commission
JEFFREY S. MERRIFIELD, Member of the Commission

STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

ANNETTE L. VIETTI-COOK, Secretary
KAREN CYR, General Counsel
BRIAN COSTNER
CRAIG CONKLIN
WILLIAM (BILL) KENNEDY
DIANE D'ARRIGO
DAVID ADELMAN
STEVE COLLINS
JEFF DECKLER
LYNETTE HENDRICKS
VAL LOISELLE
MIKE MATTIA
JOHN WITTENBORN
DAN GUTTMAN

P R O C E E D I N G S

[9:00 a.m.]

CHAIRMAN MESERVE: Good morning. Why don't we get started. I'd like to welcome you all to the NRC's public meeting with stakeholders to deal with the issues concerning the control of release of solid materials that have slight amounts of contamination associated with them and in particular, on the staff's recommendations as to how the Commission might deal with this matter.

This is the second of two related briefings we've had on the staff's recommendation. Last week, the Commission was briefed by the staff on the status of its efforts on the paper that it submitted to us. The paper, of course, is SECY 00-0070, Control of Solid Materials, which was an effort by the staff to discuss what they had learned through the public outreach process that they had engaged in with regard to this matter. The paper, of course, was made available to the public.

Today's meeting is intended to provide an opportunity for stakeholders and the Commission to engage in a dialogue on this complex issue in an open forum and also to discuss the suggestions that the staff has made for us as to how the Commission might proceed.

We have had the benefit of an extraordinarily

large number of comments. The comments express a substantial diversity of views, and we have reviewed those materials and have some sense of the broad range of issues which this issue raises before us.

We recognize that there are many individuals and groups that have filed comments, and what we have attempted to do is to select participants for this meeting that provide us a sampling of the spectrum of views. It is not to suggest that others have not submitted comments that were not influential to us. We've had the benefit of those in writing and through interactions with our staff. Today's intended to provide an opportunity to deal with a range of different people who have -- reflect the diversity of views on this issue.

The briefing has been set up in a format where we'll have three different panels. Each of the panel members will be given an opportunity to make an opening statement. I would request that the opening statement be kept to five minutes. Most of the panel members have

submitted information to us about their presentation in advance of today's meeting, and we have had an opportunity to review that material.

The reason we would like to keep the statements brief is that I think for me and my colleagues, some of the most helpful aspects of the Commission meetings are the

opportunity to have an exchange with the panelists, and we'd like to leave ample time in order to have question and answer opportunity.

We'll hold our questions to each of the panels until each of the participants on a given panel has had an opportunity to make a statement, and then we'll open it for questions and then move on to the additional panels.

Let me turn to my colleagues, to see if they have any opening comments.

COMMISSIONER MERRIFIELD: Mr. Chairman, I would like to make a couple of comments. The first thing is I would like to express my thanks to all the participants, not only in the meeting today but in the various meetings that our staff conducted in four or five cities around the country.

I had an opportunity to review many, if not all, of the transcripts of those meetings. Obviously, a lot of hard work went into that by a variety of people, and certainly we want to recognize that.

This is a public process. I think the direction that the Commission is taking, before we are even putting out any kind of a proposed rule, we're asking for and we made advance notice of an intention to look into this issue. I think the Commission has attempted to make clear that it does not have a set position, but it did want to solicit a

variety of comments, and we certainly have received a variety in response to that request.

This, as any review of the transcript as well the review of the prepared materials we're receiving today, demonstrates that this is the issue which causes strong feelings. It raises a number of scientific and economic issues which individuals feel very highly charged about and one which will take a lot of consideration on the part of this Commission, to determine how most appropriately to move forward.

To clarify one issue that has come before us, at least in some of the materials we received today, there is the impression upon some that this Commission has already made a decision about how it intends to move forward, and that we are merely going through this process in a pro forma

manner.

Speaking only on my own behalf, I would say that I, in particular, have not made a decision in terms of what I believe is the best way to move forward on this issue, whether it is relative to setting a zero standard or setting a 1 millirem standard or somewhere in between. I have not made that determination for my own part and certainly will carefully weigh all the material today as well as other materials we've received in making that determination.

Thank you, Mr. Chairman.

CHAIRMAN MESERVE: Any other comments?

(No response.)

CHAIRMAN MESERVE: If not, let me turn to our opening panel. The opening panel consists of Brian Costner, who is a senior policy advisor in the Office of the Secretary of the Department of Energy; Craig Conklin, who's the director, the Center for Radiation Emergency Preparedness, Prevention and Response for the Environmental Protection Agency; and William Kennedy, here representing the Health Physics Society and the chair of an ANSI committee that has worked on a relevant standard.

Why don't we proceed. Mr. Costner?

MR. COSTNER: Thank you. Good morning.

The Secretary of Energy is very supportive of your efforts to pursue the question of a rulemaking and more particularly thinks that a rule, a national standard, is in the best interest of the Department and really the country, because as decisions are made about how to deal with facilities, whether it's at a discrete Department of Energy facility or a commercial facility, it's important to realize that once any material is released from a DOE site or a commercial facility, it's out into general commerce and isn't just within the control of a particular state's policies, for example, and so it's far more appropriate to have some kind of national rule, so that we're all playing

by and according to the same set of standards.

In January, recognizing the lack of national standards in one area in particular and that is for volumetrically contaminated material, the Secretary instituted a moratorium, that we would not release any material that was contaminated volumetrically.

And also the Secretary established a task force to review the Department's policies broadly associated with the issue of release of materials. I'm co-chairing that task force, and we've been working now for about four months, with the goal of making recommendations to the Secretary by this summer.

Obviously, we're very interested in learning and taking advantage of the process that the Commission has established, and we've reviewed the report by your staff and will continue to closely watch what you do as we're formulating these recommendations.

Since we're still in the process of just collecting information and reviewing options, there's nothing specific to report today. I do want to make it clear to you all that we are looking, as I believe you are, at a very wide range of options. Essentially, at least to some degree, everything is still on the table still at this point.

One of the things that we have come to recognize

over the last four months is that this is, indeed, a very interesting issue to work on. We think that ultimately whatever path the Department takes is going to have to address a wide array of factors, everything from protecting the public health to considering the direct economic costs and indirect costs on the program, as well as costs more broadly, socially, such as costs associated with externalizing some of the Department's costs and placing them on other industries.

We have to look at the perceptions and the preferences of consumers and of the people that would potentially buy the material. We have to look at issues like the trust and the confidence in the Agency as well as in various corporations that would be involved in these enterprises and, frankly, many other issues.

And so, like I say, at this point, we are gathering that information, trying to come up with a way to at least frame some options and recommendations for the Secretary by this summer.

CHAIRMAN MESERVE: Good. Thank you very much.

Mr. Conklin?

MR. CONKLIN: Thank you. We appreciate the opportunity to come here today and participate in this meeting, and we just have a few brief comments.

As you know, in the mid-1990s, EPA studied the

risk associated with recycling the slightly irradiated materials from both DOE facilities and NRC licensees. At that time, our investigations demonstrated or revealed to us that the most significant risk, in our opinion, was from orphan sources, lost sources, that showed up in the public and presented a hazard, as well as the importation of radiation materials from foreign countries, as a result of them being lost out of their control systems.

So we redirected our efforts within the EPA, with our resource problems and issues that many agencies face and departments face, and decided to attack those issues back home at the EPA.

We agree with the staff recommendation to defer the establishment of a standard, so that the issue can be submitted to the National Academy of Sciences, so that they can examine alternatives to the issue. We believe that with their input and then with following on what's going on in the international arena over in Europe especially, that that additional data can help us make better recommendations and a better decision.

And we recommend and encourage the NRC to keep using an open process for the selection of the study panel and for soliciting all the information that may come from that panel elsewhere.

Given that the NAS will be studying the issue, we

don't think it's appropriate at this time for EPA to comment on the best approach to address this issue. We believe that we should wait until that study is completed and that any additional information is gathered.

We appreciate the NRC's efforts to engage in a continuous and open dialogue on the issues. It is a significant issue facing the NRC, DOE, and the public, for that matter, and we recommend that you maintain an open process, just as you had with your public meetings around the country and the meeting such as today.

We're going to follow the issue closely and participate where appropriate and provide our input, when and where appropriate. Thank you for the opportunity to speak to you today.

CHAIRMAN MESERVE: Thank you.

Mr. Kennedy?

MR. KENNEDY: Yes. I have some viewgraphs, if I could have the first one shown, please. These are simply to keep my train of thought going here.

Thank you for the opportunity to address you today on this important subject. As you know, the Health Physics Society is an independent scientific professional organization, whose mission is radiation safety.

If I could have the second viewgraph, please --

We applaud your efforts to obtain information on

the control of solid materials, the process that you've gone through to encourage public involvement, and to obtain background information. We've reviewed the SECY 00-0070 document that the staff prepared, that summarizes the public meetings that you all held.

The Health Physics Society had representatives at several of those meetings and were very interested in the exchange of ideas that occurred. We think that that document provides useful information for your consideration as you proceed.

We agree that the National Academy of Sciences study would likely provide essential information that could be very useful in the decision-making process here in the future.

We understand the depths of emotions that surround this issue, but the Society believes that uniform criteria for the release of solid materials are needed to increase the credibility of the whole operation of the nuclear industry and to assure ourselves that harmful sources won't be diluted in commerce by having criteria against which the decision about release can be made.

If I could have the next viewgraph, please --

We recommend that the regulations be based on consensus standards wherever possible, and in that light, the ANSI standard N13.12, which I chaired, is, in fact, a

standard that we think you all should be looking at as you decide how to proceed.

Our standard recommends a primary dose criteria, and we suggest that that should be adopted, and we've derived screening levels, so that radiation survey programs can be established to make decisions in the field. We believe that N13.12 is consistent with the emerging consensus with international commerce, as I'll demonstrate in the next set of viewgraphs, so if I could have the next viewgraph, please.

Here I've conducted a comparison of the ANSI standard numbers with the values -- the range of values proposed by the International Atomic Energy Commission on Clearance. It's true that each of the European countries currently has standards and policies that they are deriving,b ut there are two unifying factors in Europe that you need to be aware of.

The first is the effort of the International Atomic Energy Agency on Clearance, and the second is the efforts of the European Commission to develop EC-supported standards to recommend to their member states.

I won't go into a lot of detail here, but what I simply want to emphasize is that when I say that the ANSI standard is consistent with international commerce, you can look at the range of values for the IAEA and find that for

each radionuclide, the ANSI standard is within the range,

typically at the lower end of the range that was set in the IAEA draft document.

If I could have the next viewgraph, please --

The European Commission has looked at both volumetric and surface contamination numbers. I've shown here again a comparison of ANSI N13.12 values with two columns from the European Commission. The first is for metal recycle, and the second is for rubble following demolition of a building.

The values here differ by the EC use of scenarios, which scenarios drove the limiting exposure conditions at 1 millirem a year, and as you see again, for most of the radionuclides, the ANSI standard compares quite favorably with the range and most often reflects the most restrictive of the range for volume contamination.

And if I could have the final viewgraph, please --

This is simply a comparison of the ANSI standard with surface contamination values proposed in the draft European Commission recommendations. Again, the ANSI standard compares quite favorably for most all of the radionuclides in this set. All of these three standards or recommendations are based on a dose of 1 millirem per year.

As I've shown, the ANSI standard is quite comparable with the draft values shown by IAEA and the

European Commission, and therefore, we believe that the ANSI standard is protective and consistent with international commerce.

And with that, I thank you very much.

CHAIRMAN MESERVE: I'd like to thank you all for your helpful presentations.

Let me turn to Commissioner McGaffigan and see if he has any questions.

COMMISSIONER McGAFFIGAN: Let me start with Mr. Conklin. You all have participated, I know, significantly in the IAEA process. You and Bob Meck of our staff seem to be a duo that goes off to the IAEA meetings routinely.

Do you agree with Mr. Kennedy that the technical bases for whatever standard we choose are getting there, that the range -- that there's growing agreement about scenarios to use and growing -- less and less disparity in the ranges between the EC, the IAEA, and ANSI?

MR. CONKLIN: I would agree that's true. We have been working with the IAEA and our contractors, along with Bob Meck and your folks. As the years and months have progressed, the scenarios and the parameters which we used to develop the scenarios and come up with these figures has been getting closer and closer.

In fact, as you know, one of our main points in

this was to make sure that when we went to the IAEA, the

U.S. had a very unified position and the scenarios and the numbers that both the NRC and the EPA had were within close agreement, and I think for practically every radionuclide, we were within a factor of 3, so we've worked very hard to come to agreement on the scenarios and the parameters.

COMMISSIONER McGAFFIGAN: One of the points that Mr. Meck makes in his written testimony is that the technical bases in the ANSI standard, the IAEA work, and the EC work were largely independent, and so there's a lot of -- the fact that they used different methodologies, at least initially, and yet there isn't very much range even to start with is a good place to be, as we go forward in trying to get the technical basis for whatever standard we come up with.

You'd agree with that?

MR. CONKLIN: Uh-huh.

COMMISSIONER McGAFFIGAN: One of the issues you said in your opening statement was, Mr. Conklin, that -- and I agree -- that orphan sources and possible importation of highly contaminated materials is a place to start.

But I understand also that the things that trigger monitors at our various steel mills or whatever, in large part 90 percent of them come from the oil and gas industry, from, you know, contaminated materials, contaminated with T-NORM. When you deal with orphan sources, are you

dealing -- we think of orphan sources in NRC space as our devices that get in the wrong hands or get disposed of improperly. We don't have any control over the oil and gas industry. Is that something you're looking at in EPA space?

MR. CONKLIN: It's not something within my center, but there is another center within our office that is looking at T-NORM and investigating what to do and whether or not we need to set regulations or guidance in that area.

Most of the orphan source issues that my center deals with deal with the discrete sources, the lost sources that were at one point owned by a licensee and got lost or were generally licensed-type sources.

COMMISSIONER McGAFFIGAN: How do we deal with the oil and gas industry at some point? I guess you just -- it's not your area.

MR. CONKLIN: That's not my area. True.

COMMISSIONER McGAFFIGAN: But that's where the heart of the problem is, as I understand it, in terms of what's today causing problems at steel mills, and some of the stuff can be very, very contaminated, as you know.

Mr. Kennedy, one of the things -- I think it's in your prepared remarks, but I'd just as soon you say it publicly. The National Technology Transfer Act of 1995 is a congressional mandate that we adopt consensus standards where we can, and it is the law of the land that we at least

have to start looking in that area. Is that not correct?

MR. KENNEDY: That's correct, and I'm certainly that the Commission is aware of that. We, in the Health Physics Society and people that develop ANSI standards, are very aware of that, and that's why it takes so long for us to deliberate, evaluate all of the opinions possible, and develop what we think are concise and comprehensive standards.

CHAIRMAN MESERVE: Could you describe briefly who participated in the process of developing the ANSI standard, because that's obviously one of the issue that comes up.

MR. KENNEDY: This particular standard began in 1964, and so there was a lot of work between 1964 and the early 1990s when I assumed the chairmanship of the panel. Over that period of time, there were a wide variety of individuals, starting with people at National Research Laboratories, people in the Atomic Energy Commission and then later the NRC and DOE, and EPA participated in terms of reviewing and assuring ourselves that the material was technically consistent and represented the best scientific information that we could bring to bear on this subject.

In the standard itself, it lists the people that contributed. Again, there were contributors on the writing panel who were consultants from a very wide --

CHAIRMAN MESERVE: I'll look at that.

And finally, Mr. Costner, just to give you a chance, you weren't here last week, but I think Commissioner Diaz, at last week's briefing, established that with enough detection equipment and enough time, he'll detect volumetric contamination anywhere, including the table or obviously ourselves. We're highly contaminated with potassium-40 among other things.

So when you say you have a moratorium on volumetric -- on releasing volumetrically contaminated materials, do you have a definition of volumetrically contaminated that you can use, because everything's volumetrically contaminated. The earth is volumetrically contaminated.

MR. COSTNER: Yes. We tend to prefer not to go too far down the path of unrealistic and unproductive discourse in either of many different directions. It's fairly obviously from the nature of a nuclear facility what

the equipment is you're talking about, based on -- obviously, here we're talking about really when the volumetrically contaminated radiation is created as a result of the operation, and so by knowing the design and the operating history of a facility, one can distinguish that.

COMMISSIONER McGAFFIGAN: My understanding is some of the steel at the K-25 plant, which was, you know, built prior to World War II or built during World War II, prior to

atmospheric testing, is among the cleanest steel that you'll find on the face of the earth, because it doesn't have the fallout that gets mixed in with everything, once we and the Russians start testing.

So I'm just wondering. Is that considered volumetrically contaminated, because it happened to be at the K-25 plant?

MR. COSTNER: No.

COMMISSIONER McGAFFIGAN: Okay. Thank you.

CHAIRMAN MESERVE: Commissioner Dicus?

COMMISSIONER DICUS: Kind of a general question to maybe all three of you, and you can all three answer or one of you can answer or none of you answer, I guess.

But it's the issue that was brought up about the European Commission, European Union, and ICRP-60, which does require -- which, I've learned -- I didn't realize it, but I've learned does require the countries of the European Union to have a clearance rule. And, I think, four countries have or are in the process of establishing a clearance.

And I want to back up. I said this last week. I said, you know, if the NRC -- and I want to make this very clear. If the NRC makes a decision to go with a clearance rule, and if we do in whatever level we choose, including zero millirem and we go forward with this, I'd like kind of

your input on how you see the United States, whatever we do, being impacted by what the European community is doing, because they do have and are going forward with a clearance rule.

Could you -- would one of you like to attack that?

MR. KENNEDY: Well, certainly with the ANSI standard, we were very concerned with that. We didn't do formal comparisons with the draft information from Europe until after the fact, because we didn't think it would be technically credible to be overly influenced by what they did. In fact, our decision to go with 1 millirem was only made during the last round of review of the standard itself.

We think that there are several key issues. One

of them is how national authorities tend to regulate within their countries, and we, for one, recognize that that is something that is within the purview of each of the national authorities. What the IAEA and the European Commission are attempting to do is to provide recommendations to serve as guidance to those member states, as they develop their policy.

Now, specifically, how would their policies impact us? One simple way is to interrupt commerce. Suppose somebody didn't like the trans-boundary transfer of materials from a country that had lesser restrictions than a country that had more significant restrictions? Well,

certainly that would be an issue.

In recent history where that came to bear was post-Chernobyl, where different countries received different levels of fallout and put in different policies and programs to assure that their public was protected by their own regulatory authorities.

This caused some trans-boundary problems in Europe where milk or other items were not readily transportable among the countries, and I believe that the efforts of IAEA and the European Commission are to avoid that situation for other areas of commerce dealing with, for example, recycled or other materials that come from nuclear power. So I believe it's founded on a wise common sense consideration of past history.

COMMISSIONER DICUS: How would that impact us? Let's say that we don't move forward, for example, with any kind of rulemaking on clearance, but we will have material, particularly possibly recycled metal, being shipped into the United States. But if it's below what the European Union has set as a millirem reading, we won't know that it's potentially radioactive, because it's cleared. It won't have this label it's possibly radioactive.

How's that going to impact us? I mean, how -- do you have any comments about this, particularly EPA?

MR. CONKLIN: There's -- it could impact --

COMMISSIONER DICUS: Because you've got to -- you know, this is something we're going to have to address.

MR. CONKLIN: Exactly. And that's why we were -- one of the main reasons we've been involved with the IAEA folk is we're looking at it from the trans-boundary issues in an intervention-type aspect, because under the Federal Radiological Emergency Response Plan, EPA is on the hook for responding to events --

COMMISSIONER DICUS: Exactly.

MR. CONKLIN: -- that have an impact here in the

U.S. And there have been several incidents over the last six or seven years that I've been at the EPA involved in this issue, in which we've actually had material imported into the U.S. through various shipping channels. Then it gets to a facility that has the detection equipment. It sets off their alarms, and we have to convene NRC, DOE, the state folks and all that, to figure out what we're going to do with the material and exactly what kind of hazard it is.

So it does create a situation in which you could have, quote/unquote, emergency situations in which everybody's wondering, What do we do with the material, and that will eat up resources, because then we'll have to do a case-by-case analysis of the material, what's in it, how much is in it, where's it going, what's it being used for, to determine what we're going to do with it, and whether or

not we're going to send it back, and that creates --

COMMISSIONER DICUS: So I think this creates another problem for us then to deal with.

MR. CONKLIN: Uh-huh.

CHAIRMAN MESERVE: I'd like to follow up on that question. Do you have -- your response. Do you have a trigger point you're using or threshold you're using, above which you consider the material to be contaminated and below which you tolerate its import to the United States?

MR. CONKLIN: No, we don't. That's one of the things we're looking at, and that's one of the reasons why we're being involved with the IAEA is to take a look at the scenarios and parameters, and depending on how things progress over in Europe and here, maybe establishing an intervention level that we would then use with the Customs agents to determine when we would respond and when we would suggest that the Customs folks hold the material until it can be looked at in more detail.

CHAIRMAN MESERVE: Is it your intention that if the material that is shipped here complies with the EC or the IAEA standards, that that will be acceptable? Or is that a matter that's still up in the air?

MR. CONKLIN: It's still up in the air.

CHAIRMAN MESERVE: Did you have --

COMMISSIONER DICUS: I was just going to follow

up. Are you working with Customs on these issues?

MR. CONKLIN: We have worked with them in the past, and what we're trying to do is work with them on the local, regional levels about these issues. We do know that they're getting pagers -- well, not pagers, but detectors or pager-sized detectors and things.

COMMISSIONER DICUS: We're aware of that. Yes.

COMMISSIONER McGAFFIGAN: Mr. Chairman, there's just one thing. I remember a story about two years ago where the nuclear -- I think the Navy found some pots and pans that had slight contamination in them. I remember an EPA official being quoted in one of the trade presses, saying that this was trivial and not to worry about it, so at least as regards the Navy pots and pans, EPA seemed to have a de minimis level.

Do you recall the incident?

MR. CONKLIN: I recall the incident. I don't recall the individual right off hand. It may have been one of our regional folks who --

COMMISSIONER McGAFFIGAN: Yes. You can't control those -- we know about that.

MR. CONKLIN: Because of their autonomy there, but --

COMMISSIONER DICUS: But Navy pots and pans are okay.

MR. CONKLIN: I would just -- my best recollection, it was based on what was in those pots and pans and what they're being used for, not based on an explicit level that we had set.

COMMISSIONER McGAFFIGAN: Okay.

CHAIRMAN MESERVE: And this is you. One of -- some of the people who have written to us have suggested that we ought to impose some sort of a barrier where there would be no contamination in material imported to the United States should be allowed. In your deliberations, have you looked at the implications of that, in terms of our compliance with our international trade obligations?

MR. CONKLIN: No, we haven't. We are doing some economic studies right now, gathering information on what countries export and how much they export and the value of that, and if values were set at different levels, what would that mean as far as restriction of imports. But we have not come to any conclusions or come to any final reports on that. But it's something that we're going to have to consider as we go forward in even thinking about establishing an intervention level.

CHAIRMAN MESERVE: I know that there are many cases in which the United States has been -- or other countries have been trying to ship into Europe, and there are barriers that have been imposed against the import into

Europe, and that there are international trade cases that result from that, to the extent that those barriers cannot be justified on health and safety basis.

There's a case, for example, I'm aware of where British beef has been denied import into France on the basis that there had been the mad cow scare. And once that had been -- they had sufficient control over the British beef that the health and safety concern had been resolved, that is, that it was safe to be able to transport this material internationally, there were issues that arose as to whether a state that was a participant in various of the international trade agreements was complying with the law in barring the admission of that material. It does seem to me this bears on this issue as well.

MR. CONKLIN: I would think so. It's something that we haven't gotten into a whole lot of detail yet. It's something that we're going to have to be looking at, though.

CHAIRMAN MESERVE: You indicated you're going to be collecting data on these various imports. What's the time frame within which you're going to be doing that?

MR. CONKLIN: Well, we're doing it right now, actually. We have some work assignments with our contractors on place right now. At the end of this fiscal year, we're looking to have a draft report, which gives us some information from which to determine where we go from

there.

CHAIRMAN MESERVE: Mr. Kennedy, I'd like to get your advice on a matter. It has struck me, as I reviewed the comments that have been submitted on this issue, that where there is a significant disconnect between or among our various commenters is on the issue of the scientific foundations for where -- what levels actually present the meaningful risk and the public perceptions of the levels at which risks are presented. And those, based on some of the comments, seem to be a huge gulf in the viewpoint the people bring to bear on that issue.

And I'm curious as to whether you have any suggestions for us as to whether or how we should fold in these perceptions of risk in our approach to this problem.

MR. KENNEDY: Perceptions of risk are always very difficult to deal with. One can always say, education, but education deals very little when emotions are involved. I think what the American people would like to feel that the regulatory system protects them from risks in a manner that seeks a balance between what's technically possible and what's emotionally demanded.

We recognize, as the Health Physics Society, that that's very difficult to accomplish. However, we think that, you know, the deliberations such as this by the Commission and by our agencies are a healthful step in

bridging that gap, if you will, between perceived risks and actual risks associated with any event in life.

I'm not sure I have anything much more to say on this. I mean, it's a very complicated emotional issue, and I believe allowing all sides to be aired as you make a decision is a very wise path to go.

CHAIRMAN MESERVE: Thank you.

Commissioner Diaz.

COMMISSIONER DIAZ: Thank you, Mr. Chairman.

Mr. Costner, I just want you to know that the Commission appreciates the fact that the Department believes that we should look at this issue, that it's an important national issue, and I also believe that if you look at the potential users of any type of standard or regulation, I think the primary beneficiary in the short-term will be the Department of Energy, so that certainly correlates with itself, and it's a good thing.

Since you have so much of these materials that might eventually be considered for disposal, for storage, for controlled release, and since, you know, we are primarily a health and safety agency, has the Department looked at all of these materials and come to some preliminary conclusions at what levels is public health and safety going to be affected either from volumetric or surface contaminated materials, at what dose level, at

what --

You know, do you have any inclination now, say, between zero -- because zero is, you know, not very reachable -- between zero and a thousandth of a millirem or between a thousandth of a millirem and 1? Have any dose base or any other levels, have you come up with some internal recommendations? Which areas are you looking at?

MR. COSTNER: On the issue of the relative health consequences at variable levels of radiation exposure, it's certainly something that is very important to the Department's operation and has been for decades, since the establishment of the whole project that ultimately led to the Department.

But it's an area that typically the Department looks to outside entities, such as the Commission, to do that work, or such as the EPA or the NCRP and the ICRP. We're supportive of those roles, but it's not typically the Department's responsibility to make the decision about how to correlate an exposure to a dose or to a health effect.

COMMISSIONER DIAZ: So you don't have any particular target areas in which you would suggest or recommend that, at this level, this material might not be

considered, quote, radioactive, because it's at a level that it's, you know, so little above background that it has no public health and safety --

MR. COSTNER: That's correct. We're not making any recommendation along those lines at this point.

COMMISSIONER DIAZ: And I'm not trying to oversimplify the problem. I understand this is just one part of the issue. There are many multiple issues, including, you know, the fact that we need to be not only protective, but people need to feel that we are protective, and also the economic issue. Okay. Thank you so much.

Mr. Conklin, at the beginning, you make a statement that EPA had essentially focused on two public health and safety issues, which you thought were the most important ones, and you mentioned orphan sources and imported materials, meaning that you were really not putting any significant efforts into the area of release of materials or clearance of materials, as the Europeans call them.

Was that decision made because there was little materials or little issues, or was it because you felt that at the very low levels that these would be released, that there was no significant public health and safety issue?

MR. CONKLIN: It was made for two reasons. One, we though the risks associated with the orphan sources and the imported materials was greater than the risk associated with the recycling issue, and we have, like a lot of us, limited resources.

We didn't have enough money and people to spread around to cover everything we would want to cover, so we had to make basically a business decision on where we wanted to put our efforts and get the most bang for the buck, if you will, and we thought that, with our role in the Federal Radiological Response Plan and the level of risk that we were seeing, that we'd be better off going with the orphan sources and the import issue.

COMMISSIONER DIAZ: But you did not see the issue of release of solid materials as a significant public health and safety issue, as compared to the other ones.

MR. CONKLIN: That's correct.

COMMISSIONER DIAZ: Thank you.

And, Mr. Kennedy, you're a practicing health physicist. Now, a lot of people don't know what health physics is. We'll call it, for the time being, you're a practicing radiation protection specialist, which probably fits more, so you dedicate yourself to the, you know,

protection of people from radiation hazards.

From your direct experience, at the levels that you indicated, 1 millirem or less in those concentrations, how do you think the potential public health and safety or health hazards to members of the population of this country, which is where we're dealing now with, from the release of solid materials, compared to other radiation hazards, NORM,

T-NORM, you know, going to the dentist, you know, going to the doctor?

Could you give me an idea from your perspective at 1 millirem level. Can you distinguish the potential health hazards at 1 millirem, from having, you know, a procedure at the dentist's office or, you know, whatever else.

MR. KENNEDY: Yes. I always like to answer that question by saying that I got about five times more dose flying to and from this meeting from my home in Washington state than if I were exposed to a 1-millirem-per-year source, so --

COMMISSIONER DIAZ: Excuse me. Somebody would say that that is because you wanted to; it's voluntary. And, you know, I think one of the issues that comes in here is that in society, we all get risks that are not voluntary. When you get onto an expressway to go to work, you might think that's voluntary, but if you don't go on the expressway, you might not have a job.

But people make the difference between being voluntary and being involuntary, and that is from the public perception. I think it's a very important point, because people say, you know, I don't have to have this, or you selected to go onto the airplane.

But from the radiation protection viewpoint, at the dose level, do you think that anybody could determine

there is any deleterious health impact?

MR. KENNEDY: No, sir, I do not.

COMMISSIONER DIAZ: Anything else you want to add to that?

MR. KENNEDY: Well, yes. The 1 millirem, I started to say, is not only a low dose compared to a lot of other activities whether they're voluntary or involuntary, but it's also well within the natural fluctuation of background sources and is, therefore, very difficult to quantify in terms of lifestyle decisions that people knowingly or unknowingly make in terms of their radiation exposure. And I don't believe that the 1 millirem dose level can be reflected in terms of cancers or other types of health effects in any population.

COMMISSIONER DIAZ: Okay. Thank you, sir.

CHAIRMAN MESERVE: Commissioner Merrifield.
COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman.
Mr. Costner, the first thing I want to ask you about is: How much of the material the Department of Energy has an expectation it needs to deal with that is allegedly contaminated, how much of that do you anticipate is going to be volumetrically contaminated, such as the materials from K-25, that have to be melted for security reasons versus that portion of the material on which there's surface contamination that can be dealt with?

MR. COSTNER: Current projections are -- and these numbers are certainly --
COMMISSIONER MERRIFIELD: Won't hold you to them.
MR. COSTNER: -- not certain, so -- the total amounts of metals that are presumed to be in the DOE complex range from about a million to about 1.4 million tons, depending on the estimates you use.
And, like I say, at this point, based on how those were created, I don't consider any of them to be sort of the current numbers, if we were to go out and look at the total number of surplus facilities, et cetera, but something that's more like a million-plus tons. The amount of that that's volumetrically contaminated is probably on the order of 50,000 tons or less total, primarily nickel, some copper, a little bit of other stuff.
COMMISSIONER MERRIFIELD: Thank you. I was going through my DOE news clips yesterday, and I noticed there was an article on a proposal by British Petroleum -- I guess it's now called BP Amoco -- to build the world's longest undersea pipeline in the Beaufort Sea, up in Alaska. That pipeline would be buried under the sea floor, under cover of about nine feet.
The theory, although it doesn't state it in the article, is that once that pipeline completed its use, that it would remain in place; it would not be taken back out. I

don't know that for certain, but that's my expectation.
Has the Department of Energy looked at restricted uses of radiologically contaminated metals for uses such as this, that would be -- and I know we've talked about obviously containers for low-level waste and things of this nature. But are there other uses of steel in an industrial capacity that would not involve direct human use, but would, in effect, be like this, where that material would not be recycled, where it would be a closed cycle?
MR. COSTNER: Well, the oil and gas industry is looking at some options that are at least probably

comparable to that kind of scenario for reusing its own piping. The Department is also looking at the issue of restricted reuse, and at this point, we're focusing principally on waste container activities, things that are going to stay within the confines of a federally controlled facility.

COMMISSIONER MERRIFIELD: Mr. Conklin, obviously -- and this probably falls somewhat outside your area, and it is a philosophical question. But the EPA, for example, under the Safe Drinking Water Act, has to deal with a couple of issues, one of them being the "how clean is clean" standard.

Our ability as a society not only in the radiological area but in the chemical area as well, we're

able to measure contamination much greater than our ability in many cases to either remove it or to otherwise deal with it.

And so, in part, under the Safe Drinking Water Act and through congressional action, we have made a determination that our drinking water, which is considered safe to drink, can include specified standards for things like arsenic, which is, obviously in the wrong concentrations, bad for us. Some arsenic occurs in nature.

In my home state of New Hampshire, we have high levels of arsenic in water naturally, but some arsenic is introduced. The Safe Drinking Water standards don't make a determination, a difference between the two, between that which is naturally occurring and that which is not.

Do you see any analogies here in what we're grappling with or not, as it relates to radiological contamination of these materials?

MR. CONKLIN: In all honesty, I haven't thought a lot about that, and I'm probably better off not jumping right into that.

COMMISSIONER MERRIFIELD: Okay. That's fair; that's fair. I think it's -- I mean, obviously the EPA has significant amounts of experience in this area, and obviously you can supplement your comments later on. It might be useful for us to gain an understanding of how EPA

grapples with similar issues but in a dissimilar manner.

Mr. Kennedy, I -- you made a very clear presentation about the scientific basis for why you feel that clearance standards that have been discussed would be the appropriate way to go and how your standards compare with the direction that the Europeans are going.

In the testimony that we're going to receive later on today from the next two panels, we're going to have some

folks who have some very strong feelings. Part of those feelings are based on public perceptions and concerns about things that are radioactive, and some of those concerns are based on an economic basis, a concern by some of the steel industry folks, for example, that if they have to have their steel -- if they have to be involved with radiologically contaminated materials, that the public perception will make their products less saleable, that people won't want to buy their products because of a fear of that contamination.

I was struck a little bit by some of this by my childhood, you know, the old issue of cod liver oil. My parents always wanted me to take cod liver oil and told me how good it was for me and there were no health consequences, but it just didn't taste very good going down, so I didn't want to take it. And it strikes me --

COMMISSIONER McGAFFIGAN: This demonstrates you grew up in New England.

COMMISSIONER MERRIFIELD: It does, indeed. And so I'm -- some of this conversation strikes me as similarly analogous, that one can make a scientific argument that this is okay, but, you know, the public feels differently. They just don't feel comfortable with that.

How do we deal with -- what's your reaction to that? How do we deal with the public concern aspects and the economic consequences, aside from sort of the pure scientific discussion that one might want to enter into?

MR. KENNEDY: You know, reflecting on past history, when there's been a problem of contamination of consumer products or of resource stream, it's been because there has been a gap, shall we say, in the regulatory process, where a control might have existed that would have prevented that situation from occurring.

I think that regulations in this area are very much akin to that, where making case-by-case determinations and approach the problem in terms of nondetectable or zero release sometimes aren't the most prudent path in terms of public radiation protection.

I think my viewpoint is that having a regulation that balances these issues and arrives at a consistent and credible method for making decisions is far wiser than allowing a continuation of a case-by-case situation that can be highly variable and highly influenced by near-field

conditions, if you will, without a perspective of the broader issues that are really involved.

And one of those issues is public confidence, that the public is being adequately protected from harmful

sources of radiation. The question is: How do you determine if a source is harmful or not if you don't have a consistent regulatory basis within which to make that decision? Clearly, in terms of metal recycle, what we would see is a regulation -- what I would envision would be a regulation that would make that decision-making process somewhat streamlined.

If the metal is in excess of a criteria and it is proven uneconomical to further decontaminate it, then it is clearly radioactive waste and should be handled as such. Sometimes those decisions can be made very simply, as DOE likes to say, in terms of process knowledge. We know the origin of the material, and we can make a simple decision without committing resources in terms of surveys or records or other sorts of things.

In other cases, it's not so straightforward and having a clear, consistent policy and a decision framework, I think, would be very beneficial, and in the long run, would increase consumer confidence because they would know that there is a due process that's being followed consistently in every area.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman.

CHAIRMAN MESERVE: I'd like to thank the panel for a very helpful and interesting presentation.

And we'll now turn to our second panel. Participants on the second panel include Diane D'Arrigo, who's the director of the Radioactive Waste Project for the Nuclear Information and Resource Service, or NIRS; David Adelman, who's a project attorney with the Natural Resources Defense Counsel; Steve Collins, who is assistant manager, Office of Radiation Safety for the Illinois Department of Nuclear Safety. He's appearing here on behalf of the Conference of Radiation Control Program Directors, Incorporated, and the Organization of Agreement States.

And then finally we have Jeff Deckler, who is the remedial programs manager for the Department of Public Health and Environment for the State of Colorado, and he's here, representing the Association of State and Territorial Solid Waste Management Officials.

Robert Holden of the National Congress of American Indians was scheduled to appear this morning, and we've just gotten notice that he is ill and unable to participate.

So why don't we get underway. Ms. D'Arrigo?

MS. D'ARRIGO: Yes. I wanted to see if it would be possible if I spoke a little shorter, if Wenonah Hauter from Public Citizen could have a minute or two also.

CHAIRMAN MESERVE: What we'd like --

MS. D'ARRIGO: It's her birthday.

CHAIRMAN MESERVE: It's her birthday? Well, we'd like to keep it to five -- as I indicated, I think -- I don't know if you were here beforehand. We like to keep all of these presentations to five minutes, and if the two of you can keep it within five minutes, that would be fine.

MS. D'ARRIGO: Plus Robert's not here. All right.

The Nuclear Regulatory Commission is asking the public's opinion, and I have the Commissioners with opposition statements from over 100 organizations. We repeat that we do not want any more exposure from nuclear power and weapons fuel chain.

That means we want the source byproduct and special nuclear material that's now under control of governments and companies to remain regulated and monitored and isolated from general commerce as long as it's radioactively and chemically hazardous.

We're asking that the Nuclear Regulatory Commission require that these materials remain in regulatory control, because it is your job to prevent exposures to the public and the environment, not to convince us that it's a trivial amount.

And I apologize for being a few minutes late, but the multiple exposures of how many times we're going to get

a millirem or up to a millirem is something of concern, the lack of verifiability, the multiple and synergistic effects, the effects on the fetus and genetic instability, these are real.

These are not just public perceptions, and it's frustrating that it's couched as just a public perception of a problem that you who know better or the scientific people who are putting together the risk estimates know better, that this is just a trivial risk. So we ask that the Commission take their job seriously and develop workable scenarios to prohibit the release of more source byproduct and special nuclear material from the fuel chain into the marketplace.

We believe that punting the public attention to the National Academy of Sciences is a waste of tax dollars. It was admitted at your briefing last week that part of the reason for that is to divert attention from the NRC while you're continuing to develop a technical basis, and we have problems with how the technical basis has been and is being developed.

We wanted to forewarn you that the National Academy of Sciences does not have the prestigious reputation that you might hope regarding radioactive waste and

radiation issues. There have been at least four or five studies in the past and ongoing that have been documented to

be biased, secretive, imbalanced, and we have a fear that, of course, this will be repeated again.

There were letters from federal and state officials and National Academy members themselves to NAS president on the Yucca Mountain review, the Ward Valley review, the review of low-level waste sitting in New York State, 1995, criticizing those points.

And the ongoing NAS study on the biological effects of ionizing radiation is under serious international review and criticism right now. There is not one person on the panel that we can identify who believes that the risks are greater at low doses than currently estimated. Yet there is a field of science, legitimate field of science, for that belief, and it's not at all represented on this panel that's reassessing low doses.

The NAS board that's proposed to carry out this study, the Board on Energy and Environmental Studies, in their report, Affordable Clean-up, in 1996, actually has already recommended that DOE and regulatory authorities set free release standards quickly and permit recycling of recovered materials within the DOE complex or for sale to the commercial market where economically feasible.

At another location, they state that a DOE commitment to permit such release, once the new criteria have been approved, is essential. This does not bode well

for those of us who want a review of whether or not there should be release at all. This was why the organizations and a lot of the public boycotted your public participation process earlier or last year.

The NAS procedures are highly secretive. They refuse to share information that the public needs to know during this kind of process, so we oppose the contract that's being proposed and ask the NRC to move directly to prohibiting releases.

It's unconscionable that the NRC is attempting to justify standards to release nuclear waste into commerce and pointing to international efforts to do so, when, in fact, the NRC is one of the biggest motivators of the international standards being set in the first place.

And the agencies that we're looking at, the International Atomic Energy Agency, the European Commissions, URATEM section and the Nuclear Energy Agency of OECD are comprised of nuclear promoters, nuclear industry representatives, and thus to look at them as if they are some kind of impartial protector of the public is misguided.

And then to send -- ask the National Academy of Sciences, which we've already had serious and have serious problems with to review the work of those agencies and be very specific to that is not going to assuage public concerns or help to build credibility. The way to get

credibility is to actually protect from the radioactivity and to at least develop a scenario by which the materials would not be released, and we would not be exposed.

I have just one more point. I think it's ironic that the -- that recycling, which has a very positive connotation and it took a while for that to happen, is now being threatened by the contamination from the nuclear industry. Recycling's a great idea, but not when you're going to contaminate it with any level of poison that doesn't need to be there.

And there is a distinction between that which is already there and that which you've already got under lock and key, and are going to deliberately release because you believe that it's a trivial dose and you believe that somebody is going to develop tables that give levels that somebody's going to actually measure accurately with the proper equipment and the proper training and the proper oversight into the marketplace where the results will never be verifiable; they are not enforceable.

Therefore, even if I was to accept a millirem, which I am not, from any number of different sources, I could never be guaranteed, I could never be shown, that I'm actually only getting that amount, and so that's a frustration.

We're frustrated by the refusal of the Commission

at every level to do what it's charged to do to protect us from ionizing radiation, from source byproduct and special nuclear materials. It's not your job to deal with naturally occurring. If you want to take that job on, let's talk about that, but just because it's already happening, just because it's already out there does not justify adding to it.

And, finally, we do support the rights of state and local governments to be more protective and stringent than the Federal Government, not less.

MS. HAUTER: I'll be very brief. Public Citizen has been a very outspoken critic of the World Trade Organization and its chilling effect on democracy. Rather than being able to hold our elected representatives and agencies accountable, it punts this to an international organization where there's no accountability.

The NRC directive to the NAS to look at the international proceedings and the discussion this morning is a really good example of what we have been talking about. The NRC's charge to the NAS to look at the international perspective is just further tainting this process.

Even the language used by the staff, saying that the alternatives for slightly contaminated radioactive materials, doesn't consider some of the problems that we've been pointing out, like the Department of Energy's inability

to assure us that plutonium has not been released in a case-by-case basis in the past.

And it's very clear that the NRC is not just punting this difficult issue, but using the international trade issue as a way to move along setting a standard that's going to allow releases.

And what we would like to ask is that we have a real debate in this country as to whether it's appropriate to have any international trade of products that have radioactive contamination, much less to be importing and exporting those products.

CHAIRMAN MESERVE: Thank you.

Mr. Adelman?

MR. ADELMAN: First I'd like to thank the chairman and the members of the Commission for giving me the opportunity to speak today.

I want to start by saying that I've generally been dismayed by the kind of debate that has surrounded the issue of setting a de minimis standard, and I believe that the DOE and NRC officials bear particular responsibility for the dynamic because of their inability or unwillingness to do more than assert the correctness of their position without first attempting to explain the basis for it in a meaningful way to the public.

In my testimony, my hope is to identify some of

the sources of the public's concern more specifically; that is, to try incrementally to move beyond a stalemate, towards a broader discussion that will promote a fuller understanding of the issues and the bases for public concern.

I think a central issue that people among the public interest groups have raised is just this general lack of credibility of the nuclear industry, generally DOE and NRC in particular. Both NRC and DOE have a long history of poor relations with the public and of failing to safely control radioactively contaminated materials, and this continues today.

The NRC, for example, was caught flat-footed when

it was brought to its attention that the contractor conducting the technical analysis for its proposed rule, SAIC, had a direct conflict of interest for its work with B&FL;, a major DOE contractor.

For its part, the DOE ha avoided the open public engagement recommended by 1996 National Academy of Sciences study it sponsored when it chose to proceed with the massive Oak Ridge radioactive metals recycling project without complying with NEPA or providing adequate public notice.

There are also numerous examples of DOE releasing radioactive materials improperly. The recent reports of improper releases and dumping of radioactive materials at

Paducah is just one of the most recent examples in a long line of such problems.

In short, if the NRC and DOE cannot manage such materials in a purportedly highly regulated environment, what confidence can the public possibly have that they can do so when they release it for use in consumer products?

The implementation problems are equally serious and of significant public concern. The public is skeptical about the NRC's ability reasonably to evaluate the human health impacts associated with the de minimis standard. Examples of specific issues are aggregate effects of multiple exposures to different contaminated materials, synergistic effects with other carcinogens, and assessing the long-term impacts of radionuclides that remain hazardous for literally thousands of years.

The public is also profoundly concerned about the capacity of DOE and NRC licensees to release materials safely and in compliance with whatever standard is set. The reasons for this include the difficulties involved with surveying equipment for contamination and questions about whether proper instrumentation is available and will be used effectively. None of these issues has been adequately addressed to the satisfaction of the public.

Finally, the public does not understand why recycling of such materials is necessary, but the most basic

question the public is asking is why materials contaminated with nuclear waste need to be recycled in the first place.

What is the underlying policy? This is particularly relevant, given the low value of steel which makes up the vast bulk of metals that could be recycled. Not even the economics appear to support recycling such materials. Moreover, such a standard, when applied to recycling, establishes a dangerous precedent of turning recycling into a form of hazardous waste disposal, which is

achieved by diluting contaminants in bulk commercial products.

At a basic intuitive level, just like radioactive baby carriages and kitchen utensils, this just seems like bad public policy. Neither the NRC nor DOE has provided a clear, understandable explanation for why such a standard is necessary or why, in particular, recycling of contaminated materials makes sense.

Lacking public confidence, facing serious public concerns about practical, real-world problems and failing to address basic public policy issues coherently, it is no wonder that the NRC and DOE have run into such strong public opposition. These concerns must be addressed before proceeding with a rule or, indeed, proceeding with any further releases of contaminated materials.

Just one final point I want to emphasize is that

there's been a lot of discussion this morning so far about public perception, and that's both with regard to the risks themselves, but I think more importantly, it's about the credibility of the nuclear industry, the NRC, and DOE, and that's as important an issue, that political issue, as important as the technical issues that you folks are considering right now.

CHAIRMAN MESERVE: Thank you.

Mr. Collins?

MR. COLLINS: Slides, please.

I'm here today to represent 49 states, because only 49 of the states plus the District and some territories have radiation protection programs. I did provide my draft comments to all of those and did not receive any suggestions for change.

The primary thing that's most of my talk to you this morning will actually be suggestions regarding the control of solid materials as opposed to comments on your SECY document, even though there are some of those.

The NRC and the States, as equal partners, should establish uniform national dose-based criteria for the control of solid materials, to ensure consistent, adequate protection of the public. The States license a majority of the licensees and regulate all forms of radioactive material, not just those covered by the Atomic Energy Act.

The States have matured such that centers of expertise are no longer at NRC but in state programs as well.

The States' motive, covered on the next slide, is to ensure consistent application of uniform criteria and adequate protection of the public, workers and the environment, without excessive cost, while conserving our

natural resources.

The States believe that scientific consensus standards and recommendations are the appropriate basis for a dose-based criterion. We think that the NRC and the States should look thoroughly at the National Council on Radiation Protection and Measurements, International Commission on Radiation Protection, the International Atomic Energy Agency, and the American National Standards Institute standard that Mr. Kennedy discussed earlier today as the basis for dose-based criteria.

The current guidance that's used was based on technical capabilities of survey instruments. These instrument capabilities have changed. They've gotten more and more sensitive, with no concurrent change to the guidance.

Licensees use different survey instruments that have different levels of detection. This will lead to disagreements when materials are transferred and confusion over what permissible levels are of release. These

disagreements end up being very costly to both those licensees, the recipients of material, and to primarily the state regulatory agencies who go out and investigate these situations.

We believe that the scientifically correct action is to establish criteria for release of solid materials that are definitely adequately protective of the public, the workers, and the environment. We know that this action will not be supported by some, as you heard this morning. We think the reasons will be other than actual radiation risk.

We know that there's radioactivity in everything. Radioactivity is not a significant radiological risk to anyone at 1 millirem a year. The level was selected and recommended by these groups mentioned earlier, considering the benefits, the cost, and the public's reluctance to accept anything other than a trivial dose.

We believe that the National Academy of Sciences Board on Energy and Environmental Systems Study and recommendations on possible alternatives that has been requested will provide recommendations that are needed to supplement your SECY document, and we believe that they'll end up supporting a decision that rulemaking is needed for the control of solid materials. I want to keep emphasizing the word "control" as opposed to release.

Further, and something you may not have heard from

us before, is we do not believe any rule or policy that should come out of -- that may come out of this process --

we don't believe that that should prevent commercial firms from imposing additional restrictions for materials used as feedstock, if that firm believes that the loss of market share or other harm from acceptance of release materials is likely to occur.

What is the States' vision for implementation of the criteria? We have used, as has NRC, case-by-case evaluations in the past. We believe that no unsafe releases of radioactivity has occurred, but there has been some extra costs for materials that have been legally cleared, legally cleared solid materials.

The States want flexibility. We want to be able to continue a case-by-case evaluation, but with uniform criteria on derived values to base these case-by-case evaluations on. We do want the values that are derived from release of radioactive solids, along with all of that back-up information, data, analyses, and description of how they were determined, including the models and all that, to be made available, so that we can use that information on our case-by-case evaluations.

We do not want to allow licensees to exercise the provisions of a rule independently, without the specific approval of the regulatory body. That's being more

restrictive. But the States also want to be able to approve, based on case-by-case evaluation higher levels, for example, levels based on maybe 10 millirem a year to an average member of critical group, when we have more specific information on the nuclide, its half life and what the destination of this material may be and those things that we can assure ourselves that will not be a significant dose to the public.

We know that the recycling of cleared materials will occur if you had this rule only after sorting of metal, such that no metals above the recommended 1 millirem per year release criteria would find its way into commerce.

How do we know that or how would we assure that? We would want a final survey or analysis just prior to the release of the contaminated solids, with documentation of those assay results. That could increase the benefits and reduce the cost for the metals industries and for the regulatory agencies.

We want to present the facts from all these technical documents that have been presented -- we want to present those facts to the public in plain language. That has not been done yet.

The States' written comments outline items that the States believe are important in demonstrating that uniform national criteria for control of very low levels of

radioactivity and solid materials should be established. The results of doing this should be improved consistency in our radiation protection requirements, continued adequate protection of the public, workers and the environment without too much excessive cost, and conservation of our natural and economic resources.

We strongly encourage the NRC to pursue rulemaking in this area. We encourage the NRC to adopt criteria as recommended by these international scientific bodies and particularly the ANSI standard. And I would like to add that we would encourage NRC to leave it to the States to deal with T-NORM, the oil and gas industry in particular.

CHAIRMAN MESERVE: Thank you very much.

Mr. Deckler?

MR. DECKLER: Thank you, Mr. Chairman.

ASTSWMO is a group of state regulating agencies, and most of we regulators are also scientists, except for the few that are unfortunately lawyers. And as --

VOICE: Hey, wait a minute, now.

MR. DECKLER: As regulators and scientists, normally we would look at a rule like this from two perspectives. One, is it technically justifiable? And, two, does it improve the regulatory process?

And when ASTSWMO initially looked at the issues paper, we supported the formulation of this rule from both

of those aspects. The people in ASTSWMO believe that there is some level that is above zero that is protective of human health and the environment and that the ASTM recommendation of 1 millirem is probably a pretty good place to start.

And we also believe that in terms of regulatory process, having a known standard that provides consistency and minimizes agency review has obvious benefits to it. And if life were that simple, I could stop talking now, and in fact, you wouldn't be having this meeting, but we all know life isn't that simple.

You got 800 comments on this proposed rule, and while the chairman was kind enough to couch that in terms of, he had the benefit of 800 comments, we all know that it presents an enormous, if not impossible, challenge to try and reconcile those 800 comments and decide what to do with this rule. And I'm not necessarily here to make it easier for you, because I think NRC's got some gut-check level of decisions that you're going to have to make.

I was having a discussion with my wife before I came to this meeting about coming here and what the issues were, and she basically said to me that even if I could tell

her, as a scientist and as her husband, that the eating utensil she was about to use had trace levels of radiation in it and it was safe, she would still choose not to use that eating utensil. And if I can't convince my wife that

it's safe, how is NRC going to convince the rest of the country? That's a very tough, tough issue.

And so rather than come out straightforward and have ASTSWMO's support going forward with the rule, I think what ASTSWMO would do at this point is to go along with the staff recommendation that a rule be delayed at this point for some further investigation.

Where ASTSWMO differs a little bit from where NRC is going is that we think the investigation should not be focused on the technical issues. As you heard before in the previous panel, we've probably gone a pretty long way in doing risk assessments, to show what levels may or may not be safe, and we have, in fact, limited the range of what looks right, at least to the scientists and regulators.

But as we've also heard on this panel, that just isn't being bought by the general public, and, in fact, not to contradict Steve here, but talking in plain language isn't going to do it. It's not that the general public doesn't understand what we're telling them; it's not that we haven't explained the science in laymen's terms. It's just that we're coming from a totally different perspective that has been alluded to here before about the perception of risk.

And so what I suggest for NRC to take a look at a few different things. One is: How important is this rule

to NRC itself? In the issues paper, you mention that in the long term, this would hopefully be less resources on the NRC, to have a rule instead of a case-by-case basis.

You should really fully evaluate that to see how efficient that's going to be for you, because, in fact, proposing a rule is going to cause you a lot of grief, and you're going to have to think of, is that grief going to be worth it to you, in terms of your saved resources?

Or, in fact -- and I'll pick this up from the panel right now -- would the increased credibility to NRC by not going forward with a rule, would that be of more benefit to you than the decreased resources of having a rule. I don't have the answer to that question, but it's something that you need to take a look at yourself.

How important is this rule to the licensees? What percentage of material do they have that's between whatever our magic number might be -- let's say it's 1 millirem. How much of their material is between zero and 1, and what

percentage of their disposal cost does that represent? Is it trivial? Is it .1 percent of their total disposal costs, or is it 90 percent of their disposal costs? How important is it really to them?

Then you need to take a look at: What do we really have out there, in terms of waste streams? During one of the public meetings that I attended, people talked

about the need to case by case release office chairs that were nowhere near a contaminated area.

Well, if 90 percent of a waste treatment's office chairs, I think we could probably do a rule on office chairs, and you'd have very little opposition. But if 90 percent of the material is steel that needs to be recycled, we know that there's opposition there, not only from the general public but from the steel industry.

And we'd further ask the question: If the steel industry is going to refuse to accept this material, what good did it do to have a rule? You'll be able to have a lot of material released, and no one's going to take it. So, in fact, the rule might be ineffectual, even though you've got it there.

So I think you need to take a look at that: What are your waste streams? And are people going to be accepting this on the recycling end? And in that light, I would also suggest: I know that the steel industry recommended during one of the meetings that you guys sit down and maybe come to some type of agreement.

I don't know if you've done that, but I certainly would suggest that any industry that's going to be accepting recycled material be brought to the table and, you know, maybe more one-on-one fashion, although I know everything you do needs to be open, and talked about, do they have any

suggestions about what would work for them, either the steel industry or the concrete industry or whoever.

And, lastly, I think a lot of work needs to be done on this whole issue of perception. And I know we talked about voluntary and involuntary risk. I think that gets used a lot today. I think it's not as simple as we'd like to believe.

When I fly on a plane, the voluntary risk I accept is that that plane may crash. I have no idea that I'm undergoing an additional radiation exposure. I do now, because I'm in the field, but my guess is most of the American public doesn't, and I'm not sure that that -- so I think there are gray areas in terms of voluntary and involuntary risks that need to be take a look at .

In France, the French people inherently trust their government, and when the government says the nuclear industry is safe, they believe them. In the United States, that's not the case. Why is that?

You know, maybe it's because, you know, people look at certain incidents and say that that shows that we are secretive. I don't know whether our government's more secretive than the French government.

I don't know whether our public is more perceptive than the French public. I don't know what the answer is, but there's an issue there that I think we need to take a

look at. What is it about government credibility, and how can we increase that credibility with the public?

And, you know, is there a difference between having a rule and having the case-by-case? The idea of having this rule has brought out a lot of emotion, and sociologically, what's the difference there between the way people feel about having a rule and having case by case? Would a rule really mean that 100 times more material is being released, or is it really just some issue of, again, perception and context?

Those sociological issues are pretty long-term, and I don't know that you can wait to solve all of those before you get to a rule, but I would say that whether you can or not, I would suggest that we in government all over need to do a lot of work in that area and really start to devote a lot of attention there.

I'm from Colorado. We just had a Super Fund site where we decided to leave it in Denver, the Shaddock site. I'm sure a lot of people have heard of it. It's made national news. Again, from a technical standpoint, we thought it was safe. It was completely unacceptable to the public, and we're now sending $25 million or so to pick up the material we put there in the first place and ship it to another state.

So I don't have answers for you on how to deal

with these issues, but I know that they need to be dealt with. And, again, I would just suggest that as part of what NRC's continued research is on the issue, the sociological part of the picture not be left out. Thank you.

CHAIRMAN MESERVE: Thank you.

Commissioner Merrifield?

COMMISSIONER MERRIFIELD: Ms. D'Arrigo, you clearly articulated your concern about moving forward with any kind of a release standard and that we shouldn't be adding additional contamination to the consumer stream.

There are -- and I think Commissioner McGaffigan

alluded somewhat to this. There are obviously materials that we have in the waste stream right now which do have levels of radioactivity, whether it is from atomic bomb testing in the '50s or whether it is from naturally occurring materials.

If we were to go down the road that you're suggesting and saying, Okay, we shouldn't release any of this, how do we deal with the practical consequences of what is already in the waste stream and setting a base line. We talked a little bit about materials coming in from outside.

If we, as a country, were to decide, we're not going to have any additional contamination, yet we're confronted with pots and pans and baby carriages that come in from Europe, where they may have decided it's okay, how

do we -- how do we regulate that. I don't have a picture --

MS. D'ARRIGO: We change our gears on what the NRC is doing in promoting international standards that will legalize and encourage trade in slightly contaminated materials. We take the stance that there should not be contamination in our country or any other country, and we work to prevent releases internationally.

COMMISSIONER MERRIFIELD: I'm trying to think of -- and, again, I'm assuming it's a perfect world for you and we went directly the direction that you're suggesting. How --

MS. D'ARRIGO: At least we have the goal of going in that direction, which is not even -- we don't even have that. But okay.

COMMISSIONER MERRIFIELD: Okay. But how do we deal with the waste stream that we currently have here? Ow do we deal with ISRI and the scrap recycling industry, and how do we deal with the --

MS. D'ARRIGO: With regular garbage.

COMMISSIONER MERRIFIELD: No. I'm talking about scrap, scrap which is currently being recycled into metal in the United States. How do we go about regulating those issues and dealing with the stuff that's being imported into the United States, if we were to go down the road that you're suggesting?

MS. D'ARRIGO: You're saying -- well, the metal industry is trying to keep contaminated materials out also, so we're supportive of their efforts to prohibit contaminated materials from coming in.

COMMISSIONER MERRIFIELD: Maybe I should focus a little bit more.

MS. D'ARRIGO: Okay.

COMMISSIONER MERRIFIELD: Would we need -- under your suggestion, would we as an agency presumably need to get together with our EPA counterparts and say, Okay, for tin or for steel, there should be no more than X level of certain radiological materials in that metal, irrespective of however it is used?

MS. D'ARRIGO: I think your job is to not permit materials to be released from regulated facilities that are contaminated by the materials at that facility, so you don't release -- your problem isn't -- if you do your job and you require that the nuclear waste that's generated from facilities that are licensed facilities be treated as radioactive material and not released, then that's what my scenario would be. It is not your job to go in and regulate T-NORM and other isotopes.

COMMISSIONER MERRIFIELD: Okay. So our focus would only be on the facilities -- our licensees, and we wouldn't worry about imports or we wouldn't worry about

other materials getting into the waste stream. Our focus as an agency would be only on --

MS. D'ARRIGO: Well, I'm saying that internationally, I would like the United States to take the lead or support other countries that are taking a position of keeping this industry's waste within this industry.

COMMISSIONER MERRIFIELD: Okay. Ms. -- is it Hauter? Your comments -- you mentioned disagreement that the Public Citizen has with WTO and your concern about -- your belief that we're deferring to international organizations like IAEA in terms of setting these standards.

And I'm in a bit of a conundrum, only in that when I used to work up on Capitol Hill in the Senate environment committee, representatives of the Public Citizen very articulately explained -- I was dealing with the Clean Air Act reauthorization back in the '90s, and representatives of the Public Citizen and others were recommending to the United States Senate and the United States House that we move toward European standards, that the Europeans had a better way of dealing with things relative to clean air.

How is it -- how do you reconcile the belief in that regard, that the Europeans might have a better way of doing things and that we should look to the international organizations, and yet in this instance, what you're telling us is that we shouldn't be influenced by that?

MS. HAUTER: I don't think that there's any inconsistency whatsoever. Saying that there is a better standard elsewhere and that we should make a decision within our own legislative body to follow that standard is

different than going to an international agency and allowing that agency to set a standard for the world.

And the real issue here is that there's a game being played that here in the United States we're being told, Oh, we have to set a standard because there's going to be an international standard. Then we our agencies, like the EPA, go to the international meetings and say, Oh, we need to have a standard, because the U.S. needs to move ahead and this will help us move ahead.

So, you know, I think it's -- that there's a -- that there's not an honest process that's going on and that there should be a debate about whether there should be trade at all of radioactively contaminated materials, because it is not a given.

Our MGO counterparts in Europe are as opposed to this as we are, and it's not absolutely certain that there will be radioactively contaminated materials being traded.

COMMISSIONER MERRIFIELD: But you recognize that at least some may believe -- and I'm not being accusatory here -- some may believe that you're willing to suggest the movement toward international standards when it is going in

the direction you want, and you don't want to move to international standards when it's going in the direction that you think is the wrong way of going.

MS. HAUTER: No. I think you're missing a distinction. It's one thing to say, Our Senate, our elected Congress, should consider this standard that is being used in Europe, because it is a higher and more protective standard. That is different than punting the decision to an international body that makes the decision rather than our elected representatives. And I think that's the concern. And the concern is that there will be a race to the bottom with these standards.

COMMISSIONER MERRIFIELD: That's fair. I mean, I think, at least from my own part, you weren't here -- you may not have been here in the initial comments. You know, for my own part, I believe that we need to have a full and open process and make a determination on our own, and, you know, I'll make that very irrespective of whether the French and the Germans and the English feel differently or not.

So our charter under the Atomic Energy Act is to get information from a variety of sources and make determinations, and I think that's a legitimate process.

Mr. Adelman, I mentioned in my earlier panel, I asked about the issue of restricted uses. Some are suggesting that that might be very, very limited, that the

only restricted use might be for additional uses in the nuclear industry, disposal purposes, things of that nature. And I suggested there may be other types of civilian uses of materials that would not result -- once that's used, it wouldn't result in getting into the waste stream. I mean, it might be a more closed use. I used the example of our pipeline.

Do you think -- have you explored that idea of some areas where this material might be used, where it would not involve overall exposure to the public?

MR. ADELMAN: So is the purpose there that the potential exposure pathways would be reduced or diminished, and you wouldn't have to worry about the problems associated with materials going into consumer products?

COMMISSIONER MERRIFIELD: Yes. Consumer products. You mentioned baby carriages, the spoons, and things of that nature.

MR. ADELMAN: Sure. I mean, I think there are -- I mean, really what you're setting out is that there are a range of different materials that you folks are thinking about considering. And in that range, you can go from anything from no release that goes into a disposal facility, to restricted end use where it's going into a completely regulated environment, to something that you're proposing right now which is a little more grayer towards, well, it

can go into civilian uses; we're not going to be tracking it. It could, you know, be used for another type of use later on potentially, although with the pipeline, it seems like a fairly permanent, and, you know, you're sort of moving the ball over towards a grayer area.

I certainly think it diminishes the opposition that we would have, and I want to say that the NRDC's position is that in principle, a standard can be set, and if it were based on good science, we wouldn't oppose it. And certainly if you were going into end uses that were very clear and controlled, and we had confidence in how the material was being surveyed and how measurements were being made, what you're proposing is something we might consider.

However, under the given circumstances right now, with the lack of credibility, the general concerns about actually implementing a standard, I think those would come before seriously considering the alternative that you're proposing.

COMMISSIONER MERRIFIELD: Thank you.

Mr. Collins, one of the issues that you didn't touch on it, but I'm wondering if this is part of the thinking of the States: We've had a long and checkered history with the Low-Level Waste Disposal Act. We as a

nation have spent $600 million on seeking new low-level waste disposal facilities and for the most part, have

nothing to show for it.

Is part of the concern of the States that we would be utilizing limited low-level waste storage capacity, especially given the decision of South Carolina, for materials that don't seem scientifically justified to be disposed of? Is that part of the rationale of the States?

MR. COLLINS: I haven't heard that rationale from any of the States, that the radioactivity was so low that there was no need, so, no, I haven't heard that at all. I really don't want to get into low-level waste in detail, since that wasn't the subject of this meeting and I didn't come prepared for that.

COMMISSIONER MERRIFIELD: That's fair.

Mr. Deckler, I appreciate your comments about your wife. Although I'm only a lawyer, I think if I made the same arguments, I may have the same response.

The line of questioning that I had for the last panel and also I directed towards Mr. Adelman: Do you have any thoughts about that area, having more restricted use?

MR. DECKLER: More restricted use? Most of the discussion that we had in ASTSWMO regarding restricted use had to do with the difficulty in tracking that material once it left for the restricted use, and what would happen in its future lifetimes and whatever other uses it came under.

Now, you've expressed a different scenario, where

you've got something that's released for restricted use that is basically a permanent restricted use, and I would guess that ASTSWMO would support that as a potential option.

Again, I would come back to you and ask what the practicability of that is. You know, do I have -- I don't know -- 100 tons of metal that I'm waiting to recycle and now I have to wait for the one project where they're going to build this pipeline, so that I've got a place to put it? Is there enough of a market for these permanent restricted uses that it then makes practical sense to institute that? That would be my only question.

COMMISSIONER MERRIFIELD: Given the nature of, for example, material data tracking sheets and the work that ASTSWMO and its members have done relative to hazardous materials, I mean, it wouldn't be unheard of that you would be able to track some of this stuff if need be.

MR. DECKLER: That's true. And, again, I don't know that we have any data in how well those tracking mechanisms work or don't work and how many times things have

slipped through the cracks. It's just -- you know, tracking, generally speaking, even when we do it well, is kind of an administrative nightmare, and I guess no one's looking forward to having another set of tracking data like that.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman.

CHAIRMAN MESERVE: Commissioner Diaz?

COMMISSIONER DIAZ: Yes. Let me try to bring out two issues for all of the participants, which we appreciate you providing your comments. The first issue, I'll call it the zero contamination, and the other one is the issue of credibility that's been brought up. Let me go to the issue of zero contamination.

It is, you know, obvious that I am frequently handicapped by my scientific background, and that really creates a problem for me on many occasions, but I strongly believe that there is no such thing as a zero contamination, whether it's zero bacterial contamination, whether it's zero toxins, whether there is zero heavy metals, whatever, whatever you choose.

It doesn't matter what you choose; there is no such thing as zero. There is only, you know, a level that is acceptable to society, whether it's in food, in commercial products, industrial, no zero. You know, if you look at anything you have on, you give me enough tools, I will find on it something that you don't like, that is -- there's no doubt about it. Give me enough time and enough tools, whatever is it that you don't like, whether it's bacteria, whether it's pathogens, whether carcinogens. It doesn't matter.

Having said that, let me just also say there is no

such thing as zero release either, because every time that any concern touches something, changes it, whether it's the most biologically pure product and it's taken into commerce, it is no longer as pure.

Therefore, we need to deal with the fact that, you know, we have the obligation in the United States Government, you know, whether we do it in concert with international organizations or not, to deal with what is protecting the public health and safety. And it might be very little tiny, about zero, whatever it is. It depends how you can measure it, what society can tolerate it.

That's a statement, but it's a fact. It's something that we cannot go away from it. It doesn't have anything to do with perception. That is reality. It's reality that we have to face. The reality that this Commission faced was: Do we ignore the issue and avoid the

grief, which would have been the easy thing to do, and let it go on and on and not have this perception that we're trying to do something that is wrong, or whether we face the facts that we have a duty to protect public health and safety, and that to do that, it has to be done at a level that can be measured, can be distinguished. That's from the standpoint of the actual scientific and technical and practical facts.

On the issue of credibility, it's been mentioned

that maybe we will be more credible if we don't do it. We have talked about it, you know, when we made -- in one-to-one discussions. Okay. We have looked at it. We say, Do we really want to do this, you know, when we meet and look at it, or do we just really -- you know, it would be nice just to keep going and not getting into these things.

But in reality, we just can't avoid, it, because it's there; it's around us, and we need to deal with it. Therefore, I firmly believe that the Commission initiated these activities to become more credible, to be able to say, We are not going to allow the gaps, and in that fact, I want you to know that we believe that rulemaking is the most credible of all our activities.

It is the most open, the most analyzed, and whether it results in what we started with or not, it affords us the opportunity for an analysis, for assessment, for engagement, for public opinions, and, therefore, you know, I have these two things that I need to deal with it.

You know, my job is to initiate and then approve things that are protective of public health and safety. And we have engaged all of you to give us that information, so let me finalize this by saying: There are facts. There is no zero; there is no zero contamination; there is no zero releases. Everything releases something.

And the issue of credibility -- and I know that this is hard after my three-and-a-half minute statement, but if we could -- you know, if you've got some opinions that are short, I would really welcome that. Thank you.

MS. D'ARRIGO: I like being able to answer this. I was itching when you were asking that last week. I have a scientific background, and I know that there is no zero. In fact, I'm pretty careful not to call for a zero release. What I'm calling for is -- and maybe it's essentially the same thing to you -- is to have a goal and have a mission of prohibiting additional contamination out.

It's true we've got background radiation. It's

true we've got radioactive contamination from previous releases into air and water and bomb testing and so forth, and I understand that there may be some difficulty detecting a distinction between strontium-90 from bomb testing or from other releases, and strontium-90 that was generated at the reprocessing facility or the reactor.

However, I believe that the goal should not be to say, Well, we got away with all this bomb testing; we got away with releasing this stuff; we've got legal levels to release it in 10 CFR 20 into air and water; therefore, we can have additional releases into solids, and therefore, we'll legalize through a rulemaking or not through a rulemaking, but through streamlining or changing your

existing guidance or continuing the same way you're going --

COMMISSIONER DIAZ: Excuse me. We don't do guidance. You know, that's EPA. We do rules, and we enforce them. I'm sorry to say that --

MS. D'ARRIGO: Well, you have Reg Guide 1.86, which is the functional --

COMMISSIONER DIAZ: Yes. But that follows a rule. Okay? There is a rule, and then it allows you to do certain things, but we normally have enforcement when we have, you know, one issue that comes in, even if it's, you know, on a case-by-case basis.

MS. D'ARRIGO: It's my understanding that the 1.86 guidance has been incorporated into licenses and into the case-by-case analyses that go on, and that's why -- I was going to answer your zero thing first, but now we've sort of drifted to the credibility and the how to proceed.

But that's one of the real problems that I see with all of the paperwork that goes with this, that's come out of the NRC, is that it's clear to me from the paperwork and the discussions that the NRC has already determined at every level to increase the allowable amounts that are getting out into solids, that existing case-by-case, there'll be -- that if you make a rule, it will be for volumetric releases.

Right now, volumetric releases are theoretically

not allowed, so as soon as you make a rule, it's going to legalize, and everything that's volumetric is now going to get out. That is additional releases. You can claim that that's protecting the public, because it's consistent with something or it's consistent across the board, but it is allowing for releases into the marketplace and into landfills that were not previously allowed.

So that's the option of doing a rulemaking for both surface and volumetric, and then if you go with the

option of -- which is on page 1 to 2 of Appendix 1 in your SECY 0070 document, the other option is to go with the existing provisions and update them. And I'm paraphrasing here, but both avenues are going to allow the ongoing release that are going on and to allow more.

So as far as the credibility and the options of respecting what the public is asking for, it's not seriously under consideration. It's given some lip service in a few places, which I think is -- I mean, there's no -- when I asked, if you were to -- and I've talked to Commissioner Meserve -- if you were to choose to regulate the material that's generated in the facility as completely as possible, if that were your goal, how would you do that. And I've not gotten an answer from anybody in this Commission.

Instead, I get arguments that it's not necessary to do that and that the amount that's being allowed is

trivial and acceptable, and I should help pick that level. And so there is a technical question there, but there's also -- let's see. I want to stick to what you asked. This could go back to your, how to prohibit -- or how to have a zero.

If the idea is to minimize what's getting out into the marketplace, then you don't make a standard that has the effect of increasing and legalizing more getting out than is currently getting out. If you don't do that, if you don't pick a level that does allow for more to get out, then it's not economically worth it for the generators of the material to have you bother. I mean, that's the whole incentive and motivation here.

So I think that -- I mean, not only should -- I mean, we've also, in our comments, asked to recapture the stuff that's already been released, because we can't assume what's already gone out hasn't injured anybody, but that assumption is made because no one's ever tracked or followed up.

COMMISSIONER DIAZ: Okay. Thank you.

Mr. Adelman, do you have a comment?

MR. ADELMAN: Sure. On the issue of the case-by-case scenario or system that you have right now, I agree with you. I think it's the worst of all possible worlds and in many ways, the least transparent. But because

we have the worst of all possible worlds doesn't necessarily improving or, quote, improving things to a standard, given the general public's concern is the right thing to do in the broader context. It may be an improvement over what we have right now, but it may -- it's probably still not acceptable

to the public at large, so I'd like to make that distinction.

You mentioned that there are de minimis standards in a variety of different regulatory circumstances. EPA has a wide range of them, and it's something that regulators have to contend with generally. One -- there wa a meeting held, I think it was, in 1998, I think, the spring, where EPA and NRC and DOE, a number of regulators, got together, to talk about this basically general regulatory harmonization, and one thing that came out of that meeting -- I looked at some of the documents from that -- is that actually a number of DOE's standards are substantially weaker than the standards in other regulatory contexts.

So I think that one of the concerns that people have is just, again, the history with NRC, with DOE, and not only that there's weaker enforcement, weaker oversight, but also that the standards themselves tend to be weaker as well, and that, you know, a de minimis standard is, I think, something that no one really is fully comfortable with. It's a reality, but it's something that we accept only

grudgingly.

And under these sorts of circumstances, I think there's an important distinction to be made between materials that are already in the commercial marketplace that may have residual quantities of radiation which would necessarily require a de minimis standard versus a standard that's going to permit materials that are in a regulated environment and are contaminated and allow them to enter the commercial environment and, therefore, as a general matter, increase the types and amount of radioactively contaminated materials that people are exposed to.

COMMISSIONER DIAZ: All right. Thank you. Let me just make a quick qualification on my statement of there is no such thing as zero release. I don't only mean that if you decide not to put the material out there, that that's going to take care of the problem.

Any time you handle, whether they are bacterially contaminated, heavy metals, whatever it is, once you handle it, once you start cutting it, once you start putting it away, there is a price to be paid, and the price is the price that society, you know, have to find acceptable. And what we're trying to do is compare these options, see which one is more acceptable for us in terms of public health and safety. I'm sorry. Just a comment; it's not just release only.

I'm sorry. Are you finished?

MR. ADELMAN: I'm done.

MS. HAUTER: Commissioner Diaz, I'd like to comment on the credibility issue.

COMMISSIONER DIAZ: Sure.

MS. HAUTER: This proceeding has been going on simultaneously with the latest round of revelations about the Commission's predecessor, the AEC's cover-up of the radioactive risk to workers and communities, and so I think that the credibility problem really has its roots in the actions of the AEC.

And also at the same time that this proceeding has been going on, we've seen the international scandal around B&FL; and the Department of Energy's ability to supervise their contractors, and that scandal has been -- I mean, we've been getting bits and pieces of it in the news for over the past two years.

And, you know, I think it's the relationship to this proceeding and what's going on at the Department of Energy that really taints this proceeding. I mean, the Department of Energy has been unable in our written requests to provide information about their case-by-case releases, to tell us what's been released or when things have been released, and the fact that the B&FL;, teaming partner SAIC's technical analysis is still the basis for this rulemaking

also leads to more lack of credibility.

And it's obvious that a great deal of the pressure for this proceeding is coming from the Department of Energy and their desire to get rid of the problems at their waste facilities, and in fact, at the Chicago meeting when the participants were asked, Who is in favor of proceeding with radioactive recycling, it was someone from the Department of Energy who raised his hand.

And that has not been taken into account, the DOE's terrible record of secrecy and inability to deal with these weapons sites and that waste and what's going to happen to that waste. Why shouldn't that waste be isolated rather than sent out into the public?

COMMISSIONER DIAZ: Thank you, Ms. Hauter, but, you know, this Commission cannot be responsible for previous actions. We're trying to be responsible now, and we're trying to be credible now. And I know that that is against a background that might not be the ideal from, you know, your perspective, but we cannot change that. All we can do it is do it the best we can now.

COMMISSIONER MERRIFIELD: Yes. I just want to make a brief comment. I think Congress in its wisdom in 1975 -- we're now celebrating our 25th year as an independent agency -- separated the NRC from what was to

become the Department of Energy because of a concern of that

internalized conflict of interest. I think that was the right thing to do. One of the things that we frequently do is encourage our international counterparts to do the same thing.

I think it's unfair to paint us with the brush of what happened in the AEC relative to Paducah and Portsmouth. I also think it's unfair to paint us with the brush of what happened in England relative to B&FL;. We have our own -- obviously, we have our own things that we are responsible for and can be targeted with, but to paint us with those, I think, is -- I believe is unfair.

CHAIRMAN MESERVE: I'd like to add one other point to that, and that is that we do -- and this is really for the benefit of the public, because I think you know this, is that we not regulate the Department of Energy. They are an autonomous party. They set their own orders as to how they're going to deal with these matters, and they have no compulsion that they come to us to seek approval or license amendments or what have you, with regard to their actions.

MS. D'ARRIGO: That's one of the concerns of why, you know, if the NRC makes something legal and the DOE is going to follow it, there are going to be consequences of --

CHAIRMAN MESERVE: They don't have to follow it.

MS. D'ARRIGO: They don't have to, but they've already said that they want to, and 1640, your technical

basis, doesn't even consider the materials from the Department of Energy.

And then since I mentioned SAIC, which did that, it's good that the contract was ended because of the conflict of interest, but I wonder whether NRC has looked at the other contractors, the Department of Energy's environmental measurements labs, the ORIS, the Oak Ridge place that's doing your other contract, the ICF and the other contracts, to see whether they have similar contracts.

I mean, those are two DOE entities that you're relying on for technical bases, and so I think that I would have NRC be responsible for its own. I wouldn't blame NRC for the AEC, but I think the NRC has its own things that it's responsible for.

COMMISSIONER DIAZ: Mr. Chairman, should we give a brief minute to our colleagues, just to make sure they don't feel --

CHAIRMAN MESERVE: Sure. Then we'll move on.

COMMISSIONER DIAZ: -- slighted?

MR. COLLINS: Okay. With regard to zero contamination, everything we eat, breathe or drink is

radioactive, and as stated earlier, I think the 1 millirem criteria is going to be a trivial dose and that we should go that route, and I don't even want to go into the zero release.

As regards the credibility, you already brought part of this out in your response. As a minimum, the current NRC can follow its Administrative Procedures Act, continue to be people of integrity, and you will be guaranteed to be accused of not being credible anyway, but you can sleep real well at night.

MR. DECKLER: Regarding credibility, I have a great deal of trust in Government, but then again, I am Government, so I probably need to recuse myself from that particular discussion.

Regarding the zero issue, you know, I completely understand what you say and I agree. I think there's some danger in -- and I'll use this term -- getting on a scientific high-horse, because I've been on them and they're easy to fall off of.

COMMISSIONER DIAZ: Absolutely.

MR. DECKLER: And, you know, what I would say is: Go back to -- look at the rule and the benefits to the various parties versus the detriments to other parties or at least those perceived detriments and make a judgment based on that and not just that, Hey, we feel we're scientifically right, so we're going to make this decision; it's a matter of benefits in the system.

And in that regard, I would say that you mentioned protecting public health and the environment, and that's

your first charge, and I agree with you. And I would say that if your determination is that this rule makes a significant improvement in the protection of public health and environment, that that should probably weigh most heavily in your decision to approve or not approve a rule.

COMMISSIONER DIAZ: And one comment. You said that, you know, in the discussion, we mentioned the issue of resources. In reality, we are required to mention those things. That was really not the issue. The issue is protection of public health and safety.

Thank you, Mr. Chairman.

CHAIRMAN MESERVE: Commissioner Dicus.

COMMISSIONER DICUS: Yes. Mr. Adelman, I'm following up on the comments made by Commissioners Merrifield and Diaz. The focus, it seemed to be, of most of your comments, not entirely but most of your comments was your concern with recycling and material finding its way

into the public domain that you had concerns about.
If recycling is not part of any possible rulemaking -- and I want to address: We don't have a proposed rule here at all; we have an issue that we're discussing, but what would your position be? Would it -- would the NRDC maybe have a different position, if recycling is not part of the issue?
MR. ADELMAN: So you're basically saying that you

would deregulate it and permit disposal at nonregulated facilities. Is that --
COMMISSIONER DICUS: Well, I'm not saying that necessarily, but I'm saying --
MR. ADELMAN: Well, then, I need to understand more particularly what the alternative to recycling would be.
COMMISSIONER DICUS: An alternative might be disposal, but not necessarily in nonregulated facility. It might be a landfill, but that is a regulated facility.
MR. ADELMAN: Okay. That's what I mean, so like a solid waste facility or a RCRA facility or something like that.
COMMISSIONER DICUS: Uh-huh.
MR. ADELMAN: I mean, again, it's going to depend --
COMMISSIONER DICUS: I put you on the spot. I recognize that, but I think so much of your comments had to do with recycling, so I --
MR. ADELMAN: I mean, there are really two -- there are two parts to the comments. There's sort of a credibility issue and sort of a history of the legacy that you have to deal with in addressing the issue. And then there's sort of the recycling and the public perception about having these materials enter into commercial products.

And I would certainly agree that excluding recycling into commercial products is going to alleviate a lot of people's concerns, a lot of the general public's concerns, and it certainly reduces the potential pathways and risks associated with deregulating these materials.
So in that sense, I think it's -- you know, if you're looking at the better of two evils, it's the better of the two evils. Whether or not we would feel comfortable with it is going to be really contingent on what the ultimate standard is and what the technical evaluations are.
COMMISSIONER DICUS: Okay. Mr. Collins, do you have any idea how many States might use the ANSI standard in -- what is it? -- 13.12? If they were to go to that, do you have any feel for that at all?

MR. COLLINS: Since our recommendations were basically consistent with those --

COMMISSIONER DICUS: You think all of them.

MR. COLLINS: -- I think almost all of them would.

COMMISSIONER DICUS: Okay.

MR. COLLINS: Like I said, I got no negative comments on that, so I do believe they would.

COMMISSIONER DICUS: I don't have anything further.

CHAIRMAN MESERVE: Commissioner McGaffigan.

COMMISSIONER McGAFFIGAN: I could go on for quite

a while. I'm going to start by just inviting folks to come in and see me individually. I know some -- Diane's been in my office and Mr. Adelman. I think it's more the public members; we see the CRCPD folks a lot, but I think this is a long conversation we're going to have on this subject.

I'll start with Mr. Deckler's suggestion and direct the question down to this end. Mr. Adelman's already said that the worst of all possible worlds is to retreat to the case-by-case standard, do everything in the dark through exemptions and case-by-case reviews. I heard Ms. D'Arrigo suggesting that we need a rule, too, just a different rule, and that rule option would be as close to a zero standard.

I understand the discussion you've had with Commissioner Diaz. You understand everything is contaminated at some level, but do you -- so if we punt the way Mr. Deckler suggests -- we can punt in various ways, as you've suggested in your testimony -- and we just retreat to status quo ante, updating the Reg Guide 1.86 and other reg guides as appropriate, is that a very satisfactory resolution for you? I'm asking you. He's already said that's the worst of all possible worlds, so --

MS. D'ARRIGO: Oh, no. That's not acceptable either actually, because now we know that stuff's coming out and we don't like it.

COMMISSIONER McGAFFIGAN: Okay. You do

recognize -- I'm going to try to -- I've been admonished by both sides here not to talk about T-NORM, but I'm going to talk about it nevertheless.

We have to make our choices based on some sort of world that's out there. Let's start with coal ash. That's T-NORM. It's routinely used in building materials; in fact, I think its use in building materials is encouraged by folk who want to see that material utilized, and we have very, very large quantities of it. It's primarily contaminated with uranium, thorium, and radium.

And you use it in a building material and it's not that -- you know, it's about the same thing as natural brick maybe a little bit hotter than natural brick. Right? So you might get 10 or 30 millirems a year out of it, if you live in a house that's made of it.

Does the public interest community want that to stop, too? I mean, are you comfortable? Do you make a judgment there? It's about the same as brick; therefore, it's acceptable, in the case of recycling T-NORM, coal ash, in particular.

MS. HAUTER: I think we have a real concern with what's going on with the NORM and NORM releases, and I think the old adage about two wrongs don't make a right, we shouldn't be using the fact that there are releases, whether they're natural releases or releases that are going on from

other industries to further justify allowing more contaminated material out into the environment.

You know, it's similar to a murderer using the defense that, Well, he got away with it; why can't I, and --

COMMISSIONER McGAFFIGAN: But I'm suggesting the levels are much higher than anything we're talking about. I mean, I'm suggesting that what happens in NORM and NORM space is much -- the recycling that already occurs there, in concrete or whatever, results in higher doses, in calculably higher doses, although consistent, not -- I mean, I don't think anybody's doing anything wrong.

You know the CRCPD has a NORM standard that they haven't been able to complete because EPA differs with them on some issues, in fact, on fundamental approach, but we tolerate in NORM and NORM space doses to the public that are quite high.

MS. D'ARRIGO: Our organization doesn't really have a focus on naturally T-NORM or naturally occurring. I appreciate that States are picking up the ball and doing what they can to regulate it. If there were more hours in the day or days in the years, we might try to look at taking a public interest position on every kind of radiation exposure, but that's just not something that my organization has worked on specifically.

It doesn't mean that we like it. I mean, we don't

work on other kinds of problems in society. The one that we're focusing on is the dangers from the nuclear fuel chain which is your responsibility here, and we're saying that because there's another risk out there that may or may not be acceptable, it doesn't justify allowing even smaller amounts out from what is already under regulatory control.

COMMISSIONER McGAFFIGAN: One of the issues that

came up last week when we were talking to the staff -- and I know you were present -- was the different definitions of radioactive material around the world. I mean, there is not even a consensus as to what is radioactive.

The case I brought up was the baghouse dust, I believe, from a Louisiana steel mill. There's about 80 tons of it, but there's an export license pending before the Commission, and when it gets to Canada, neither the Environmental Protection Agency, the equivalent there, nor their NRC equivalent considers it radioactive material once it arrives there.

It will still be hazardous material because of the other contaminants in it, and so it's being proposed to be exported for disposal in Canada at a reputable facility, but the interesting thing is it's not radioactive, and there's different definitions of radioactive material applied in different countries and different ways.

In this country, we apply different definitions

for different purposes, so do you have any comment on that I mean, how do we -- if you want a uniform standard that is as close to zero as possible, and we don't even have definitions that are equivalent across countries of what is radioactive, then it's hard.

MS. D'ARRIGO: We're doing our best to work with people in other countries on these issues and to not dictate what the nongovernmental organizations, the public interest groups in other countries do or say. It's a growing thing. As the industry grows and becomes global, our organizations are becoming more conscious of the global effort in making the best efforts we can to --

I mean, you can talk about uniformity and then you come down to the distinction of, Do we encourage continuing to make more of that, which we don't want to be exposed to. And that's where we differ, and across the board, it seems like, one, we have to accept that it's already there, and, two, we have to accept that more is going to be produced, and, three, we have to accept whatever exposure we're going to get to it, because there's other exposure there that we don't have control over whether or not they're produced.

COMMISSIONER McGAFFIGAN: We're trying to figure out what the right amount of control is. I think Mr. Collins makes a good effort at -- you're trying to use the word "control" rather than "release criteria," but "release

criteria" is widely used. It's the IAEA word; it's the EC word, so we end up -- but we're trying to figure out what the right level of control is, in the context of everything

else that's around there, and our mission is adequate protection of public health and safety. It's not well defined what adequate --

Could I ask --

MS. D'ARRIGO: You might think it's adequate to kill more people. You might not think that it's -- that there are effects that some may believe there are.

COMMISSIONER McGAFFIGAN: Do you --

MS. D'ARRIGO: If there's an unknown --

COMMISSIONER McGAFFIGAN: Do you oppose -- from your testimony, I assume you oppose the limits that already exist based on statute for air and liquid effluent releases in Part 20.

MS. D'ARRIGO: We did challenge the Part 20 when the new dosimetry led to an increase in allowable concentrations in air and water. I point to EPA right now in their Safe Drinking Water standards, that they're talking about adopting the effective dose equivalent versus the critical body dose into their drinking water concentrations, but they're not going to allow that to increase the allowable concentrations that already exist. And that's something that we disagreed with the NRC on. We think it

violated ALARA.

COMMISSIONER McGAFFIGAN: Mr. Collins, just a quick question or two. You suggested that whatever rule we end up with, if we end up with a rule, that it should have flexibility in it for the States to occasionally go to 10 millirems, and I saw eyes raised at the end there. How do we do that? I mean, you know, it's either a 1 millirem rule to which we have, I think, a pretty sound technical basis because IAEA, EC, EPA, NRC are all coming together on how to translate 1 millirem or tenth of a millirem, whatever it is to so many becquerels per gram or becquerels per square centimeter.

But how do you see giving the States then flexibility to introduce something that might be 10? Would it only be for an application like Commissioner Merrifield talked about, where it's a pipe that's going to be under the sea forever, or where would you use that 10 millirem flexibility, if there was a 1 millirem rule?

MR. COLLINS: That would be one good example of where we would be able to use it. It would be like your waste rule, where you have 25 millirem as your basic rule, but under certain sets of circumstances, you can go higher than that, when you know a lot more and there's a need to. And the States want the flexibility to do that.

COMMISSIONER McGAFFIGAN: So how --

MR. COLLINS: So under the rule, if there was a rule and it said 1 millirem, that would be always allowed, but when you applied for permission under a certain set of circumstances to go higher, the States would have the ability, as would NRC, to approve that on a case-by-case evaluation basis. And also the CRCPD has approved a model T-NORM rule, noting the EPA's lack of concurrence.

COMMISSIONER McGAFFIGAN: You have approved it.

MR. COLLINS: Uh-huh.

COMMISSIONER McGAFFIGAN: It's now going to be used widely. How does the T-NORM rule deal with, say, slag from the oil and gas industry?

MR. COLLINS: It allows each State the flexibility to address that on a state-by-state basis.

COMMISSIONER McGAFFIGAN: So it didn't deal with on a uniform national basis; it did not attempt to.

MR. COLLINS: It sets a minimum criteria that has to be met. In other words, you will not exceed this dose in whatever method you use to dispose of it. It doesn't tell industry exactly how it has to go about doing that, and the States have the flexibility to be more restrictive.

COMMISSIONER McGAFFIGAN: Okay. I'll leave it at that.

CHAIRMAN MESERVE: Most of the issues I wanted to explore have been addressed, although I do have one question

for Mr. Adelman, get his insight on something.

I think it's apparent from this panel that this gulf in perception of radiation issues is apparent from either side of you. You indicated in your statement that the NRDC might be prepared to accept some sort of a rule at a non-zero level, I understood, so long as all of the technical issues that you had raised were adequately addressed and explored in a public fashion.

Then you went on to suggest that there was also a need to address this public perception issue. And I'd like to get some idea from you how we go about doing that. I mean, we're having this process. We've had open processes involving our -- the public meetings. We've been seeking comments.

I mean, what should we do that we haven't done, that would satisfy that aspect of the issue that you raised?

MR. ADELMAN: First of all, I think that some of the suggestions that Jeff Deckler mentioned, that you should be looking specifically at the alternatives and weighing who's going to benefit, what benefits will accrue from setting a standard, and I think his general comment being that another NAS study isn't necessarily what's needed right

now, that the issue isn't so much nailing down the science more, which there seems to be increasing consensus between the different regulatory agencies right now, but how to

communicate with the public.

So I think that there's that issue. I think that in terms of the specifics of communicating with the public, what I've experienced in the few meetings that I've attended are kind of two extremes. One is that you come out with a technical document, like 1640, which is not something that's readily addressable by the lay person, and then on the other extreme, there are generalized statements that attempt to place radiation hazards in some broader context like flights over the United States, background radiation, and those are the two sort of extremes of the dialogue that goes on, and that there's very little effort to sort of connect the dots between the more specific technical documentations and bases upon which you're making decisions and the public's just general concern about the risks posed by these materials and how you get from those very technical issues to a final standard.

So I think that's something, at least in my experience, that could be done much more effectively.

I also think that there's an inherent contradiction in how you're proceeding right now and how DOE is proceeding. You have -- everyone's purportedly considering a rule right now, and yet you have DOE embarking on the first large-scale release of radioactively contaminated materials. You continue to have case-by-case

releases here.

And I think just from a basic -- the public's perspective, when you're shifting into an environment that, I believe at least, is substantially different from what existed before -- there have been relatively small-scale releases of radioactively contaminated materials, because -- predominantly because of decommissioning of DOE facilities. What we're looking at is much more significant releases in the future.

And given that you're sort of on this boundary line, I think from a symbolic perspective, if you're really going to go forward with considering a rule and even with an NAS study, having a moratorium and saying, Look, you know, this is something that we're reevaluating right now; we're going to reevaluate it from all perspectives, considering all viewpoints, what we're going to do is hold -- have a moratorium on case-by-case releases, that you're going to collaborate with DOE and say, Look, you know, if we all want to work toward setting a consistent standard, you guys

shouldn't be going forward with the K-25 project; it just doesn't make any sense. And, in fact, you've already agreed to release the volumetrically contaminated materials, so what's the real difference here.

So those are a few things.

CHAIRMAN MESERVE: I'd like to thank the panel.

Very much appreciate it.

We have a third panel that we will turn to, but I know we've all been here for a couple of hours now. I'd like to suggest that we take a five-minute break, literally only five minutes, and then we'll return to the third panel.

(Whereupon, a short recess was taken.)

CHAIRMAN MESERVE: We are now moving to the third panel, and I very much appreciate the panel's patience of waiting for an opportunity to step to the table.

The participants in this session include Lynnette Hendricks, who's the director for plant support for the Nuclear Energy Institute; Val Loiselle -- I may be mispronouncing that, and I apologize if I am -- who's managing director for the Association of Radioactive Recyclers; Mike Mattia is the director of risk management for the Institute of Scrap Recycling Industries, Incorporated; John Wittenborn, who's an attorney with Collier Shannon Scott, who is here representing the Metals Industry Recycling Coalition, who have a large number of members in the steel and recycling business; and Dan Guttman, who is here representing the Allied-Industrial, Chemical and Energy Workers international Union -- and I guess Paper is first. I apologize.

MR. GUTTMAN: Paper, yes. Formerly OCAW, for those that have been around, Oil, Chemical.

CHAIRMAN MESERVE: Welcome. Why don't we start with Ms. Hendricks.

MS. HENDRICKS: Thank you. Good morning, Mr. Chairman, Commissioners, General Counsel. It certainly is a pleasure to be here today, and I appreciate the opportunity to share the views of the organizations that NEI represents and just to sort of cover that for people that may not be as familiar with NEI as perhaps the Commissioners are.

We represent industries, medical research facilities, universities, and all the facilities that are involved in the nuclear fuel cycle.

I commend the Commission for its efforts today, one in a series of many to solicit the views of all stakeholders. I think this is perhaps the issue that has the single greatest potential to have positive impact on

public confidence. I, as others have, have provided a written statement, so I'm going to try to keep my remarks very brief and talk about four topics today:

NEI's recommendations on proceeding with the standard; views on -- the request for views on soliciting input from the National Academy of Sciences; briefly on the steel recycling issue; and finally on the issue of the nexus of the material control standards with the site release standards.

But before I launch into the issue, we've talked a

lot about the difference in perspective on this issue, and I see it sort of differently, in that oftentimes discussion of this issue lacks a context, and I'd like to at least provide a context from my perspective, and that context is the enormous benefits provided by the use of radioactive materials.

I mean, after all that's why we are here. The Atomic Energy Act was not created for other than to provide beneficial uses of radioactive materials to society. Some of those beneficial uses are 10 million Americans are treated each year, diagnosed and treated for diseases, using radioactive materials.

Radioactive materials are used extensively in looking for cures for AIDS, cancers, and other diseases. It's used in many industries. For example, the steel industry uses radioactive sources to test for the quality of its steel in automobile and aircraft engines, very important. And, of course, nuclear energy produces 20 percent of the energy in this country, without releasing SO2, NO2, or CO2.

So I think it's very important when we look at the benefits of setting the standard, it's to preserve some of these benefits while avoiding the wastage of resources, and I see that falling into three categories. One is low-level waste disposal resources, which are limited, and I consider

them to be -- they could be overwhelmed and wasted by sending a lot of material there that does not warrant that type of control.

Discarding of materials that could be reused is a waste if, in fact, there's no commensurate benefit to public health and safety, and in fact, then you use additional natural resources to make the product again.

And, finally, there's a wastage in terms of undue burden on organizations attempting to provide these benefits by not having a standard by which they can control these materials in an effective manner.

The recommendations of NEI and the organizations

we represent is that the Commission act expeditiously to set consistent, dose-based, measurable standard. These organizations that provide the benefits must move the materials in and out of their facilities, sometimes on a daily basis.

This involves everything from delivery trucks, people, materials you're discarding, materials you're sending for subsequent reuse either in unrestricted context or to subsequent folks that are also licensed for the use of radioactive materials.

We're devoting significant resources today to material control programs, but as we've heard earlier, the standards are inconsistent, and they're incomplete. We

recommend that the NRC endorse ANSI N13.12. It's a dose-based standard, and that that means in the simplest terms is that you take the myriad properties of radioactive material, such as their half lives and their physical and biological properties, and translate them into one consistent equivalent standard of protection, meaning that every time the standard is applied, the same level of protection is assured.

It's a trivial dose, as has been discussed, in accordance with recommendations of national and international bodies of experts of radiation protection that recommend a 1 millirem dose for these types of activities that have a potential for being repeated activities, if you will.

And, finally, it takes the very important next step of translating these dose standards into practical survey requirements, which is a very important aspect of this. Some have suggested that in lieu of setting a dose-based standard that we use a zero standard. I think this is worse than no standard at all. I agree with some of the comments earlier that it simply cannot be implemented.

Others have suggested ducking the issue by setting -- by not setting a standard and instead controlling materials based on where they were likely to have been in the facility.

We call this a ghost-based standard, not a dose-based standard, because the ultimate effect is you remove very powerful tools that we have today to sort materials, to verify that we've sorted properly clean materials from materials needing further control, and it also removes the same effective simple tool from the regulators, to ensure that compliance is actually occurring, and instead we'd be chasing phantoms.

I mean, if an atom of cobalt-60 was detected, we'd have no perspective at all to put that into context, so not setting a standard, I don't think is going to be practical at all. I was going to launch into an analogy; I think I'll skip it.

We do support the Commission's efforts to solicit the views of the National Academy of Sciences. We would encourage, however, the Commission to encourage the staff to act expeditiously in the interim on the technical bases and other supporting steps for rulemaking, cost benefit of the various options.

We'd also encourage the Commission to explicitly solicit the views of the National Council on Radiation Protection and Measurements, the congressionally chartered organization responsible for giving recommendations to this country on radiation protection. And we also encourage the Commission to work very closely with international bodies

implementing standards for control of materials.

I wanted to say a few brief words on steel recycling. It's a topic that has dominated discussion at all four of the workshops. We do believe the steel manufacturers deserve some special consideration because of the issue of orphan sources. They've experienced clean-ups of tens of millions of dollars, and they also are very concerned, as anyone would be, about the potential for exposure of their workers.

They've responded, in part, with very sensitive counting instruments. The problem there is you're trying to look for a needle in a haystack, if you will. You're looking for a source that is contained in a truck, which makes it a very unpredictable, highly shielded geometry. As a result of that, you have sensitive instrumentation; you get a lot of false positives from NORM. You even get false positives if there are voids in the scrap, letting in terrestrial background radiation.

One solution, obviously, is to improve on the counting geometry, to allow determination of the source and significance of the counts detected, and we would certainly commit to work with the industry in any way possible, to help improve on this situation. We're very sympathetic about the orphan source problem.

Final issue I wanted to speak on -- I realize I'm

getting over my time -- is the site release standards. In the '96, '97 time frame, the Commission took what we considered was a major step forward and set a dose-based standard for release of materials and structures. This is a major milestone in NRC's goal to establish same, timely,

efficient clean-ups.

Previously to that, we had the same approach that we have here. We had inconsistent, incomplete standards. A lot of effort was being wasted in site clean-ups, trying to interpolate, extrapolate and demonstrate compliance to something that was not as applicable as it could have been if it was a dose-based standard.

The environmental impact statement the Commission prepared in conjunction with the rule indicated that there's some potential that materials left on the site after termination of a license could, in fact, be removed from the site at some point, but that the doses were likely to be much lower, because you've changed the configuration which the subsequent person may be exposed; in other words, configuration on site, all the material is there, and the pathways and such are about as conservative as they could be. As it goes off, you're bound to get dilution.

So we would encourage the Commission to recognize the very important benefits of the site release standard and to ensure that in setting any standards for control of

materials, that there isn't an inadvertent impact on the site release standards that would, in effect, delay and/or hamper clean-ups.

In summary, we support your efforts. We encourage you to act expeditiously to establish a dose-based standard. We would encourage you to consider the ANSI standard and also standards set internationally, in particular for the metal recycle issue. Thank you.

CHAIRMAN MESERVE: Thank you.

Mr. Loiselle?

MR. LOISELLE: Yes. Mr. Chairman, Commissioners, I represent ARMR, the Association of Radioactive Metal Recyclers. ARMR was formed five years ago by licensees interested in metals recycle, and my representation here this morning is primarily for those people who are not only the licensees but processors, over some recent 20 years of our history, who stood and became identified as a group of companies that would stand between the generation of nuclear waste materials and the disposal for same.

Processing was a legitimate alternative, and when the opportunity to look at metals and find that metals could be cleaned and released was also a viable alternative.

The purpose of the association is to coordinate and disseminate information on the topics and assimilate the industry's resources, capabilities and performance. During

1997, ARMR supported EPA's investigations into the

feasibility and conditions of metals release, until the public and steel industry opposition was defined.

ARMR today cannot support NRC's current plan unconditionally. Even though we represent a portion of the regulated community and the NRC is our regulator, we sympathize with the owners of the metals, materials in question. They are our clients. We identify with the metals industry and the steels industry in particular, because of economic issues and the perception of contamination present in commerce.

We do feel, however, that rules and standards can be developed to make this a safe action, in the interest of the public and other stakeholders, once all of their concerns have been addressed. More specifically, the metals industry has to be comfortable with the plan. It's not just a regulatory action, defining risk versus the former limit-based criteria. It's to avoid the perception of spread of contamination to commerce.

We support the steel industry's call for collaboration to determine what it can accept. While nuclear technology is not now responsible for cancer, our choices under the law and regulation must continue to show that it never will be, and to that end, we will need the cooperation of the environmental community, to see the

safety and legitimacy of the processes we perform.

The key to management and disposition of contaminated materials or the activity therein is to isolate these substances from the biosphere. We have the ability to do that. Taken in balance, then, there's a need to focus more on the benefits of nuclear technology for energy, pollution prevention, and medicine, where the given practices are found safe.

Also, there has to be a demonstration plan, acceptable to both the industry and the public. The plan should be the collaborative work of key stakeholders to gain their acceptance for determining the impacts we have already analyzed in terms of risk.

The plan should include restricted and unrestricted metal recycle options according to some proposed standard. The plan should encompass NORM materials and address a sufficient time period to substantiate the prior analyses performed.

The demonstration approach would be our appeal to the steel industry in its quest to determine the detectability and levels of contamination that could impact the steel supply and subsequent products before recycle is adopted. And if the demonstration is successful with steel industry, we'll have defined what it can accept.

We don't define the path forward. We think there

has to be one, and we do essentially support the concept of a rulemaking, once all of these concerns can be established or satisfied.

ANS has made a position statement on the linear no threshold theory. We believe -- we, too, believe there is a threshold, and we support the proposals and research needed to establish that science. We also disagree with the application of the collective dose concept.

The Health Physics Society in ANSI 13.12, it's essentially a 1 MR per year standard, with good features toward implementation practice, and that's where we live. We have to implement these things. We feel, however, that such a standard is embraced without account of the full range of options we might have in dealing with candidate materials.

I realize that complicates the task of setting a rule, but I think there are enough differences there, and some suggestions about segregating approaches to dealing with candidate materials might be illuminating in the meetings or developments that we have in the future.

And while there is merit in adopting regulation which guarantees no consequence, we feel such an approach to regulation really isn't doing the job right, and as we found from last year's hearings, it isn't the number at which you regulate, and it may not be safety issue at all, so let's

find out what it needs to be and go from there.

On the SECY document, we have no additional comments to submit on SECY 0070. And, finally, we would urge the Commission and our community to look at things in a more plain-language approach by giving consideration to defining what is radioactive and what is not.

As technocrats and scientists, we tend to place labels and numbers on everything and use those as a basis to justify what we say, but as we are also finding out, we should be able to satisfy our publics in a simplified and quantifiable way that the control of contamination and the fear of cancer from continued exposure to low-levels of radiation that might exist or arise from future releases of solid materials would be inconsequential. Thank you.

CHAIRMAN MESERVE: Thank you.

Mr. Mattia?

MR. MATTIA: Yes. Thank you, Mr. Chairman, Commissioners. I'm here today representing the Institute of Scrap Recycling Industries. My organization represents companies that process, broker, and consume scrap

commodities. All forms of scrap metal are major commodity for our industry.

We are thankful to the Commission for again giving us the opportunity to present to you our concerns and our suggestions, concerning the important issue of radioactive

material entering the commercial scrap recycling stream.

For many years now, our industry has been plagued by various sources and types of radioactive material entering the commercial recycling stream. This intrusion by hazardous materials which escaped regulatory concern has been nothing less than a plague on our industry.

Millions of dollars have been spent or lost, related to the decontamination, suspension of operations, and storage and disposal of radioactive waste, directly related to the entry into both the scrap recycling and metal producing facilities of radioactive material that should have never been lost or released by facilities that were licensed to have this material.

While these costs have been a tremendous burden to the recycling industry, the cost to human life has been horribly tragic. To date worldwide, at least eight individuals involved in scrap recycling have died, directly due to exposure to radioactive material that entered the recycling stream, while hundreds of workers received hazardous doses of radiation.

Now, we understand that the issue at hand today is not directly related to the orphan sources and to other improper releases of radioactive material that have been the primary and most severe cause of the tragic events that have plagued our industry. Yet I trust that you'll understand,

given this history, that we're a little touchy about radioactive material entering the recycling stream.

That thought of radioactive material in any form entering the recycling stream elicits tremendous fears and concerns for scrap recyclers. These fears and concerns are shared by the metal-producing companies which purchase and melt that scrap, by companies which produce that metal to make automobiles, appliances, and other consumer products, and by the consumers which either purchase these products or directly expose to products that are made from this material.

We acknowledge with gratitude that the Commission heard our concerns about the issue of orphan sources and undertook a solution that we fully agreed with. We ask that the Commission once again hear us on the topic at hand. Until these concerns and fears are adequately addressed, there will be no opportunity to find a solution that is

acceptable to the stakeholders who would be involved in the release and recycling of scrap from these facilities.

We applaud the decision of the Commission to request the involvement of the National Academy of Sciences. Such a respected scientific body will provide tremendously useful insights and recommendations towards the ultimate solution of this issue, but the NAS cannot address our fears. This Commission cannot address our fears. Only we,

the stakeholders, can address our fears.

The only way for our fears and concerns to be addressed and for solutions to be developed is if the stakeholders impacted by any free release decision be allowed to actively participate in all phases of the decision-making process, for what is crucial here is not this Commission's position on a free release criteria. What is crucial is the stakeholders' acceptance criteria.

To facilitate the development of such an acceptance criteria, we ask that the Commission create an advisory task force whose members represent the affected stakeholders. These stakeholders include the entities that would release such material and the entities that would recycle such material.

Such a task force would seek the input and involvement of the various government organizations that have direct authority over the key issues, the industries that would potentially recycle and reuse the release material to create usable products, and the general public, who would directly use or be exposed to such products.

The goal of this advisory task force would be to report to the Commission on the criteria for the acceptable release, recycling and reuse of solid material from licensed facilities. This would be achieved through clarification of the critical issues, a review of all the facts, and a

dialogue between stakeholders with the goal of achieving a consensus on such an acceptance criteria.

Given the Commission's decision to request involvement by the National Academy of Sciences, we would propose that the stakeholders advisory task force be tasked to conduct its study concurrently with the National Academy study.

We ask that the Commission not ignore the fact that there will be no acceptance, agreement or compromise by the recycling industry on any new position for the release of solid material from NRC-licensed facilities to the commercial recycling stream without such a direct and continuous involvement by representatives of all affected

stakeholders, in all phases of any applicable decision-making process. Such an advisory task force would be a vital element to achieving such an acceptance criteria.

We've heard a little bit this morning about what is going on in Europe. Last year, the UN economic commission for Europe impaneled a committee of experts, which were representatives from both the metal recycling and metal producing industries throughout Europe. We had the opportunity to serve on that panel, and it was the decision of that UN economic commission for Europe to create an acceptance criteria which it is in the process of drafting, and that hopefully the first draft of that acceptance

criteria will be available this summer and endorsed by all of the recycling entities in Europe.

So, in essence, what we're saying to the European Commission is, We know you have created a release criteria. Now we will tell you what is our acceptance criteria. I guess that's putting the cart before the horse, and we're asking the Commission to put the horse before the cart and allow such an advisory task force to provide you with what is acceptable to the industry, what we can live with, down to the minute detail, and use that as the basis for rulemaking, to create a rule that has already been accepted by all the affected stakeholders.

My association is prepared to work with the Commission and all other involved stakeholders and government agencies on all aspects of the proposed task force. We thank you again for the opportunity to present our concerns and our proposal for a solution to this problem to you today.

CHAIRMAN MESERVE: Thank you very much.

Mr. Wittenborn?

MR. WITTENBORN: Thank you, Mr. Chairman, and I appreciate the attention of the other Commissioners as well.

I'm here on behalf of the Metals Industry Recycling Coalition. Our coalition includes the American Iron and Steel Institute, the Steel Manufacturers

Association, Specialty Steel Industry of North America, and collectively those three organizations represent virtually 100 percent of the U.S. domestic steel industry. But we also represent the Nickel Development Institute, Copper and Brass Fabricators Council, and the -- I'm missing one -- American Zinc Association.

So we're looking at the issues, not just affecting steel but of all the metals that are recycled from these facilities. Looking just at steel for a moment, in this country, we recycle 75 million tons of steel scrap a year.

When you add nickel, copper, and the other alloys, that number goes up even more significantly.

This is a very highly sophisticated, highly technical manufacturing process that involves computer automation, controlled chemistry, scrap blending, to make products that meet detailed customer specifications, and more and more frequently, we're finding that those customer specifications ask us to certify that there is no radioactivity in the scrap metal that we sell.

There's been a lot of discussion already this morning about the orphan source issue, and I don't need to reemphasize how important that is. Lately in our industry, there have been, to my knowledge anyway, no health impacts associated with the inadvertent melting of a sealed source.

There have been a number of those inadvertent

meltings, and they have cost the industry hundreds of millions of dollars collectively to deal with those, to decontaminate the equipment, to pay for the disposal of the materials that are generated as a result of that activity.

And to protect the industry against those impacts, virtually every mill has installed highly sophisticated portal detection monitors. Some facilities have more than one monitor, some at the entry gates, some at the scrap bucket, some at the entry to the furnace itself, just to ensure with belt and suspenders we do everything we possibly can to keep those orphan sources out of the scrap supply.

Those detectors are set as close to background as possible. They will alarm, as I think Lynnette said, on natural radiation at times. They'll do that, because steel is inherently well below background radiation, and as a truck passes by the scale, the instrument automatically adjusts background to what it's reading, and if there's a void in that scrap load, it will actually read atmospheric radiation at something higher than the previously recorded background from the steel and trip the alarm.

The alarms also trip with NORM, and certainly we hope they will trip with anti-seal source. That's the purpose of having that equipment in place. Every time that alarm trips, it's an enormous operational nightmare for the companies to deal with. They have to segregate the scrap

load and either reject it and deal with the commercial implications of that, or hand sort through the scrap load to try to figure out what set off the device, isolate the particular piece of equipment if it is found, and then arrange for proper handling and disposal of that material.

The last thing the industry needs is to have a

release standard that allows thousands or potentially millions of tons of steel that will meet the release standard but exceed our detectors coming into the mills. It will essentially shut down our ability to control for orphan sources.

Now, that's a critical issue to the industry, but perhaps the most important issue to the steel industry is the one that has also been talked about this morning, and that's public perception. And I'm sure I could ask my wife the same question that Jeff asked his wife this morning and probably get the same answer.

But the industry decided to take a slightly more scientific approach, and we actually commissioned the Worthland Group to do first some focus groups and then some public polling, to try to get us statistically valid information about the public's view of the recycling of radioactively contaminated metal.

And although 80 percent of the public strongly supported the idea of recycling to begin with, when they

were told that there might be some radioactively contaminated material in the recycling mix, the public overwhelmingly rejected the idea of allowing that material to be recycled, and when told that that material would have to first pass government-approved safety standards, 74 percent of the people still did not want that metal to be recycled.

These are our customers. They don't want the material. If they don't want the material, we're not going to provide it to them. Anything that sets off an alarm at our mills will be rejected, regardless of the level of radioactivity that it contains. If we were to do otherwise, we're afraid the industry would suffer a significant financial loss.

Collectively, the steel industry has about a $50 billion revenue in sales a year. If 1 percent of that market is lost due to deselection because of the concerns over potential radioactive isotopes in steel, that's a $500 million annual loss. That far exceeds the cost of dealing with all of the material that we're talking about coming out of the decommissioned DOE and NRC facilities.

So if you're going to look at the economics of it, that's the number that has to be put on the table. And even perhaps more important than just looking at the economics of steel recycling, we also have to contemplate the impact that

this will have on public perception of recycling in general. That's a number perhaps we can't quantify.

It's our view that the current release standards

are inadequate, but the alternative is not free release based upon another set of standards. Our industry does support dose-based standards, but we don't believe that dose-based standards in and of themselves are enough to address our other concerns.

We strongly advocate either a restricted release where the material either goes to some use within the DOE or NRC community, or if adequate safeguards can be put in place, then we're prepared to participate in the task force that Mike Mattia described, to see if we can figure out what some of those safeguards might be. Potentially some of that material can go back into other uses. Perhaps the details of that are best discussed on an individual basis with the other stakeholders rather than to go into that here.

I would like to thank the Commission for giving us the opportunity to speak. I'd like to reemphasize to the Commissioners just how important this issue is to the steel industry, and as we've said in previous statements, it's unfair to our industry to allow the economic burden to be pushed down to us, when it should be addressed by the people who are proposing to generate and release this material. Thank you.

CHAIRMAN MESERVE: Thank you.

Mr. Guttman?

MR. GUTTMAN: Thank you, Mr. Chairman. I would like to take my five minutes to five minutes and 30 seconds, to see if I can address the question which the Chairman framed and was echoed by Commissioner Diaz, Commissioner Merrifield, Commissioner Dicus, and brought home to me forcefully, for which I'm grateful, by Commissioner McGaffigan, and I should also say I'm glad this is a country where I can have these kinds of exchanges with you folks off the official formal transcript of record, and that is the ostensible perceived conflict between science and perception or science and fear.

There is no doubt, since Madam Curie and so forth, that radiation has been a source of ambivalence. We all recall the famous, "Our Friend, the Atom." Heinz Haber, the paper clip Nazi doctor, wrote that for Walt Disney. Btu the issue here is not that between science and perception.

We really have two kinds of sciences, and that's what I'd like to describe to you. I, as a personal matter, have no reason to doubt the accuracy of Commissioner McGaffigan's perception. He's a scientist; I'm not. There may be a 1 millirem that in some sense is a relatively low risk in some scientific sense.

At the same time, I'm equally confident -- and the

record here is totally undisputed -- that the institutions which have been entrusted by our government, the contractors, the licensees, to deal with the nuclear waste are not competent to protect the public at any level of radiation today, and that is a social scientific fact, if you want, but it's a scientific fact nonetheless. It's not a matter of perception.

I can tell you this with confidence, because I'm privileged to be here on behalf of PACE. PACE has, since the inception of the weapons complex, the DOE complex, been the primary representative of the hourly workers. It not only works at the weapons complex, but works for other NRC-licensed facilities, such as Limerick, and also many of the other most hazardous worksites in the world, the oil industry, for example.

We are not hysterics. We understand the difference between flying in an airplane and handling plutonium. We also have an inherent interest in the continued operation of the facilities that we work at. Therefore, while not scientists ourselves, we have, as the canaries in the coal mine, sought to determine what the best surrogates are for the adequacy of the technical and scientific process by which regulators such as yourself protect us.

We use standards which I suggest to those of you

that have gone to Cal Tech or Stanford may be similar to those which are ostensibly used in the scientific profession, though we know from the Pasteur Diaries, it's not any more clear what kind of integrity our heroic scientists have. I'm sure you've read that recent -- the story of the Pasteur Diaries.

But these are: Is there a process? Is the process transparent? Is there fidelity of the process? And is there openness to new evidence? It's now painfully clear that as the human guinea pigs at the Department of Energy's nuclear weapons complex for over 40 years, the Department and its contractors cannot be trusted with human health.

As the executive director of the President's Advisory Commission on Human Radiation Experiments, I was privileged to -- tragically privileged to discover that at the dawn of this Commission's operation, the AEC, there was an intentional, knowing secret attempt to cover health from workers and communities for purposes of avoiding embarrassment and liability to this Commission's predecessor and its contractors, with knowledge that national security was not at issue.

I had thought that was ancient history, as

Commissioner Diaz had suggested. Now we see from the Paducah revelations, unfortunately it's not. As Secretary Richardson has courageously confirmed, this Commission's

predecessor covered up risk affirmatively from workers, not simply negligently, not simply accidently, but deprived them of the means of protecting themselves, and it was not an illusory risk. It is a risk that today the Congress is hopefully going to mark up a compensation package for.

Now, what is the relevance? That is the question to today's session. And what I'm here to tell you is that in the eyes of those who perceive the science, the social science, the way that our members do, there is a direct connection between the conduct of your predecessor and you folks here.

The first point you should know, I have had the privilege to study, is your predecessors were men and women of an incredible integrity. Chairman Lillienthal, one of the great American heroes, if you haven't read, I'm sure you'll all want to read his confirmation speech at his nomination proceeding. At the same time, Chairman Lillienthal presided over a Commission that had a knowing secret policy of covering up risk. So the first thing we learn is that good intentions don't cut it with radiation in this country.

The second is that there is a straight line between the cover-ups, the incompetence, the unlawful past, and this recycling we're talking about here today. I am continually astonished to see you folks disclaiming

responsibility for the Department of Energy.

What the B&FL; experience shows is that there has been a very calculated, concerted laundering of the Department of Energy's waste through what used to be but is no longer your good processes, which have now been sullied. The B&FL;/DOE contract, as you all should know but you may not, first -- it proceeded in every respect in disregard of the scientific protocol which I've described: process, openness, openness to new evidence.

First, it proceeded in disregard, as David Adelman said, of the National Academy of Sciences injunction which Chairman Meserve, I think, participated in, Don't proceed with recycling until there are national standards and public participation. B&FL;, the country's designated recycler, said, Why should we care. The Department of Energy said, Why should we care.

Our nation said, In order to be assured that scientific environmental processes have integrity, have an

environmental public review. DOE and B&FL; said, We don't care about EPA; we don't care about the NEPA, the environmental impact statement.

Secretary of Energy Pena directed his top officials, James Owendahl and Mr. Hall [phonetic], who signed the contract, Do not sign a contract that doesn't permit me as Secretary to determine ultimate uses.

That directive, unbeknownst to the Department, was dissed, D-I-S-S-E-D, in the vernacular of our kids; didn't know about this until Mr. Hall, who a year after he signed the contract, found out in litigation that the contract clause he thought he signed wasn't in there. That led to the laundering of this waste before your Tennessee agreement state.

Why should we trust the Department of Energy, when the Secretary of Energy's direct directive to his highest officials, who sign contracts, are ignored, even when they think they've attended to them. The Tennessee process is a scam, a scandal, and a fraud.

B&FL;, as secret documents show, knowingly laundered, used your good facilities to go through Tennessee, because as its documents show, it knew there would be no public review. There was a short window before environmentalists were going to put a public review process in Tennessee.

We found out that after the B&FL; contract was awarded, after DOE first did an audit of the Tennessee facility at which this nickel recycling was to take place, that audit found every manner of environmental, worker, and health and safety violations. You should look at the audit. It found no competence; it found no lawfulness in a facility that had been under the United States Government, DOE, and

your Commission's jurisdiction for years.

We presented this -- I did -- in a deposition, this audit to Mr. Mobley, the Tennessee state commissioner, who many of you know is a fine fellow. He said, That's shocking; we're going to have to consider it in the licensing process. Was that considered in the Tennessee licensing process? No. They still don't even know about this audit.

Is MSC capable of complying with OSHA today? Who knows? Not the Commission. You folks whitewashed, whitewashed this Tennessee process, even after Federal Judge Kessler, looking at two years of records, said, This is not a credible process, and the Secretary of Energy, who's promoting this recycling, called back this process. You are in the embarrassing position of having whitewashed it.

Then we see what happens next. The SAIC folks get sent over here to do B&FL; and DOE's bidding. We now have a conflict that I was astonished by. Anybody could have seen the conflict, but this Commission didn't. The question Chairman Meserve wants to know, what you could do to clean yourselves up, explain how that conflict could have eventuated.

We asked, as soon as this conflict was obvious, the first day we saw the NUREG document, Tell us what circumstances could possibly have led this Commission to

spend millions of dollars with SAIC in such an obvious conflict. You have still not come clean with the public. What do you have to hide? Who are you suing now?

We see from the staff report you're using EML and Allrise. Bob Meck, who's a wonderful man, says that EML is a successor to HASL. You all know who HASL was. Remember uranium workers? Remember beryllium?

We have a compensation program to protect the widows and orphans of the uranium miners who died because HASL screwed up. We're having a beryllium compensation program, which is going to be before Congress this week, because HASL didn't provide adequate protection beryllium. These are the folks you're now telling the public to trust in the middle of this process.

So the fact of the matter is that you haven't begun the disclosure. We've asked all kinds of questions. You asked about risk that's out there. We asked on the record, Can you tell us how much of this junk has been put out in the nation; not since last year, but since the '50s, because the secret documents which are now dribbling out of the Oak Ridge archives show that as early as '53, we have been perhaps recycling nickel.

When I asked your staff at this set of public participation meetings, How much plutonium is out there, the answer is, We don't know, and by the way, it's none of our

business, because it's the Department of Energy. You want to know why the public doesn't trust you? It's not perception; it's scientific fact, and the scientific fact is, when asked the question and the answer is, you don't know, the science is, we can't trust people who don't know whether plutonium is in knives and forks.

The final point I want to make -- two points. One is the National Academy of Sciences, I quoted in our paper what is self-evident to most of the people out here. As was eloquently stated by your predecessors, it has been long known that the NAS is just another name for this Commission,

when this Commission can't do something directly.

For those of you who missed the quotation, in 1954, a very perturbed Los Alamos official wrote to one of your higher level staff and said, I know the AEC is not credible. I'm certainly only too well aware of a resistance particularly in the press to accept pronouncements and conclusions coming out of the AEC. Strangely enough, they're quite willing to accept the conclusions of the National Academy of Sciences, completely forgetting that the subcommittees were, in very large measure, composed of AEC or AEC contractor representatives. They were the same guys, wearing different hats.

Of course, there's no reason to think that's changed, but that doesn't mean we're opposed. We're all in

favor of good science. We'll support you. That means if you go to the NAS, it's not the same old NAS, the same guys wearing different hats. It's an open process.

President Clinton showed this country, you can be open about the issues you're dealing with. He opened up classified vaults to the radiation commission. He didn't keep that commission secret like the NAS, and the other thing, Mr. Deckler's point well taken: You don't tell the Commission, Please confirm the science that 1 millirem is okay.

You tell them, There's also undisputed science this Commission has not disputed that the people doing this work are, as a matter of historical fact, incompetent and can't be trusted. Explore that; explore that openly. Maybe you'll get some support. But if you go ahead and you say, Conflict of interest is cured because we're going to continue relying on the work; we're just terminating SAIC and using the same folks under the name of the NAS, the science of it, not the perception, the science but also the perception, is that that's not credible.

Thank you very much for your indulgence. It's been a privilege and a pleasure to be here.

CHAIRMAN MESERVE: Thank you.

Let me say for the benefit of the public when the issue of the SAIC contract was raised with us, that the

staff did investigate that matter. It was -- the contract with SAIC was terminated.

The Academy will have to speak for itself as to the participants in its studies. I know from having participated in the past in Academy studies, that there is an effort that is made, to make sure that the people who are selected to serve on their committees reflect a diversity of views and are not -- don't take any single perspective, and

then there is an elaborate review process that is undertaken to assure that the studies do have -- do adequately address the questions that have been presented and have been fairly analyzed.

But my role here today is not to defend the Academy.

MR. GUTTMAN: No, no. I don't mean to be -- but just to be clear, it's an adequate review process for the '50s, for the Cold War. It's not an adequate review process, knowing what the country now knows and knowing that true openness, where the public sits in on NAS decisional meetings and sees drafts and critiques drafts --

I can assure you when I was executive director of the President's Commission, Mr. Deutsch, Secretary Deutsch's deputy called up and said, Guttman, what the heck is going on; the press is calling me up, pointing out that your draft criticizes us. And I said, You're lucky you're in a country

where that kind of thing can go on. And it turned out the product was a lot better.

And I can assure you, if you directed the NAS, which you certainly can do, because you're the contractor and you got the bucks, to conduct itself the way a post-millennial scientific study group should conduct itself, not the way a Cold War study group, that would be something that would win a lot of fans here.

CHAIRMAN MESERVE: All right.

MR. GUTTMAN: And that's something you should consider.

CHAIRMAN MESERVE: Thank you. Let me turn to my colleagues here for questions. Commissioner Diaz.

COMMISSIONER DIAZ: Mr. Chairman, I'm worn out.

Let me start with Mr. Mattia here. You clearly articulated your concerns, which we are aware that they're out there; we've known for some time, and you suggested some remedies, especially the task force. And when you said what the output or the outcome of the task force effort, you say you are going to arrive at a consensus.

Seeing what you have seen today, is this an issue for consensus, you know, or is it an issue in which, you know, eventually choices will have to be made, that consider, you know, the stakeholders, considers the nation's good? But, you know, I'm not sure that we can arrive at a

consensus on issues like this.

Would you like to comment on that, please.

MR. MATTIA: We believe that a consensus could be reached, because, as you said, there is no zero, and so if

we are looking at a number above zero to a number that everyone would agree is improper to ever leave the facility, within there, we have a range of decisions to be made that addresses concerns, perceptions, that everyone could live with.

Within that consensus group, we would come to an agreement that everyone can live with this type of material being unrestricted, with this type of material being restricted and with this type of material never being released into the commercial recycling stream.

But there can be no consensus now if we do a rulemaking, in essence, where we're opening up a battlefield, where parties who have opinions and concerns and perceptions and fears would all strongly defend their position to the very end. What we need is a peace process, where all the parties get to air their concerns, to look at all the science.

There's been individuals here in the audience who maybe have never gone and actually looked at one of these facilities and looked at the material, and what does it look like and where is it used and how is it measured.

COMMISSIONER DIAZ: So you say you'll try to reach consensus by opening the process up and bringing all interested stakeholders into a way that discussions can be, you know, held.

Mr. Wittenborn, on the same area, you made the comment which goes back to what Commissioner McGaffigan and, you know, a few of us have been for some time saying. You say that, you know, there is a point in which you said, This material is not radioactive.

Let me just state the fact that when you make that conclusion, you have established de facto a de minimis standard, because there is no such thing that it's not radioactive. You have then concluded that it's not detectable within your, you know, standards, or it's below the level of which, you know, you're going to take action.

And I think that's correct. I'm not disputing it. I'm just saying that de facto, you have created, you know, quote, a standard by which you are declaring that the material is not radioactive, and maybe eventually this debate should really turn into, you know, an integral analysis of what is society going to consider radioactive or not, but I'll stop right there and let you answer that.

MR. WITTENBORN: I'm not sure that was a question --

COMMISSIONER DIAZ: It was a question.

MR. WITTENBORN: -- because I did agree with it.

COMMISSIONER DIAZ: Have you established a de minimis standard, de facto?

MR. WITTENBORN: Well, in a sense, I guess the answer to that is yes, because we can only measure what we can measure, and we don't have equipment that can measure less than background, so we set our detection equipment as close to the background level for the area where the mill is located as possible and attempt to screen out everything that we can identify as being radioactive.

COMMISSIONER DIAZ: I'm not going to get into a detectability issue.

MR. WITTENBORN: Well, we understand that that's only as good as the equipment, and it's only as good as the --

COMMISSIONER DIAZ: As the equipment that you have.

MR. WITTENBORN: Right.

COMMISSIONER DIAZ: And that you have determined to be used, and that's the point, that you can bring that detectability down and get a larger crystal, you know. We have -- you know, Commissioner Dicus probably has seen many times whole-body counters. I used to work with a whole-body counter, which had some you know, 100 tons of steel, and it had liquid scintillators that were -- let's see -- 3 meters

in diameters.

To be able to get a person in there and detect levels of radiation, at levels that were so tiny, way below background, and we can find somebody that had just gone someplace. If we wanted to, we can establish some level, so -- and that's what we need to deal with, but I do appreciate the fact that you are actually making a concerted effort to say, At this level, I declare this material nonradioactive, and I think that is a valid assumption, as long as it is significantly low, below those levels in which anybody would consider it radioactive.

MR. WITTENBORN: I agree with that. We would like to see a dose-based standard. We think that's a very useful first step in the process, but if a dose-based standard is still higher than our equipment is capable of detecting material coming in to the mill, it will still be identified, and it will still be rejected.

COMMISSIONER DIAZ: Thank you.

CHAIRMAN MESERVE: Let me ask a question about that. Do you have any indication as to what dose-based standard would not cause your equipment to trigger?

MR. WITTENBORN: I don't think I can answer that question. We do have some technical people who probably

could get an answer to that question for you. I have only been advised that, for example, the ANSI standard would

easily be -- material meeting the ANSI standard would be detectable coming in to our facilities.

One other comment, if I may. For the benefit of Commissioner Merrifield and certainly for everyone else, we have arranged a tour of a couple of steel mills in the East Chicago area for June 16, and anyone who would like to come along and see the scrap processing operation and see how the steel mill operates and look to see what procedures we have in place and how the detectors operate, we would welcome your participation.

COMMISSIONER DIAZ: Okay. Mr. Chairman, just one comment. You know, the issue that we keep talking about and one that I believe the Commission is asking the staff to really look into, not only because of this, you know, analysis, whether we have a rule or not, but because it has implications on everything is the difference between measuring, you know, a dose and detecting radiation. And that becomes a major issue, the measurability of a dose.

You know, and there are detections equipment that can actually, you know, process the different types of radiation and tell you what the dose level approximately is.

MR. WITTENBORN: Although one of the limitations on the equipment that we have is that it's only capable of measuring gamma radiation, and we're not capable of measuring alpha or beta.

CHAIRMAN MESERVE: Commissioner Dicus?

COMMISSIONER DICUS: Okay. And, yes. I definitely have been in whole-body counts, more than once, and most recently got counted when I sent in my census form, but moving on --

MR. WITTENBORN: And that was whole body?

COMMISSIONER DICUS: Yes, it was. I tried to count my dog, and they wouldn't let me.

Ms. Hendricks, you have, in your submitted material, have indicated discussions at a recent international symposium in Hamburg, Germany, indicated that trade impacts associated with inconsistent clearance standards could approach 6 billion per year. Have you provided that particular data to the NRC? Do you know if that's been provided to the staff?

MS. HENDRICKS: I'm not certain.

COMMISSIONER DICUS: Perhaps that would be useful, if you could --

MS. HENDRICKS: We'll provide it. Thank you.

COMMISSIONER DICUS: Okay. The -- Mr. Loiselle --

is that correct?
MR. LOISELLE: Loiselle.
COMMISSIONER DICUS: Okay. I apologize for that. Having a last name like Dicus, I'm sensitive to be correct in pronunciation.

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This demonstration plan that you talked about in your submitted testimony and the plan would encompass NORM materials and addresses sufficient time period, et cetera, have you approached EPA with that?
MR. LOISELLE: No, we have not.
COMMISSIONER DICUS: Are you going to? Or is that -- I may be --
MR. LOISELLE: We don't know exactly what our path forward is to make input, but it's something as a component of the industry that we feel is essential. It's like looking at due process from our point of view, that there are certain steps you make to qualify something that you want to do, and it seems like in the public interest and certainly steel industry, that we've left a major step out, that if we're going to do this and such and that and such, well, by gosh, where is all of the information.
We've got the technical and statistical mathematical determinations, but we don't have the practice. We don't have ten years of data to say that, I've been doing this for ten years, and so it's okay. And that's the demonstration plan or that's the essence of it. And it needs a whole lot of development, because it would need that to be comprehensive and include everybody.
COMMISSIONER DICUS: Okay. I would recommend that.

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Now, I'm coming right down the line. So -- and I know you did a disqualifier and recognized that the sources that you were talking about that had been melted down were not from recycling; they were from lost control of licensed material, be it generally or specifically licensed, and you well know that I've led a charge to try to get better control of this material.
But I would really caution you: Be sure we keep these two issues very, very separate, because they are two entirely different issues. And I'm going to put this question to both of you really.
If recycling is taken out of the mix, what -- how would you feel? We're not going to recycle. We may have a clearance standard, but we're not going to allow recycling. Where do you want to -- do you want to approach that?
MR. WITTENBORN: Our industry would be perfectly

comfortable if none of this material ever came out of government control, whether it goes to a landfill of some kind or whether it goes into reuse within the DOE or NRC community. That would be a perfectly acceptable alternative.

CHAIRMAN MESERVE: So long as it's controlled.

MR. WITTENBORN: So long as it's controlled, and I'm aware that DOE has convened a task force that includes a number of steel companies, looking at the possibility of

using a dedicated steel mill that could be used to produce products that could be reused within DOE and NRC community.

MR. MATTIA: Well, we would agree with the same concept. The recycling industry for a long time has championed the cause that by recycling material that can be recycled, we're saving our natural resources from having to be dug up and used for those purposes.

It goes back to the issue of if there is material that everyone agrees is adequate and fine and safe to be used in the recycling stream, then it should be used and agreed that material that should not enter the recycling stream should not. If there is some there or a lot there that can save some natural resources that everyone agrees is perfectly safe, then we shouldn't just shove everything into the ground, to dig up more ore to replace it.

COMMISSIONER DICUS: Okay. Like the pipeline under the ocean, like Commissioner Merrifield talked about earlier.

Did you want to address that?

MR. GUTTMAN: Yes. Obviously we think it's not a great idea to put this stuff out in the public, for reasons lots of us have said. But I think I'd like to comment on what obviously is a constructive suggestion you're making.

And that is our experience is --

COMMISSIONER DICUS: I'm not necessarily making a

suggestion. I'm just asking --

MR. GUTTMAN: Okay. I know, and this isn't a rulemaking. Sorry.

The unfortunate understanding that we now have, the more that becomes public is that any transfer of this -- it really is Ralph Nader's, unsafe at any speed. Let me describe -- I understand you may be putting it in landfills, as per your colloquy with Mr. Adelman.

But first of all the workers that we represent -- I mean, the sick gallows humor joke is that you want the American people to believe frying pans are safe when you can't keep the workers who've been monitored safe, but the reality is the workers have been for decades taking home

clothing contaminated with radiation, notwithstanding -- this is not --

As Commissioner McGaffigan and others would undoubtedly instruct me, our knowledge of radiation ain't new. We've known it's been risky since, you know, day one of Robert Stone, M.D., and the Manhattan Project. The workers themselves have been permitted to take this stuff into their closet. That's A.

Mike Mobley, one of the most eminent of state commissioners who unfortunately left Tennessee recently, for personal reasons, stated publicly in court, but also in the October '98 Progressive, which I'm sure you've all looked

at, that, Heck, you can't trust anything that DOE does; it's kind of -- if whoever's metering it, you know, finds something, they'll think they did their work for the day and then forget the rest of it.

This is on the record. Three -- in the case of the immediate situation of the B&FL; business, B&FL; as it's now scandalously apparent, has no clue what's in the material they're dealing with, in part because they didn't have the security clearances. They don't know what's in the material. Tennessee doesn't know what's in the material.

This license was granted based on, you know, a couple of pounds of stuff. We asked Tennessee, Mr. Adelman and I, on the telephone with the chief regulator, Mr. Mobley, how much plutonium is in here. Beats him. I understand we're all technical experts, but this stuff should partition out so I can tell the public it's probably not a lot of plutonium that the DOE and the NRC has put out in your knives and forks, but it's some plutonium that's probably out there.

The point is every step in this process is governed by the same science that you have been ignoring that I have been describing. It's the science of human institutions, human competence.

I appreciate, Commissioner Diaz, all the advances in radiation measurement, but when Commissioner Mobley,

who's got decades of experience, says, Ah, they don't do that stuff at the Department of Energy, and when I find out that Tennessee, which is protecting my workers, they don't do that stuff either, then I begin to wonder, what's the virtue of all this science A, when science B, which is in much part common sense and humanities, a social science, but when that science shows that we really should go back to square one on this question of transfer of materials outside of the sites that it's located at, on a mass basis in any

event.

CHAIRMAN MESERVE: Commissioner Merrifield?

COMMISSIONER MERRIFIELD: Mr. Mattia, I've had the pleasure in a previous life of visiting facilities, most memorable being Kohn & Son, Brothers, in Concord, New Hampshire. They run a pretty nice facility up there.

I think there's a -- having looked at a lot of the work that you do, the members of your association manage a large number of different types of scrap. I think we would be surprised by the number and the complexity of some of the scrap in your operations, and the ability of the members to do that.

We touched a little bit in earlier panels -- and Commissioner Dicus has brought up my arctic pipeline example. Is there a way -- and I'd ask Mr. Wittenborn to weigh in on this as well. Is there a way for us to consider

perhaps the notion of having a dedicated recycling regime, a restricted recycling regime, perhaps a little wider than what you previously committed to, where we could have -- we could determine if this material is usable for a limited number of certain uses, that we would have dedicated recyclers and dedicated mini-mills that could process that material, and it could be put into uses which would not open it up for overall human consumption, in terms of knives and forks and baby carriages and things of that nature? Is that something that you all have thought about?

MR. WITTENBORN: Yes, we have. Notwithstanding the position that I took when I answered Commissioner Dicus's question, would we be happy if none of this stuff ever came out, the answer to that is yes. We realize that that might not be acceptable to all the stakeholders.

So we've been looking for a way to try to achieve, part of the goal that Mike Mattia was talking about earlier through this task force process of trying to define some acceptance criteria, what are the materials -- I'm answering your question in a roundabout way.

Are there some materials to which we would have no objection to the release, even a free release of those materials, and are there other materials that need to be processed for some controlled release scenario, and how broad can that controlled release scenario go?

Well, the answer to the first question is that perhaps there are some materials coming off of these facilities that could be released back into commerce. The example that I heard this morning was the steel folding chairs or filing cabinets or trucks that drive in and out of the facilities on a daily basis. Those can't, once they

drive in, never leave the facility again.

There has to be some mechanism for those materials to be cleared, and we think a dose-based standard is a useful way to get articles like that, that are intended to go back for their originally intended use, back into commerce.

Scrap metal, though, is where we draw the line, because scrap metal -- it's too easy for scrap metal to be commingled; it's too easy for scrap metal to be mixed and matched with materials from other places on the facility; you don't know where it's been, what it's been in contact with. That material has to be treated separately, and under any scenario, under a controlled release mechanism.

Are there other uses to which that material could be put --

COMMISSIONER MERRIFIELD: I don't mean to interrupt you, but given my tour of Kohn & Sons and others, I think that diminishes the ability of ISRI and its members to keep the stuff separate. I saw large numbers of various

metals that were segregated, and they did a pretty good job at it, so I don't know if I would take at face value the notion it's impossible --

MR. WITTENBORN: Well, they do segregate --

COMMISSIONER MERRIFIELD: -- to segregate these materials.

MR. WITTENBORN: Well, they do segregate the ferrous and non-ferrous materials. They segregate the copper alloys, the aluminum alloys, and so forth. But if you're decommissioning a major facility like K-25, you don't know, for example, whether the ferrous scrap has come out of Building A or Building B. It goes into a shredder; it goes into a baler; it goes into a sheering machine. When it comes out of there, you don't know exactly where that material has --

Once it goes through that process at a scrap yard, it's no longer recognizable, and it's too easy for that material to be commingled with other material. That's a concern that we have.

But back to your original question, are there other uses to which that steel or copper or aluminum could be put, I think the answer to that would be yes. Our goal is to try to keep it out of the consumer's venue.

The problem we have with metals is that they're infinitely recycled, so if your first use of the steel

coming out of a DOE facility is to make rebar to go into concrete for bridges, 20 years later, that bridge is torn

down; the rebar is recycled, and you've lost control over that.

So your suggestion of a pipeline that goes under the ocean that will never be removed, that's, as far as I'm concerned, as permanent a disposal as any landfill, and that would be perfectly acceptable use. But if the material were going into a use where 20, 30 years later, it's going to be recycled and potentially back into consumer products, we would have a concern with that.

COMMISSIONER MERRIFIELD: Mr. Loiselle, do you have any comments in that regard as well? you obviously represent the Association of Radioactive Recyclers. Do you think there possibly exists that we could come up with a waste stream in which we could have these restricted releases?

MR. LOISELLE: We as the processor end of it, looking at the regulations and what we do, we do perceive restricted and unrestricted uses in the future. It seems like the way to go to cover the spectrum, because if you can define so-called de minimis standard, we're always going to have stuff that still has no place to go, and a restricted reuse application is ideal.

We've run a number of pilot programs in Oak Ridge

so far. The problem is the cost of doing that and the market. For example, it's pretty clear to us that if you're going to take recycled metal and make waste containers, that perhaps your only market today -- there is no market, but if there were to be a market, it would probably be Department of Energy.

COMMISSIONER MERRIFIELD: Ms. Hendricks, one of the issues that was brought up today by Mr. Wittenborn is the issue of externalities, passing the costs off to those who don't bear any of the benefits of it, and, you know, they say, We're the steel industry; we don't have to pay the cost of dealing with this, since it's the nuclear industry which has benefitted from producing the power and making the money.

What's your take on that belief?

MS. HENDRICKS: Well, I think it's somewhat difficult to answer those questions, because they're by nature societal and complex, and we're all interrelated. It's hard to say that for every benefit, the exact person that benefits. I mean, does that person also benefit from nuclear power? Chances are, that person does. Do they benefit from the medical and radioactive uses of radioactive material? Chances are, they do.

But getting to the, I think, more direct part of your question, if there is to be a tremendous cost, it's not

appropriate entirely to externalize that, but when -- I guess you get into a problem if cost is, in fact, driven entirely by perception, which in turn is -- you know, no matter where you sit, it can be driven even further.

You'd like to hope that there are some opportunity for a dialogue that can establish a rational and even, you know, in spite of our apologies for being technical people, technical basis. I don't think people that aren't in the business can fully appreciate the significance of the international bodies picking a dose as low as 1 millirem.

I mean, the standards that radiation protection folks believe protect people is 100 millirem, and I don't believe there have been any studies conducted in any sort of a scientific basis that show otherwise, that show any indication of any health effects, even at the dose of 100 millirem. So a lot of it's communication.

We sound cavalier, and it sounds like we're, you know, perhaps externalizing, you know, costs and harm, but if you put it in the perspective of the kind of doses we're looking at, I have a hard time seeing it that way.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman.

MR. GUTTMAN: Could I address from the workers' perspective?

CHAIRMAN MESERVE: Briefly.

MR. GUTTMAN: Yes. Real world -- this is why I

like to see how you deal with this, Commissioner and Ms. Hendricks. In the real world, it turns out all our workers just didn't know there was plutonium that they were dealing with, so they weren't protected against plutonium.

As we discussed with Chairman Meserve, happy to discuss with any of you, our workforce found that with all the tight controls your Commission has been imposing, this plutonium seemed to find its way into Fernald, and then from Fernald into one of your facilities. How much is there, what effect on workers? As I said, Tennessee isn't metering for plutonium.

When this gets out, we're talking about workers not in steel mills but elsewhere. Our members could be using lathes and other things, you know, slicing plutonium. There is no standard, as far as I know -- I may be wrong -- for plutonium. Plutonium, as I understand, can be fatal at any level.

I understand there's all this qualifications and it's not as deadly as coral snake bite and all that kind of stuff, but it's still serious stuff. And the question I'm asking you is: If you're not going to tell the public that

your science is good enough to make sure we don't hire B&FL; or we don't hire people who are incompetent or act unlawfully, then you're going to have to regulate all the way downstream, through American industry, to tell all those

workers that are lathing with all this stuff coming out of Mr. Wittenborn's steel mill, This may contain plutonium, which means label it.

If you've got the confidence you've got, then go ahead and do what you're going to do, but have the guts to label it and put in everything that you're going out there: Workers down there in Joe's instrument, you know, trombone and clarinet refining thing, you may be using plutonium in this thing. Do it; have the guts to label it and say, We can't protect you against plutonium. We don't think it's going to harm you on the average. It may kill one of you, but it's not going to harm most of you.

That's what it is. The public can take risks. Be men and women enough to tell them. Very few of you are going to get killed, and it's going to be a lost of cost benefit, so do it up front. Label it.

CHAIRMAN MESERVE: Commissioner McGaffigan.

COMMISSIONER McGAFFIGAN: Let me start with Mr. Mattia. As you know, I've supported the effort to try to bring more orphan sources under control through the registration program, and I think the Commission has as a whole, and Commissioner Dicus has been our leader on that, but there are still going to be holes there. And I also join Commissioner Dicus in the admonishment not to confuse the two, but they keep getting confused, so I'm going to

stay a while on this.

Most of the material that is causing the problems, as I understand it, at the mills is from the oil and gas industry. Isn't that correct? I mean, it isn't our sealed sources. The things that set off monitors, that force you to look in detail at what's there, it's oil and gas -- it's slag that's left on the pipes that somebody's going to try to reuse. They try to blast it off with water or whatever, but they didn't get it all off, and it's setting off monitors. It's got one of these gamma emitters that Mr. Wittenborn talks about.

Isn't that what mostly sets it off? It's not orphan sources. Orphan sources, you have to worry about, because if you burn one, it's a big problem. But this other stuff, you just try to sort it; you try to figure out, is it really radioactive. I guess you reject it if you come to the conclusion that it is, based on the detectors you have there. But that's what's causing most of the problem.

MR. MATTIA: The majority of the alarms that are occurring are not from sources, sealed sources. The problem, as you well know, is a detector, looking at a rail car or a truck of scrap going through the portal, is not sure it's reading a piece of NORM on the wall or a cobalt-60 source in the center because of the dilution going through the metal. And so that's why the concern is there.

The numbers are correct, but all of this material that has come into our industry has obviously heightened the concern and heightened the concern of the workers, the individuals who are running this facility. As soon as you say, radioactive, there's a knee jerk, and what we want to try to do is to quiet that with reason, with discussion.

COMMISSIONER McGAFFIGAN: I think part of it is -- we were admonished to get the facts on the table. I think it's real important that we get the facts on the table as to what's actually happening and what the source of the problem is, because a lot of the material that I think is a problem for you guys, that Mr. Wittenborn says may cost you, if 1 percent of the public chooses not to buy steel, $500 million a year, is never going to come from us; it's already there. You're already dealing with NORM; you're already inevitably smelting and getting some amount of NORM material into the steel, and you can't do anything about it. And it's going to come at you from sources that are totally outside of NRC space.

MR. WITTENBORN: Well, let me clarify one point. We don't melt NORM if we detect it.

COMMISSIONER McGAFFIGAN: But you -- yes.

MR. WITTENBORN: If we detect it, and that's one of the reasons why we try to get the best detection equipment we can, because we try to find everything. But as

Mike suggested, the real culprit are the sealed sources, and if that sealed source is buried in the middle of a rail car, it takes extremely sensitive equipment to be able to detect it. That same equipment will also pick up NORM in that same scrap.

COMMISSIONER McGAFFIGAN: Or pick up the radium. Right?

MR. WITTENBORN: And it will be rejected, and it's turned over to --

COMMISSIONER McGAFFIGAN: If there's enough radium in it, you'll detect it. If there isn't enough --

MR. WITTENBORN: If there isn't enough, then perhaps it gets through.

COMMISSIONER McGAFFIGAN: Did you want to -- go

ahead.

COMMISSIONER DICUS: Thank you. Just one quick -- because, you know, as I think you probably know, I was head of a state program, and we had a lot of problems with the Arkansas steel mills, and we've got a lot of scrap. But sometimes they didn't reject the entire load. They did try to find the source, so --

MR. WITTENBORN: Different mills have different practices. In some cases, if the alarm goes off, they just tell the truck driver, Go back where you came from. In other cases, if it's a rail car, if it's coming in on a

barge, that may not be as feasible, and somebody has to segregate that shipment and workers have to be tasked to go through there with hand-detectors and try to figure out what set off the alarm.

COMMISSIONER McGAFFIGAN: So we start from the premise that there is -- you know, we talked earlier with Mr. Deckler and his wife and the forks. There is some radioactivity in that fork that she's using on her table today. If we let Commissioner Diaz's university team go at it and melt that fork and examine it with every detector they can think of, over a long enough time, I guarantee you, they'll detect radioactivity in the fork.

So the question is how much, and last week when we had -- when we were talking with the staff -- I almost wish we had the cement folks here, because they, I guess, like concrete folks, largely joined you, and yet their recycling coal ash, and, you know, I think it's perfectly rational to recycle coal ash personally and mix it in building materials and make concrete out of it, because it's no more radioactive than if I built the house with brick probably.

But we -- and I don't know whether anybody had a rulemaking process that reached -- you know, EPA just went through a Bevil amendment process that decided that coal ash was going to stay outside of RCRA and was going to be utilized, you know, disposed of properly through state

action, and beneficial uses were going to be made of it in various ways, including recycle and concrete.

But we do have these other -- we have -- you know, your steel may be imbedded in a building. The rebar you talk about being gutted in concrete, the concrete may well be typically more radioactive than the rebars, and society accepts that. So how do we have a dialogue with the public about all the radioactivity that's there? Is that what your task force is going to talk about or --

MR. MATTIA: I use the example that we've heard so many times, that we definitely need more prisons, but I just

don't want it in my backyard and you don't want it in yours, and we need more landfills; we just don't want it across the street from the playground.

We are -- this material is being used. There's material, as Commissioner Diaz says, that is radioactive, down to the atomic level, that's being recycled every day, because you can't get away from it. We have to address the perception, What will my industry feel comfortable dealing with; what will the steel industry be comfortable melting; what will the consumers be comfortable creating cars with.

If we can deal with the perception along with the science, we can quiet the fears, and we can have a way that we can deal with this material

COMMISSIONER McGAFFIGAN: Mr. Collins suggested a

note for your industry earlier in his presentation where he was basically recommending the ANSI standard to us. He said that that would not preclude, in the States' view, any industry from adopting a tighter standard.

And the de facto tighter standard I think I'm hearing from you all is that for gamma emitters, where your detectors can detect, you're going to go -- if there were an ANSI standard or you take the European experience, where you say you're given an acceptance criterion, and after the fact, a standard that is largely in place. It sounds like it's the Collins approach.

You guys, for the purposes of gamma emitters, may well be going to establish a lower acceptance criteria for anything that's going to come in through your industry. For the technetiums and for the other things that are essentially nondetectable because they're self-shielding, you can't do much about it. You don't have the detectors to detect it; they probably will never be cost-effective, so maybe the ANSI standard would be the standard.

And, you know, if you take the European experience, just take the European experience, I'll make a bet that what you're coming up with the de facto there is something for gamma emitters and something else for alpha and beta emitters, the slow-energy betas.

MR. WITTENBORN: Well, an alternative would be not

to allow that stuff to come out, especially if it's going to set off our equipment, because --

COMMISSIONER McGAFFIGAN: It won't set off your equipment; I'm telling you it won't.

MR. WITTENBORN: Well, the technetium perhaps won't, but the gamma emitters, even at the ANSI standard, will.

COMMISSIONER McGAFFIGAN: No. I'm saying, what you're -- at some point, it won't. It sounds like what you're saying is at some point, if I take a tenth of the ANSI standard, you guys --

MR. WITTENBORN: At some point it won't be detected.

COMMISSIONER McGAFFIGAN: At some point, it's not going to be detected by your detectors, so what you would come up with as an industry, perhaps after the fact in Europe, if that's what happening, as you describe it, is for gamma emitters, you're coming up with something that's a tenth of the standard or a hundredth of the standard, whatever it proves to be for your detection limits. For the alpha and beta emitters, you're probably basically living with the standard, because you don't have the equipment to detect.

MR. WITTENBORN: But the price of that is that we're going to look at several million tons of scrap metal

coming into these mills that presumably is going to -- even if it meets the clearance level, is going to set off the detectors, and we're going to have to deal with that. That's a commercial cost that I don't think it's fair to impose on the steel industry or the other metal industries.

COMMISSIONER McGAFFIGAN: And that gets back to the question of NORM and how much of that is going to -- I just assume that there are industries in this country, totally outside of our license space, that have to interact with naturally occurring materials and concentrate them, and that those industries also are trying to recycle their product, and that's why it isn't just in our space that there's a problem; there's a problem overall.

MR. WITTENBORN: The other issue that we deal with that hasn't really been discussed is: What is the impact that accepting this material would have on the mills, even if we didn't detect it? To what extent are some of these isotopes going to concentrate in the baghouse dust or partition and concentrate in the slag and create problems for us, or contaminate our processing equipment over time, just because steel continues --

COMMISSIONER McGAFFIGAN: We need to look at that.

Mr. Guttman, I'll tell you. We try to run an open process around here. I feel that a lot of your dialogue has to do with tarring us with every sin of the AEC --

MR. GUTTMAN: No, that is not true. You have not read the materials, Mr. McGaffigan. If you did, I'd be happy to -- and I reject your slander, your attempt to smear us as people who do nothing but smear --

COMMISSIONER McGAFFIGAN: Let's --
MR. GUTTMAN: -- when our science has been obtained at the cost of deaths of people under your jurisdiction --
COMMISSIONER McGAFFIGAN: The last comment I'll make --
MR. GUTTMAN: That's what our science has been obtained at, Mr. McGaffigan.
COMMISSIONER McGAFFIGAN: The last comment I'll make, you know, is --
MR. GUTTMAN: So please refrain from accusing anybody, when you're not reading their material, and if you want to read the material, my offices are available as yours.
COMMISSIONER McGAFFIGAN: The last comment I'll make, Mr. Chairman -- I guess he's looked up our resumes, and he's mentioned Cal Tech and Stanford a couple of times -- part of it isn't on my resume is my father was a member of the United Mineworkers Union. He was an immigrant to this country, and I think -- I like unions; I like unions protecting people. I think that's important. They

protected my father. I grew up reading John L. Lewis in the monthly Mineworkers newsletter.
And the thought that your saying that we're here, this group of people, most of us from working class backgrounds, trying to contaminate your members and kill them is just a very great --
MR. GUTTMAN: As a point of privilege, let me prove my point then, if you're going to use those kind of terms. Your question -- now, wait a second. This is a point of personal privilege.
Mr. McGaffigan's question pointedly omitted the workers who were involved in recycling. On this record, I have repeatedly asked at the public participation, why was there no study of the hazards to the workers doing the recycling? Why did Tennessee not study it? Why did B&FL; not study it? If you were so concerned about workers, Mr. McGaffigan, why don't you go and find out why that wasn't studied. Why don't you ask these folks with your staff, what is the effect on the B&FL; process, so let's not demagogue. Let's not demagogue. We all have backgrounds that are impressive and important. We're all immigrants or most of us here.
CHAIRMAN MESERVE: Let me suggest, Mr. Guttman, that we --
MR. GUTTMAN: Let's ask about the workers in the

recycling plants.

CHAIRMAN MESERVE: -- the issue of workers would clearly be something that would have to be --

MR. GUTTMAN: It hasn't been. And it hasn't been. I've asked questions -- I ask this Commission now: Please provide for the record. We've asked again and again, and we've been ignored since November 1. We were told, Put it in the record.

Not one of you has provided a single answer to the question of where is the study of workers in recycling. Not one of you has explained how this Commission can be trusted when it doesn't disclose the conflict of interest basis. Not one of you has explained how much plutonium has gone out.

You want to be trusted? Give us facts, not rhetoric. And don't demagogue. Please, we have enough of it in this country.

COMMISSIONER McGAFFIGAN: Mr. Chairman, I would note that your answer to Congressman Dingell, Congressman Markey, and Congressman Klink included a discussion of worker exposures, and I think that was publicly available and --

MR. GUTTMAN: Yes. And it didn't tell us of any study related to the SAIC being a failed contract, and that's why we're asking you, where is that study. If you're

going to talk about workers, talk about those that are doing the recycling. Don't try to get out of this problem by getting some detectors, so you only have to worry about the steelworkers. Talk about the workers who are directly exposed and taking this home on their boots, as I'm sure your father knew.

CHAIRMAN MESERVE: Ms. Hendricks, I have a question for you. Several of the people who've testified before us on this panel and earlier have suggested that we ought not to tolerate any release, and that there ought to be the -- the rule ought to be no releases of materials.

That's legitimately something that we have these public meetings so people can raise issues like that, and we have the opportunity to address them. I would appreciate it if you could provide me with some indication, if you can, about what the implications of that would be for licensees. Is that feasible?

MS. HENDRICKS: No, it isn't feasible. If you look at it in the context of the way a plant operates -- for example, before a nuclear power plant starts up, they do an environmental impact statement, and they look at preexisting levels of radioactive materials in the environment.

They have a very extensive monitoring program

throughout their operation; they take samples of media to ascertain that, in fact, nothing untoward is happening.

You're not getting concentrations that you don't anticipate, and through your permitted release program, where you're permitted to release effluents in air and water, and then you have --

As an analogy, you have the situation where throughout this process, everything's been permitted and addressed; now you need to dredge your canal, and you have no standard. I mean, if it went out as an effluent, you have a standard, but now that you need to pick it up because the Army Corps of Engineers or somebody says, you know, that's what you've got to do, you pick it up; you put it on a barge. You have no standard anymore, other than this phantom, you know, witch hunt, not one atom, which, of course, is not realistic.

So what -- and this is happening. What does this person, what does this organization do responsibly with a barge full of sediment? I mean, it's got to go somewhere. The Army Corps of Engineers says that they can't put it back where it was.

NRC for a while was saying, Well, you need a special exemption or special permission, to even put it back on your own site. I mean, this issue of not having standards leads to a lot of illogical, silly actions, and those silly actions, if you will, waste a lot of good resources of both the licensee and the regulator who

otherwise are trying to comply with the regulations in an effective efficient manner and protect public health and safety.

CHAIRMAN MESERVE: Let me make an observation that I've been struck by several of the presentations here this morning, about an interest among the steel industry, the recyclers, the Association of Radioactive Recyclers, and the NEI, about getting your acts together, in the sense that an acceptance limit that would be acceptable to you might be different from a kind of dose-based criteria that was discussed in our issues paper.

And, you know, I think it would be appropriate to make sure that workers were represented in those discussions and the public more generally in those discussions.

Let me suggest to you that there is no need for that necessarily to be a discussion that takes place directly under NRC auspices. I mean, this is an issue that you're all confronting in various ways, and you're confronting it even with regard to materials that are not

under our regulatory control, and be something that we can't contemplate regulating in any event.

And it does seem to me that this would be the type of issue that would warrant your going ahead and proceeding in an effort to have some discussion among yourselves on these issues, and we might well benefit from that. I think

the public would benefit from it as well.

I mean, several of you have indicated you'd be willing to do it, but as far as I'm concerned, there's nothing that should be holding you back.

I think we've reached well after the end of our appointed time. It's obvious that we've had the benefit of many different views on the matters that are before us. This is obviously a very complex issue. The Commission has not decided as a Commission how it's going to proceed, and all these interactions are valuable to us.

And I'd like to thank all of you on this panel and those on the predecessor panels for spending the morning with us. Thank you very much. And with that, we're adjourned.

[Whereupon, at 1:00 p.m., the meeting was concluded.]