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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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PART 71: PACKAGING AND TRANSPORTATION

OF RADIOACTIVE MATERIALS

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PUBLIC WORKSHOP ON PROPOSED RULEMAKING

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ROCKVILLE, MARYLAND

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MONDAY,

JUNE 24, 2002

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The workshop was held in the Auditorium, Nuclear Regulatory Commission, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland, at 9:00 a.m., Francis "Chip" Cameron, NRC Facilitator, presiding.

PRESENT:

FRANCIS "CHIP" CAMERON, NRC Facilitator

ALLEN HOWE, NRC

FRED FERATE, DOT

MARC-ANDRE CHARETTE, MDS Nordion

DIANE D'ARRIGO, Nuclear Information and Resource Service

PRESENT (Continued):

M. ELIZABETH DARROUGH, Ph.D., USEC

ELIZABETH GOLDWASSER, USEC

ROBERT HALSTEAD, Nevada Agency for Nuclear Projects

FELIX KILLAR, Nuclear Energy Institute

WILLIAM LAKE, DOE

MELISSA MANN, Transport Logistics International

CHARLIE MILLER, NRC

ROBERT OWEN, Ohio Department of Health

DAVID RITTER, Public Citizen

MARK ROGERS, Airline Pilots Association

CHARLES SIMMONS, Kilpatrick Stockton

KEVIN S. BLAKE, ICF

EARL EASTAN, NRC

DON HAMMER, ICF

DAVID PSTRAK, NRC

RICHARD RAWL, Oak Ridge National Laboratory

NAIEM TANIOUS, NRC

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

(9:07 a.m.)

MR. CAMERON: My name is Chip Cameron. I'm the Special Counsel for Public Liaison here at the Nuclear Regulatory Commission, which will be called the NRC today and probably for the rest of its existence.

But I wanted to welcome you all to the NRC's round table discussion and public meeting on proposed revisions to the NRC rules governing the transport and packaging of radioactive materials today.

And I'm going to serve as your facilitator for today's discussion, and my job will be to try to help all of you to have a productive meeting.

I wanted to cover three items briefly on meeting process before we got into the substance of today's discussion. The first thing I'd like to talk about is objectives for the meeting.

Secondly, I'd like to talk about format and ground rules for the meeting.

And the third subject will be an agenda overview so that you know what to expect and so that we can get all of your questions answered on the agenda before we begin. And we will also do

participant introductions before we get into that.

In terms of objectives, the NRC today wants to provide you with clear information about the NRC's proposed rule and also about corresponding provisions in the Department of Transportation proposed rule.

Secondly, and most importantly, we want to listen to your views on the provisions of these proposed rules and ultimately the objective is to use what we hear today, as well as the written comments that are received on these proposed rules, to assist us in finalizing the rule.

And I want to emphasize what I said about we're here to listen to you today, and I don't mean only you in your individual capacity, in terms of your individual comments on these proposed revisions, but also to listen to you collectively as a group.

And individual comments we can always get in writing, but what we want to try to do today is to get the reaction of your colleagues around the table to some of the perspectives that you have.

So that's what we're going to be trying to do in this round table format because we believe it will provide us with a richer source of information in terms of better overall suggestions, getting an idea

of what the priority concerns are, and also seeing what the extent of agreement and disagreement is on these particular issues.

Now, that leads me to format. The focus of today's discussion is going to be around the table here where we have representatives of the broad spectrum of interest that may be affected by this proposed rule.

But we also know that there are people in the audience today who have views on these issues and so after each major agenda block of issues, we're going to be going out to the audience to see if there's questions or comments from the audience.

We're going to try to keep on time today, and it may be that in terms of audience comments, if we don't have time to get them all after the agenda block that we're on, we may go to that 4:15 session and have some time to pick them up then. That's basically an open issues section.

In terms of ground rules, they're pretty simple. Some of you have been subject to this before, but you have these name tents in front of you. If you want to ask a question, make a comment; in other words, if you want to talk, please turn your name tent up like this, and that will alert me to who wants to

speak, but also it will take the burden off of you in terms of having to hold your hand up, whatever, and I think it will contribute to us getting a clean transcript of the meeting.

We do have Debra here as our stenographer today, and we will have a transcript as a record of the discussion today.

So put your name tents up if you want to talk, and Debra has a list, a seating chart for you. So at least after the very beginning today, I don't think you'll need to say your name when you talk because I think Debra will capture that.

I would ask you to try to be concise. I know these are complicated issues. Some of them are controversial. So it's difficult to be concise in that type of a context, but if you can do that, try because I want to make sure that everybody around the table and in the audience gets to talk today, and that we address all of the issues that you have concerns with.

The third ground rule is only one person speaking at a time, please. Again, it helps us to get a clean transcript so that Debra knows who is talking, but more importantly it allows us to give our full attention to whomever has the floor at that particular

time.

We do have a parking lot over here, and some questions, some comments that come up may not fit squarely in the agenda item that we're talking about, and we will be going back to pick those up later on in a meeting. We'll keep track of those up here and make sure that we come back and address them.

And I guess another point in terms of relevance, we are here to focus on the NRC's and the DOT's proposed rule, at least the provisions in the DOT proposed rule that led to NRC issues. I know there's a lot of concern with transportation generally, but we do want to focus on this proposed rule.

Later on in the program, I'm just going to have the NRC staff tell us a little bit about a meeting that's going to be happening in Nevada and also in Washington, D.C. in mid-August. We'll get you the specific dates, but that's going to be looking at package performance issues. So you may be interested in that, too, but we'll get you the details on that.

When we do go to the audience for comment, I would ask you to please state your name and affiliation so that we can get that on the transcript, and if there are people who want to make comments as

opposed to asking questions, I'm just going to use a five minute guideline on those comments, again, so that we can try to get everybody in today.

So I would ask you to respect that.

I'd like to thank all of you for being here, taking the time to be with us. This is an important decision that the NRC has to make, and thank you for your assistance with that.

And what I'd like to do now is just go around the table and have you all introduce yourselves. Tell us your name, your affiliation and, you know, what your interest and concerns are with this particular rulemaking.

And let's start with Allen Howe.

MR. HOWE: Good morning. I'm Allen Howe. I'm with the Rulemaking and Guidance Branch. I'm Chief of Section B, and I'm responsible for overseeing rulemakings in the nuclear waste and also the materials area.

MR. FERATE: I'm Fred Ferate from the Radioactive Materials Branch in the Office of Hazardous Materials Safety at DOT. And I've been extensively involved in the elaboration of the notice of proposed rulemaking from DOT's side.

MR. CAMERON: Okay. Thank you very much,

Fred.

And we'll be hearing from Allen and Fred in a little while to give us a context on this particular rulemaking.

Mark Rogers will be joining us probably. I'm pretty sure that Diane D'Arrigo from Nuclear Information and Resource Services will be with us.

And let's go to Elizabeth.

MS. GOLDWASSER: I'm Elizabeth Goldwasser. I'm here with the United States Enrichment Corporation, and I'm here supporting Beth Darrough.

DR. DARROUGH: Good morning. I'm Beth Darrough. I'm Director of Transportation Programs for USEC.

Our main interest is in that we ship thousands of packages per year of uranium hexafluoride, in addition to we ship low level waste.

MR. OWEN: Hi. I'm Bob Owen of the Ohio Department of Health. I'm Manager of Technical Services there, responsible for radioactive waste and the transportation of such.

I'm also Chairman of the SR-12 Committee for the Conference of Radiation Control Program Directors. We're responsible for developing suggested state regulations for the 50 states pursuant to what

NRC does here in this rulemaking. So that's one of the key reasons I'm here.

And I'm also representing the Organization of Agreement States in that regard.

MR. SIMMONS: Hello. My name is Charlie Simmons. I'm a lawyer with the law firm of Kilpatrick, Stockton and represent clients in the zircon, zirconia, and other industrial minerals industries that are currently exempt from the transportation rules, but could conceivably become radioactive materials, depending on how the rule is drafted.

I'm also an advisor to the Conference on Radiation Control Program Directors' SR-5 committee, which deals with technologically enhanced naturally occurring radioactive materials.

MR. CAMERON: Thanks, Charlie.

MR. PSTRAK: Good morning. I'm David Pstrak. I work for the Spent Fuel Project Office here at NRC headquarters. I was responsible for some of the technical language here in the proposed rule.

MR. CAMERON: Thank you for admitting that.

(Laughter.)

MR. MILLER: Good morning. My name is

Charlie Miller. I'm the Deputy Director for Licensing and Inspection in the Spent Fuel Project Office at NRC, and as part of my organization, I have regulatory oversight for all transportation of radioactive materials.

MR. CAMERON: Thank you, Charlie.

MS. MANN: Good morning. I'm Melissa Mann with Transport Logistics International. We're a transportation management company. I'm in charge of our package licensing and compliance program, and we primarily manage the international movement of radioactive materials, and we're looking at the consistency between the domestic and international rules.

MR. LAKE: Good morning. I'm Bill Lake. I'm with the Department of Energy's Office of Civilian Radioactive Waste Management, and of course, DOE does have interest in transportation of radioactive materials. We have a lot of shipments now, and we will in the future.

Thank you.

MR. CAMERON: thank you, Bill.

MR. KILLAR: Good morning. I'm Felix Killar with the Nuclear Energy Institute. I'm the Director of Material Licensees. In this area I'm

responsible for the policy and regulatory industry positions on transportation heading up the Industry Transportation Task Force.

The two issues that bother us or concern us most are the grandfather provision and the provision on exemption for fissile material. We'll discuss that at length as we get to it.

MR. CAMERON: thanks.

MR. HALSTEAD: I'm Bob Halstead. I'm transportation advisory for the State of Nevada Agency for Nuclear Projects.

Nevada has a number of concerns about this proposed rulemaking. I'll mention four briefly.

First, as a matter of principle, we believe that the lack of quantitative data that has been provided to support this proposed rulemaking is completely inadequate. There's no way, in our opinion that this rulemaking meets the definition of risk informed decision making, and I will tell you later as we go into the details why we think, in fact, this is a prime example of what we would have to call risk ignorant decision making.

Secondly, there are a number of uncertainties about the extent to which the proposed rule changes in Part 71 will actually apply to the

Department of Energy's proposed transportation system for Yucca Mountain.

Some of you may be aware that on May 10th, Chairman Meserve sent a letter to Senator Durban in which he gave an extremely minimalist interpretation of the extent to which the whole fabric of NRC regulation under Part 71 would apply to Yucca Mountain.

Thirdly, we are extremely concerned, as are the majority of the Western governors about the proposals to eliminate the double containment requirement for plutonium shipments, and we feel that the regulatory analysis is defective in its failure to recognize likely impacts on the agreement between the Western Governors Association, the individual Western states and DOE for a system of extra regulatory transportation safeguards, which we believe are at the heart of both government and public acceptance of the WIPP transportation program.

And finally, there are a number of specific areas, including the deep emersion standard, the change authority for dual purpose casks, the application of quality assurance requirements, the special package exemptions, and several other specific areas of the rule that we'll be pursuing.

Thank you.

MR. CAMERON: Okay. Thank you, Bob.

Dave.

MR. RITTER: Good morning. My name is Dave Ritter. I'm with Public Citizen's Critical Mass Energy and Environment Program.

Our concerns are numerous. In addition to mirroring those of Mr. Halstead, our concerns would also go into the realms of the recycling of radioactive materials into consumer and industrial products and how this rule can potentially tie into that, and the potential for harmonizing our regulations with those of less democratically accountable institutions.

Thanks.

MR. CHARETTE: Hi. I'm Marc-Andre Charette. I work for MDS Nordion, which is a Canadian based company. We ship radioactive material internationally.

I work for the Regulatory Affairs Department and am responsible to liaison with international agency and looking after transport certification.

MR. CAMERON: Okay. Good.

Thank you.

I think that you can -- oh, Diane is here. Hi, Diane.

MS. D'ARRIGO: Hi.

MR. CAMERON: Do you just want to introduce yourself for us?

MS. D'ARRIGO: Just to say the issues of concern?

MR. CAMERON: If you would like to give us issues of concern now. You don't have to give us all of them. There will be time for that, but feel free to just give us a little precis on that and tell us who you are.

MS. D'ARRIGO: I'll try to.

MR. CAMERON: Thank you.

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

We have concerns about the -- well, we're opposed, outright opposed to the inclusion in this transport regulation change to the whole exemption section.

And I'm also concerned that even if that section is removed that there are other ways that the exemption issue is being brought into this through the change in definitions, which is considered not subject to an environmental assessment; concerned about and I

may need further explanation on how there may be a way that default exempt values are calculated from the A1 and A2 values; concerned about and also opposed to the, as was earlier mentioned, single shell containment for plutonium. I believe we should retain the stricter standard.

On a more basic note, the transport regs. should not be simply to facilitate all nuclear transportation, but to make transportation safer if it's necessary, not simply to make it easier to happen.

Concerned about the change authority for the high level waste for the dual purpose -- we're opposed to the change authority for the Type E dual purpose canisters for storage and disposal.

We have concerns about the changes to the high level waste containers, the Type B containers, that could reduce the existing what we believe are inadequate design criteria.

That's a summary of some of it.

MR. CAMERON: Okay. Thank you, Diane.

And thank you all. I think that we're hearing some issues that predictably are on the agenda today.

There are some other issues that I noted

that maybe aren't squarely on the agenda today or that will be now, but are over arching issues. And I guess I just want to call your attention to one of them that Bob Halstead raised, the lack of quantitative data, risk informed.

Well, indeed, as I understand it from the NRC, one of the primary purposes that we're here for today is to try to talk about or to gather some of that data that might either support or not support a particular provision.

And we've heard statements of concern, statements of opposition, and what I'd like this to be though is we're going to hear your comments, but let's try to have some discussion of those concerns, those objections perhaps, to see what different views are on that, and I think that would be most helpful for the NRC staff.

And I guess I would just say one reminder is that I've asked you to use the name tents for speaking. Because of the need to follow a discussion thread on a particular issue, I may not take them all in the order that they're raised.

We've had introductions around the table. I know we have a lot of knowledgeable and concerned people in the audience from various interests, and if

there's questions from you out there, we'll have you introduce yourself to us then.

And I guess with that, I think that we're ready to get the NRC and the Department of Transportation to give us a context. And what I'd like Allen and Fred to do is I'd like to put you on, okay, one after the other, and then we're going to go for questions around the table and in the audience.

So, Allen, are you going to lead off for us?

MR. HOWE: Good morning, and welcome today. The meeting here today is to discuss changes that we propose to Part 71 to make it compatible with IAEA standards, as well as make some other changes that NRC initiated.

NRC and DOT published rules to revise their regulations at the same time, and we also just want to invite everyone to participate. We'd like to hear your views today as we move forward in this meeting.

We have an open rulemaking process, and this meeting today is one of those ways that we have an open process. We make our documents available on the Web. We make them available in the public docket room. We can provide them by mail.

We are here today to answer any questions, hear any comments that you may have on the rule, and also following the meeting, we will have a transcript of the meeting, and we will post that on our Web site.

Harmonizing of the Part 71 rule with IAEA regulations will maintain safety. It will also increase NRC regulatory effectiveness and efficiency, and it will reduce unnecessary regulatory burden on the licensees by eliminating the need to satisfy two different regulatory requirements, depending upon whether the package is shipped domestically or internationally.

Furthermore, we think that public confidence will be increased by the use of the criticality safety index on the packages, the expansion of the QA requirements to certificate holders, and also the use of more accurate dose modeling.

Just a quick overview of the proposed rule on Part 71. There are 11 IAEA compatibility changes. Of the 11, NRC is proposing to adopt nine of those changes. The two that we are not proposing to adopt are the use of SI or metric units only and also the Type C package requirements.

We think that the adoption of the SI units

would be against the commission metrication policy and may also create potential situations where safety could be compromised.

As for the Type C package, the IAEA is conducting further evaluations on the requirements of these packages, and also, the staff believes that there are very few shipments that would be affected by any revision to the Type C requirements.

We also have eight NRC initiated changes. These include a proposed position on the petition for rulemaking, PRN 7112, which requested the elimination of a double containment requirements for plutonium shipments; the proposed position on the surface contamination standards applied to high level waste and spent fuel packages; and revision of the fissile material exemptions and general license provisions to address the emergency rule unintended economic impact.

As a part of the rulemaking package, we prepared a draft regulatory analysis to support the proposed rule. The draft RA indicates that there will be no significant cost increases due to the proposed changes.

However, the changes would result in a net benefit in terms of regulatory efficiency as licensees and certificate holders would have one set of

requirements to comply with.

There was also a draft environmental assessment to support the proposed rule. The draft EA indicates that there are no significant environmental impact resulting from the proposed changes.

We seek your comments on both of these documents.

Finally, I want to just reiterate the earlier message. We'll hear from various speakers. The changes to Part 71 will make it compatible with the IAEA standards, but they will maintain nuclear safety. We will maintain an adequate level of protection to members of the public and the environment.

The NRC initiated changes will also maintain the level of protection to members of the public.

In closing, yes, the changes will streamline our regulations. It will affect our national commerce, but we will not adversely impact safety.

Thank you very much.

MR. CAMERON: Okay. Thanks, Allen.

Let's go to Fred now, and then we're going to open it up for questions.

MR. FERATE: I have some transparencies here, and Don will be helping me with these.

My name is Fred Ferate, as I mentioned before. I work in the Radioactive Materials Branch of the Hazardous Materials Safety Office, and that, in turn, is part of the Research and Special Programs Administration of DOT.

The Research and Special Programs Administration is administratively on the same level as the various modal administrations and is responsible for establishing the regulations for the safe transport of all hazardous materials, including radioactive materials and, in addition, for establishing regulations for oil pipeline safety, rapid federal response to emergencies, and applying research and technology to transportation needs.

I see my purpose in giving this little talk here as trying to define the context in which the ST-1 or TS-R-1 changes are being considered for incorporation in our domestic regulations both for DOT and for NRC.

The reason that DOT and NRC are both involved here has to do primarily with the historical evolution of the two agencies. This historical evolution was defined administratively in a memorandum

of understanding between DOT and NRC with respect to the transport of radioactive materials.

Within that memorandum of understanding there's a partition, if you will, of responsibilities. DOT, as I mentioned earlier, has the responsibility for regulating the safe transport of all hazardous materials, of which radioactive materials forms a part.

DOT sets communications requirements for shipping hazardous materials, for shipping paper contents, for labeling and marking of packagings, and for placarding vehicles.

It sets certain requirements during transport. DOT sets routing requirements, and DOT regulates the shipper and the carrier of hazardous materials in general and radioactive materials specifically.

For its part, the Nuclear Regulatory Commission certifies package designs, particularly for packages which hold larger activities of radioactive material. The NRC has a large technical staff, and through the memorandum of understanding, DOT utilizes NRC's staff as its technical resource for evaluating the safety of packages to carry radioactive materials.

NRC approves package quality assurance

programs. It works with the Department of Transportation to insure consistency in our regulations. NRC conducts inspections of its licensees against the DOT transport requirements, as well as its own requirements.

And something which I did not include in the slide, but it's important to remember, too, is that the NRC also has physical security requirements for the domestic transport of spent nuclear fuel.

The Department of Transportation is mandated by U.S. law to help formulate international standards, to insure that domestic regulations are consistent with international standards to the extent possible, but the law does allow DOT flexibility to accept or reject international standards for purposes of safety.

Harmonization in general with the international regulations is a desired goal to facilitate commerce and to improve safety. The International Atomic Energy Agency is the international, that is, United Nations, organization which promotes scientific and technical cooperation in nuclear matters. The IAEA is the international inspectorate for nuclear safeguards and verification of civilian nuclear programs. And the IAEA

establishes international standards for the safe transport of radioactive material.

And the Department of Transportation is the official U.S. representative before the IAEA. The official title is that DOT is the U.S. competent authority for the safe transport of radioactive material.

The IAEA has issued many revisions of regulations for the safe transport of radioactive material. Such revisions have been issued in 1961, ’64, ’67, ’73, ’85. Most of those revisions were published in a little orange book called "Safety Series No. 6."

The latest version or revision of the international regulations was that issued in 1996, commonly called ST-1, but now called TS-R-1. In each case, after the publication of the international regulations in the past, as Safety Series No. 6, the U.S. domestic regulations have been harmonized with those international regulations, usually several years later, although that is now changing because the IAEA has now moved over to a two-year revision cycle, and generally the adoption in the U.S. domestic regulations of the IAEA changes has not been 100 percent. There have been some exceptions in our

adoption of those international regulations.

As I mentioned, the latest international regulations are found in TS-R-1, published in 1996, and the whole point of this discussion, well, of most of this discussion today or a good part of it, let's say, is that presently both the NRC and the DOT domestic regulations for the safe transport of radioactive material are not based on the 1996 international regulations, but rather on the 1985 Safety Series No. 6.

In general, compatibility or the goal of closing the gap on harmonizing domestic regulations with the international regulations is achieved by the two agencies, by NRC by making revisions to its regulations in 10 CFR 71, and by DOT by revising its regulations in Title 49, Parts 171 to 180.

As part of that process of coordination between the NRC and DOT, both of the agencies published on April 30th of this year our respective notices of proposed rulemaking in the same issue of the Federal Register. Those citations are given in the transparency here and in the handouts, which are on the table outside the door.

As part of that coordination, both agencies have established the same comment period for

responses to the notice. That comment period ends on July 29th.

With respect to the DOT rulemaking, all information with respect to this rulemaking can be found in the DOT docket system on the Internet at the URL given in this slide. The key number there is to enter the 6283 in the search field at that Internet address.

I would like to point out that all comments made in this NRC public meeting, which is, after all, primarily focused on the NRC rulemaking; all comments made in this public meeting which are pertinent to the DOT proposal, will be considered by the DOT in formulating the final rule.

And to submit written comments to DOT on our notice, there’s some information given here. If you want to do it by mail, we give you the address to send that to. We ask you to send two copies of your comments to the dockets unit if you wish to do it that way.

You may also submit comments electronically to the Internet address given there. Directions are given if you click on the line that says "help" and "information."

On the very last page of the handout, I do

not have a transparency for this. I have listed a few useful Internet addresses. On our DOT Web site, we do have a couple of specific locations that you can go to if you wish to download either the DOT notice or the NRC notice. I've given you a general Internet address.

If you need any Federal Register notices or any of the regulations in the Code of Federal Regulations, you can go to that address there. At least it contains Federal Register notices and U.S. federal regulations over approximately the last seven or eight years.

And, finally, there is an Internet address there where you can, if you wish, print out the entire TS-R-1 document.

Again, I hope that gives us a little bit of context to see how and why we are involved in trying to incorporate changes from the IAEA regulations into the domestic regulations for the safe transport of radioactive material. And I present myself as a representative of DOT and of the rulemaking process and invite you to present comments both here in the meeting and if you wish to present comments in more detail, please feel free to send us written comments either by mail or over the Internet

on our DOT notice.

Thank you.

MR. CAMERON: Okay. Thank you, Fred, and thank you, Allen.

I just want to emphasize one point that's related to one of Fred's comments, is that any comments that are made -- any comments -- is that better? No. Can we turn this up a little bit? Maybe that's what's needed. Can you hear this mow?

All right. Any comments that are made today will have the same weight as any written comments that are submitted, and you may hear things, information today, either from people around the table or from people in the audience that may stimulate you to write some written comments to us.

And let's go to all of you for questions about the rulemaking process, NRC responsibilities, DOT relationship.

Diane.

MS. D'ARRIGO: I give you warning in advance that I thought it would be helpful for the public to have both fax and E-mail addresses to send comments, if that's going to be an option to both agencies. The uploading is sometimes complicated, and you can't tell if it really worked.

MR. CAMERON: Okay. Let's do this. Let's make sure that after the break we present both fax and E-mail addresses for where to submit comments. Is that right, Diane? Is that what you're interested in?

MS. D'ARRIGO: Yeah. I know the NRC has a fax number. I don't know whether it's got an E-mail address, and I Don't know whether DOT is going to have either of those.

MR. CAMERON: Okay. Good.

Fred.?

MR. FERATE: I would just like to mention that DOT does not have any formal mechanism for submitting comments by fax. However, in the handout related to my transparencies, my personal telephone number and E-mail address are there, and if you give me a phone number or a phone call and let me know that a fax is coming, I'll give you a fax number. You can send it to me and I'll see that those comments get to the docket section.

MR. CAMERON: Okay. Thank you.

and just so that we are a little systematic about this, after the break we'll come back with all of that information for people all in one place so that you know what to do with those.

Felix.

MR. KILLAR: I have a question for both Allen and Fred.

You talked about the background and the process up through July the 29th. What happens after July 29th? You know, we submit all of these comments, and they just end up sitting around, floating through bureaucratic paper work?

And when do we anticipate this rule becoming effective?

MR. CAMERON: Okay. We're going to go to Allen Howe now.

MR. HOWE: Yes. Once the comment period ends, the next stage is that we go through the comments and do an analysis of the comments, and we do respond to all of the comments as a part of the final rulemaking.

In terms of the time frame, right now we're projecting about a year from the end of the comment period before the final rule would be issued.

MR. CAMERON: And, Fred, is that roughly -- are you guys both on the same schedule?

Okay. Felix, about a year after the comment period ends. Go ahead.

MR. KILLAR: You say you will issue the rule, but what will be the effective date of the rule?

It will be effective on issuance?

MR. HOWE: Well, usually when we issue a rule, there's a period of time after the rule has been issued. The typical minimum is about 30 days.

MR. CAMERON: Okay. So it won't be an immediately effective rule. There will be a time period before it becomes effective.

Bob Halstead.

MR. HALSTEAD: First I had a question, Chip, about is a verbatim transcript of this meeting going to be prepared or just a summary on terms of what's put available on your Web site?

MR. CAMERON: Verbatim. As I understand it, there will be a verbatim transcript that will be available on the Web site. Is that correct, Allen? Yes.

MR. HALSTEAD: And regarding timetables, is July 29th also the deadline for comments on this draft EA that was prepared and the other documents associated with the proposed rule?

MR. CAMERON: Al?

MR. HOWE: Yes, July 29th would be the end of the comment period for all of the rulemaking activities. You know, if you do get something in after that, we would try to take a look at it, but

there's no guarantee as to where we would wind up in terms of any late coming in comments.

MR. HALSTEAD: Well, I would again like to emphasize a concern about the deficiency of the draft EA and the regulatory analysis in the area of specific information on the number of exempt and nonexempt packages, the number of exempt and nonexempt shipments, average number of packages per shipment, all the detailed information on Curie counts by shipment categories.

And there's a nice job on page 24 -- I'm sorry -- on page 43 of the draft EA identifying the information that's necessary to make a risk informed decision on the proposed regulations, and then most of the rest of the document is a discussion about the lack of information, the reasons a qualitative assessment was done, a number of instances in which I believe it is reprehensible where 1982 data is offered as if it might be current year data without being identified as such, and a concern I have about the deadline for comments is until we saw the whole package of support documents, it was not clear to us how deep these deficiencies are.

They affect all stakeholders. They affect the public information groups who are not being able

to tell with any specificity what the impact of the value exemptions in the A1, A2 changes are; of concern to the Western states about the specific issue of risk assessment of eliminating the double containment issue for plutonium; and I dare say from the comments that I read in the original comment volume, I think many people in the industry have very valid concerns about the lack of attention to compliance cost issues.

And none of those issues, some of which are risks clearly, some of which fall into more traditional cost-benefit analysis, can be dealt with in any degree of specificity without the quantitative data.

And I find it incongruous that, on the one hand, NRC has decided that this rulemaking is so important that a large number of staff and resources and better than two years have been devoted to it and, on the other hand, they haven't tasked a contractor to go out and update the 1982 data.

So those are general concerns, and there are some specific ones that go to the adequacy of the draft environmental assessment.

MR. CAMERON: Okay, and, Bob, I'm going to ask you when we get to the specific issues to please, again, tell us your view on the adequacies of the

data, but I wanted to point out also that you're raising an over arching issue, which is if the data in the environmental assessment and regulatory analysis are updated, corrected, whatever term we want to use here, what are the implications for the rulemaking?

And NRC doesn't necessarily need to answer that now, but I just wanted to point out that that was a generic point that Bob was making, and he did have a question about the 1982 data.

And I'm going to go to -- Fred has his card up. Fred, Allen, any comments on Bob's comment?

MR. FERATE: This does not address all of Mr. Halstead's concerns, but I would like to point out that on December 28th, 1999, DOT issued an advanced notice on the incorporation of changes in the IAEA transport regulations into our domestic regulations.

And at that time we did ask for comments from interested parties, you know, good or bad comments, on possible difficulties that this might cause people in the industry or concerns that people might have that this could reduce safety.

So at least for those items pertaining to the DOT notice, we have asked for your participation now for about two and a half years.

Thank you.

MR. HALSTEAD: Could I do a follow-up on that, Chip?

It's precisely, Fred, in that area. I know that as the rule evolved between the original issue paper and what's actually in the proposed rule, I know, for example, some of the industry concerns, some of the DOE concerns, some of the U.S. Army Department concerns about what they estimated as a six to $7 million a year impact on them of the possible Type C package changes.

So some of these things kind of fell by the wayside, and I did not see a lot of quantitative information provided in those comments, but there were some that suggests there were problems.

Now, for example, there was a comment that came in from the Shepard Organization that, as I recall, argued that process irradiators are currently shipping sources totaling about 50 million Curies a year by air alone.

Well, that's about 15 to 25 times the Curie count of any of the numbers by category that are listed in here. I think it's fair to assume there have been major, major changes in nuclear commerce between 1982 and 2002, and while I appreciate the fact that one way to get that data is to ask for it in

public comment, I think there's an agency responsibility. I think there's a responsibility on the part of the contractor organization.

I assume it was IFC that did the regulatory analysis and the draft EA, and I think there's a serious deficiency there that affects everyone's ability to be comfortable with the proposed rule.

It's an interesting situation where people who are often on very different sides of the table on the same issue, I think, can all legitimately say that the quantification of impacts here is, in our opinion, unacceptable. It's certainly vague, and it makes it difficult to argue that this is a risk informed decision process.

MR. CAMERON: Okay, Bob. Thank you.

We are noting that as a comment, I think you're coming through loud and clear on that.

Allen, before we go to Diane, do you have anything to say in regard to the issues we were just talking about? You don't need to say anything. I just wanted to make sure that you had the opportunity.

MR. HOWE: I think Bob already reflected one of the things that we are asking for specific data as a part of the comment period on this rulemaking so

that we can increase the knowledge that we have in terms of moving forward with the final rulemaking.

There's a section in the proposed rule that has a list of specific questions that we are seeking additional data on.

MR. CAMERON: Okay. Thanks, Allen.

Let's go to Diane.

MS. D'ARRIGO: On the issue of the timing of this rulemaking, I wanted to point out two things. One is that there's the NRC ongoing package performance review. Is that the correct term for that, Allen? Yeah.

And so it seems that that ought to happen before changes to irradiated fuel containers are made. It doesn't make sense to change rules before that review is done.

And also the fact that both agencies have mentioned before that there's no consideration in this rulemaking to the current threat of terrorism, and just the post 9/11 situation, particularly concerns about exempting radionuclides from transport regulation at a point when there will be more and more effort to try and detect radioactivity for "dirty" bombs or other kinds of radioactive materials.

And to deliberately exempt these things

right now is about the worst timing we could have, and then to weaken container regulations, containers that are already susceptible to attack, damage, deliberate attack, that need to be evaluated before we move toward weakening the existing cask requirements. That would be for plutonium casks, Type B containers, all the containers, and it may also mean the A1, A2 values.

MR. CAMERON: Okay. Thanks, Diane.

and I'm noting that as a process, two process issues, about the need, again, for certain types of data before the NRC proceeds.

Let's go to Bob and then we'll go to Charlie.

Bob.

MR. OWEN: There seems to be a concern certainly for the quantifiable data for the technical propriety of what was done for this rulemaking. I'm just curious as to what the IAEA did toward the same end in support of the TS-R-1 document. Does anyone have an answer to that?

MR. CAMERON: Fred, does that -- I'm going to pick on you -- is that question -- is that clear, the information that Bob wants in that question? And can you provide it?

MR. FERATE: I would ask for a rephrasing of that question. I didn't sense exactly where you --

MR. OWEN: Okay. I guess Bob Halstead raised a generic issue of relying upon the 1982 data, technical data in support of the current rulemaking as opposed to more recent data, and I was just curious as to what the IAEA has done as far as updating their data bank for the technical propriety of TS-R-1, which is what this rulemaking is based upon.

MR. CAMERON: So what data did the IAEA rely on, the basic question?

MR. FERATE: I'm not very familiar with precisely what the IAEA considerations were based on. I do believe that there were specific studies by several of the primary European shippers of radioactive material, and I do recognize the deficiency here in the U.S. in our knowledge of the flow of radioactive material and do believe that it's very likely that the 1982 data are very much out of data and that, in particular, there's probably a much greater flow of radioactive material within the United States today than there was 20 years ago.

That data is particularly difficult to accumulate. I think part of that is because we live in a somewhat freer society than many of the European

countries who keep a lot closer tab on radioactive material as it's shipped.

MR. CAMERON: Okay. Thank you, Fred.

And let's go on with this and go to one of our expert consultants. Earl, do you want to go before Rick?

What we're trying to do is answer the question about the data that IAEA provides.

MR. EASTAN: Earl Eastan with the U.S. Nuclear Regulatory Commission.

After IAEA adopted their '96 regulations, one of the, I guess, proposals put forth by the U.S. in future revisions of IAEA rules is to have member states when they submit proposals to submit data on cost, benefit, et cetera, et cetera.

I think one of the lessons we learned is that when these proposals come forward by member states, situations vary from country to country, and we need a better understanding of the facts and figures.

So this was one of the initiatives, I think, DOT and NRC asked the IAEA to tighten up after the last revision.

MR. CAMERON: Thanks for pointing that out.

Rick.

And this is Rick Rawl. Rick, please introduce yourself.

MR. RAWL: Thanks, Jim.

I'm Rick Rawl with Oak Ridge National Laboratory. Previously I was with the Department of Transportation as head of the Radioactive Materials Branch. I was also head of the transport safety unit at the IAEA for years.

The bodies that the IAEA convened were to consider changes in regulations like the transport regulation, are made up of representatives from the regulatory agencies from the IAEA member states. It's a very democratic process because all of the regulatory agencies are treated equal.

When these bodies are convened, they come together to consider proposals to improve the regulations, improve the level of safety, and those proposals are gone over by the member states through their regulatory agency.

As Earl mentioned, where there is information about the potential impact of those changes, that is part of the input that the regulatory agencies provide in that revision process.

MR. CAMERON: Thank you, Rick, and we're

going to try and turn this mic up a little bit. So when we're using it, please try to hold it closer right now, and we'll try to get the volume turned up.

Let's go to Charlie, then Bob. Then I want to check in to see if there's any other comments on these process issues with the audience before we go to break.

Charlie.

MR. SIMMONS: Thank you.

In response to Bob, Bob, and Diane's points that were raised, I just would mention from my own experience with the IAEA is that IAEA's model rules are not necessarily enforceable anywhere as they are drafted, and the drafting process is one that is not anywhere near as transparent as what we experience in our country.

It's only through monitoring IAEA's scheduled events on their Web site and if you're fortunate enough to know somebody who is a delegate of a national institution or agency to IAEA can one begin to find out what the IAEA's thinking is and what direction they're headed in.

For example, even as we speak, IAEA's schedule has a revision of the transport regs. slated to be dealt with over the near term. So this

iteration of adopting and harmonizing U.S. law with what IAEA has drafted in ’96 will be a cycle that repeats itself within the next few years.

And as to what IAEA is considering under their current drafting discussions is anybody’s guess.

That point being raised, there are consultant reports. There are working group reports. There are deliberations on the record of IAEA which we do not see, which is the basis for IAEA’s ultimate model rules, and in order to fully discern why our federal agencies are -- what the ultimate basis is for the numerical recommendations and standards for our own federal agencies, one would have to look to the ultimate calculations bases and working group reports of IAEA, all of which are pretty much unavailable, hence, possibly a due process concern.

The second point just in what Diane said, and Bob next to me, the post 9/11 world has seen an absolute great expansion of the use of radiation monitors, radiation detectors at ports of entry into the United States. All Customs officials, many local law enforcement have bought simulation monitors, all of which is leading to a huge interdiction of naturally occurring radioactive materials, many of which, most of which, virtually all of which are the

coal ash, the refractory, the firebrick, the materials which are of no concern or any possible conceivable use in a terrorist situation.

What this has done is created a bit of a distraction from those things which might be of true concern, and this is where the lowering of the exemption values pursuant to the IAEA's recommendations could conceivably have a great distractive effect from those materials which would otherwise be of genuine concern to law enforcement.

MR. CAMERON: Thanks, Charlie.

And, again, when we get to that specific issue, please just let's make sure that we don't lose that comment on that substantive issue, and I would thank Bob for raising this point.

And I think the caution that I think that Charlie is sending us is that there should be an independent and substantial record of data developed by the NRC and the DOT to support the rulemaking rather than any reference back to necessarily IAEA data that may not be available.

MR. SIMMONS: That's correct. What we're looking at is a model rule. It only becomes enforceable once a national authority adopts it and promulgates it through their administrative process.

That administrative process in this country is based upon notice and comment, rulemaking, understanding what the basis is to insure that those rules are not arbitrary and capricious.

MR. CAMERON: Okay. Thanks, Charlie.

And that ties us back in with Bob's comment about the need for data. Bob, one more question?

MR. HALSTEAD: Yeah, I want to throw out one new issue, and I'm not sure exactly how it should be addressed relative to this proceeding,b ut on May 10th, Chairman Meserve of the NRC sent a letter to Senator Durban in response to an information request that has a couple of very interesting statements in it.

One statement is if DOE takes control of the spent fuel at the licensee's site, DOE regulation would control the actual spent fuel shipment.

Now, here we're talking about the way in which 10 CFR 71 would apply in the future to any shipments to Yucca Mountain or any other repository site or any other DOE interim storage facility if it should be constructed.

And then Chairman Meserve went on to further reiterate, as stated previously, if DOE takes

custody of the spent fuel at the reactor site, the only involvement NRC will have in the transport will be the certification of the transportation cask.

Now, if you look at transportation risk as having any relationship to the number of Curies being shipped, if you could imagine a big pie chart of the shipments we'd expect over the next 35 or 40 years, assuming that DOE goes forward with their Yucca Mountain proposal, they're talking about shipping an average of 500 million Curies a year, of which about 200 million Curies a year would be Cesium 137.

I would argue that that's likely to substantially dwarf any of the other cumulative Curie counts on an annual basis, although I'm intrigued by this data that the Shepard Organization has put forth that, in fact, the total Curie amount of particularly process irradiation devices may be much larger.

I was surprised to see that 50 million Curie per year figure. So, in fact, some other sources may be large. But the point is we know this is going to be a large source of the percentage of the transportation risk.

And I'm just asking because I suspect that a lot of people are unaware of this letter from Chairman Meserve. We're not sure to what extent NRC's

legal, particularly if the Office of General Counsel reviewed this letter, but to us it is a very important part of defining the scope of this rulemaking proceeding.

Clearly, some issues like the deep emersion standard and the change authority and grandfathering would probably still clearly be applicable, but many of the other regulations that are important for safety, particularly the quality assurance provisions, therefore, may not apply to the Yucca Mountain shipments.

And so I'm basically just asking you. I know there's probably no way you're going to answer it today, but it's going to be very hard for us to file comments on this proposed rule until we get information back from you, and I guess I'm raising a process issue here, both because of the lack of data on impacts and because there are some critical scope issues here.

At the very least we would like an extension in the comment period, and frankly, we think that you're going to have to think about putting out another draft of these proposed regulations. I think it's going to be very hard for Nevada, the Western states certainly on the Yucca Mountain and WIPP issues

to feel confident that we have a basis for comment.

Now, I understand that you've been at this for a while, but some of us sat this one out watching for the early rounds, and particularly hoping that some of those issues that were raised by commenters in 2000 would be resolved. And we find now that those issues are not resolved.

MR. CAMERON: Okay. Thank you, Bob.

And we're going to go on to the audience, but I just wanted to sort of check in with Bob to make sure that I got his comment there.

In the parking lot you raised scope of the rule before, and you put a finer point on it now with this May 10th letter. Some time before the end of the day, I think it would be useful. We'll go back to that parking lot issue. We'll see what the NRC staff has to say about that.

That's a specific issue, but you're raising a process issue which is an extension of the comment period and perhaps another process issue, which is going to your earlier comments that if the requisite data needs to be developed through the environmental assessment or regulatory analysis, that people should get a shot at commenting on the rulemaking provisions based on that new and complete

data as opposed to the data that's there now.

Is that a correct statement?

MR. HALSTEAD: Yeah, that's a good summary, Chip.

MR. CAMERON: Okay. Well, thank you.

I think we have that captured. Before we take a break, I want to check in with those of you in the audience on the issue that we've been talking about here, namely, the process, rulemaking process issues.

Any comments? Yes. And just introduce yourself to us.

MR. ERWIN: My name is Don Erwin. I am with the law firm of Hunton & Williams, and I represent J.L. Shepard & Associates.

I've got a couple of process issues that I wanted to bring up. One of them sort of tracks an issue that Charlie Simmons raised. The primary interest of substantive concern I've got today is the backfitting issue, and I don't want to discuss that substantively at this point.

But to the extent that the proposals on backfitting or on nay other issue rest on IAEA proposals, either NRC is going to have to satisfy itself that the basis for the IAEA's position is

tenable in the United States or the jurisdiction of the NRC or it's going to need to come up with an independent satisfactory basis for that.

And I think this is particularly the case with grandfathering issues where you may simply have different environments for international versus domestic shipments. I think the commission recognized that in its most recent rulemaking proposal where there's a statement a couple of times that the commission is prepared to depart from IAEA proposals for good cause.

My only problem with that is it seems to flip the burden entirely on the regulatees to develop the justification for departure form IAEA standards when there's no basis for having adopted the IAEA proposals in the first place.

That I realize is kind of a lawyer process issue, but I think it's one that is also rooted in sound decision making. You need to understand the basis of where you're going before you feel comfortable in adopting it.

The second issue is sort of a related one, and it's almost a rhetorical or syntactical issue. About two years ago on the grandfathering issue, for instance, there were comments requested, and from

industry and government alike and DOE. There were numerous backfitting comments,a nd they were unanimous. They were very troubled by the proposal to simply bar further use of 1967 specification Safety Series 6 containers in domestic use.

The NRC's summary of those comment letters in the report prepared by ICF doesn't convey that unanimity or clarity of comment at all. Instead, there are a number of sort of little bullet point summations from letters, none of which by itself is actually inaccurate, but in totality, the effect and nature of the message is totally muffled.

And I think when high level decision makers are looking at summary documents rather than source documents, they risk losing that content. I suggest you guys be very careful about that.

There's a second example of it which appears just in the slide prepared for the NRC's presentation today. In talking about the cost of backfitting, the regulatory analysis and the proposed rule as published on April 30 are both quite candid in saying that the NRC doesn't have a clue as to what the costs of backfitting are.

The regulatory analysis actually goes a little further and says, well, we expect there to be

some cost because they're going to basically make some containers then usable, but we don't know what they are.

Well, the slide today simply says they are expected to be no significant cost. I think you guys have got to be very careful because I see a mindset sort of rolling down the hill toward acceptance of a rule, and there may be bases for it on some issues, but on others there may just not be.

That's the process one I want to raise right now.

MR. CAMERON: Okay. Thanks, Don.

I think that ties in with a lot of the comments that we've heard at the table. Let's go over to Fred.

Fred, please tell us who you are.

MR. DILGER: Fred Dilger, Clark County, Nevada.

I just want to support Bob's request for an extension of the comment period. There are two things going on.

The first is that we don't believe that the EA contains sufficient information to draw the conclusions that there are no significant impacts. As the EA states, and we would prefer to comment on the

EA before we comment on the rulemaking, we think the NRC deserves the opportunity to go back and revisit the EA and make it better and maybe be able to justify its conclusions before they go on with their rulemaking.

The other thing is, frankly, our primary oversight responsibility in my organization is Yucca Mountain, and the July 29th deadline at this point is extraordinarily inconvenient.

We have a lot of other things that are on the front burner right now that it's difficult for us to keep up with, and we would like to give this very complicated, potentially very significant rule the attention it deserves, and we can't pull that off right now.

From what I hear at the front table, there doesn't appear to be any burning requirement to get this out on the street as quickly as possible. So a one month, a two month extension so the comment period would help us a great deal.

MR. CAMERON: Okay, and I just want to make sure that people heard the one suggestion that you made that might satisfy a point that Bob made earlier, which is separate the comment period for the EA and regulatory analysis from the rule.

In other words, have a comment period on the EA regulatory analysis, and then go back to the drawing table on the rule.

Was that --

MR. DILGER: Right, but it's entirely possible that you'll go back, get some data, do an analysis, discover that maybe we do need to go the next step, maybe we do need an EIS on some portion of this rulemaking after all, and then have to go back and do the EIS.

As it stands right now, you are precluded from actually finding anything because you've got the rulemaking and the EA so carefully tied together.

MR. CAMERON: Thank you very much, Fred.

I think we have Judy Johnsrud. Dr. Johnsrud has a comment again on data.

DR. JOHNSRUD: Actually process related, Chip.

I'm Judith Johnsrud actually here with the Sierra Club as well as the Environment Coalition.

In the process, as we find the lack of current data, I would add that risk assessment and other aspects of these rules will also be affected by alterations of the views of the scientific community with respect to radiation injury.

And I would particularly suggest that the work occurring currently in both the Department of Energy Biological Effects Division and NASA with respect to low dose radiation impacts may require a reconsideration of the current existing standards.

That is work in progress, some of which has been completed, and within the general scientific community, as well, I believe there is adequate information now to signal the need for some reconsideration of the standards, which, in turn, of course, affect risk assessment.

MR. CAMERON: Okay. Thank you, Judy.

We heard a couple of suggestions in terms of data, studies that are needed before the rulemaking goes on, and I'm going to put those sources that you spoke of up here.

Do we have anybody else in the audience? Okay. I'm going to try to get you in, and then we're going to see if Diane and Bob can have a brief comment, and then we're going to take a break.

MS. SUPKO: Eileen Supko, Energy Resource International.

There are always studies going on, new research going on. The International Atomic Energy Agency sponsors coordinated research programs on a

variety of issues. Sometimes the support changes in IAEA standards.

The IAEA is currently on a two year revision cycle. So as things progress, whether it's in the United States, in Europe, in the Far East, all of these, the body of knowledge can be factored in by competent authorities from the United States. As we learn new things, we can propose changes to the international standards. Other countries can do the same thing.

So it doesn't make sense to me to stand still for harmonizing U.S. standards with international standards while waiting for other issues to be completed, whether it be the package performance study or the research that Dr. Johnsrud just mentioned because there's an ongoing process of revision to the international standards, and U.S. standards will continue to consider those changes to the international standards as they progress in the future.

This is not static process. It's an ongoing process, and it will continue to be that for the ongoing future.

Thank you.

MR. CAMERON: Okay. Thanks, Eileen.

I see what you're doing is defining a couple of ends of the spectrum that we've been talking about where there may be a need for further data to justify this particular rulemaking, that for certain types of data, that's going to be more of a long-term development process that can be factored in somewhere later in the process.

I can see you're shaking your head.

Okay. Other comments in the audience?

All right. Diane, do you have a quick one before we take a break? Go ahead.

MS. D'ARRIGO: I have two things. One is -- three things to the comments that came in -- even though there are ongoing changes at IAEA on evaluation for future changes, I think it's time that we look at that process and don't simply jump in and assume that our agency -- I don't believe that the U.S. agencies have been adequately representing the U.S. public opinion on transportation safety, and so we're not being democratically represented at those places.

And to say that those are continuing to update and will incorporate new data is not sufficient to justify the current acceptance of this rule. This rule could very well weaken irradiated fuel containers, and we're looking at this country at

100,000 shipments of irradiated fuel, the decision on that to be made in the very near future.

I think that we're going to change the regs. pertaining to that, and we're looking at plutonium shipments. Thousands of shipments to WIPP. If the MOX program proceeds, then I don't know how many shipments of plutonium back and forth across the country for that.

We're looking at reductions in container safety, and it makes sense to incorporate the reality that we're going to have an enormous number of these shipments into whether or not we accept this now.

And I believe that we need to question the process also of simply continuing to accept what IAEA does and what ICRP does. There are other agencies now that have formed in the United Kingdom and in Europe that would challenge what ICRP assumes, and so we shouldn't be assuming that the ICRP data are gospel, which gets to the point that was made by I think it was Don who said that the burden of proof is being shifted onto us, either the community that's affected, the stakeholders, the people who are affected, to prove that the proposed IAEA changes aren't what we want or aren't protective enough.

We simply don't know how many Curies of

radioactive material are going to be shipped un regulated if the exemption portion of the rule goes through. We don't know that; we can't know that.

And so to shift the burden of proof to those of us that don't want exposure to those is unacceptable. I mean, he had a different reason for saying that shifting the burden of proof was a problem.

So those are a few of the points, and I'll stop there.

MR. CAMERON: Okay. Thanks, Diane.

Thank you all.

We took a little bit longer with this, but I think it was important because obviously the data issue and its relationship to the rulemaking process is an extremely important one in light of all of what you're saying. So that will serve us well as we go through the day, but also the rulemaking, too.

So it's almost 10:30. I want to give you time to get some coffee. How about ten to 11? Okay? That gives you a little over 20 minutes. We'll be back here, and we're going to get started with a couple other over arching issues, one of which we've already talked a little bit about, which is harmonization.

(Whereupon, the foregoing matter went off the record at 10:32 a.m. and went back on the record at 10:52 p.m.)

MR. CAMERON: We'll get started with the next topic on the agenda.

And, Fred, what's your phone number, by the way if people want to call you to send a fax?

MR. FERATE: (202) 366-4498.

MR. CAMERON: Thank you.

MR. FERATE: If you'd like I can give you the fax number, too.

MR. CAMERON: Oh, you could? All right.

MR. FERATE: I just don't recommend using that to submit committees. It might get lost. But the fax number os (202) 366-3753.

MR. CAMERON: Thank you.

Okay. We have a little bit more information for you in terms of the possible faxing of comments. NRC fax, and this will be up here if you can't read this. It's (301) 415-1101.

Fred Ferate, his phone number at DOT is (202) 366-4498. He's given us a fax number, but he's already sort of discredited it saying it may be unreliable, but (202) -- and we'll go to you in a minute Fred -- (202) 366-3753.

And, Fred, do you want to say anything more about that fax?

MR. FERATE: Well, just be sure and put my name on the document because that fax is for several offices, and again, I point out that that was never intended to be an official pipeline for comments on DOT notices.

If I do receive something from you that appears to be a comment, particularly if you'd like for it to appear in our docket, let me know and I'll do everything in my power to get it to the docket.

MR. CAMERON: So it may be best to call Fred and tell him that you're sending or have sent the fax and make sure that you put Fred's name on it.

Clarification, Diane?

MS. D'ARRIGO: Yeah, I would just say that usually on the day of the comment deadline is when a lot of people actually get around to faxing their stuff in. So, I mean, that would probably be -- I mean, if they're ready in advance, they probably wouldn't have a problem mailing it. It's just on July 29th, you can probably expect that you're going to get a bunch of faxes to that fax.

And so I just wanted to explain why I asked the question and make sure you wanted to use

that number.

MR. CAMERON: Good point, Diane.

Fred, do you?

MR. FERATE: Well, I point out again that the official channels are by mail or to that address on the Internet that is in my handout for comments on the DOT proposal

MR. CAMERON: Okay, and I think that there's still some food for thought here for the NRC and DOT about the E-mail, this possible dedicated E-mail link perhaps for comments, maybe another fax machine because I think Diane is absolutely correct. A lot of comments come in on the last day.

Our next discussion item is an overarching issue, two overarching issues really. One is the harmonization issue, and we've talked around that a little bit this morning, but there's also another harmonization issue, which is this agreement state compatibility issue.

And so the international to national we're referring to as harmonization. The national to state of the United States we refer to as compatibility. That's the traditional way we talk about the compatibility of individual state regulations with NRC regulations.

We want to talk about both of those. Fred Ferate has already teed up, so to speak, the harmonization issue. Before we get into the discussion I'm going to ask Charlie Miller from the NRC staff to tee up the computability agreement state issue for us.

MR. MILLER: Thanks, Chip.

In 1997, the commission issued it s policy statement of inadequacy and compatibility of agreement state programs, and when they did that, their goal was to insure that the regulations in Part 71 for the agreement states were appropriate and categorized in an appropriate manner.

In doing that, they categorized them into four categories, A, B, C, and D. And what I really wanted to do with these comments was to just draw your attention to the fact that we've put a table in the proposed rulemaking with each proposed Part 71 section in there and change in there, and showing which compatibility category these fell into, either A, B, C or D.

And the slide up on the board gives you a brief synopsis of what falls into each of these categories. Category A contains basic radiation protection standards in scientific terms and

definitions that are necessary to understand radiation protection concepts.

The NRC expects that agreement states should adopt the Category A types of items.

Category B are those program elements that apply to activities that have direct and significant effects in both NRC and agreement state jurisdictions, and agreement states should adopt Category B items also.

Category C items are those that are program elements that do not meet the Categories A or B, but should be adopted to avoid conflict, duplication gaps, or other conditions that could jeopardize an orderly pattern to nationwide agreement statement programs.

And Category D are those that don't meet A, B or C and do not necessarily need to be adopted by the states.

In addition, there's a category that's called NRC, and these are program elements that the NRC does not relinquish to the states with regard to regulatory oversight.

And that's really all I wanted to say, Chip, to get it going.

MR. CAMERON: Okay. Thanks, Charlie, for

that overview.

And what I'd like to do is --

MR. MILLER: Oh, excuse me, Chip. If I can, I'd just point everything. The table is located and you got these in your packets today. On page 21435 it begins the table for reference purposes.

MR. CAMERON: Okay. Thank you.

And thank you, Don.

What I'd like to suggest so that we can at least get to some of the substantive issues before we break for lunch, let's talk about harmonization for a while, and hen let's talk about agreement state compatibility.

If there's questions for the NRC staff, Charlie on his presentation, we can deal with that, and we're fortunate to have Bob Owen from the State of Ohio with us. Ohio is an agreement state. Bob is also the head of the, as he told us, CRCPD Committee, and when we get to that compatibility discussion, Bob, I'd just like for you to start us off with a few words.

On this harmonization issue, I think the NRC rule and proposed rule and Allen talked about there's flexibility to not adopt.

Fred Ferate's presentation gave a couple

of reasons why four adoption.

Maybe the most useful thing here is to have a brief discussion, your views on are there any criteria to guide adoption. And with that I'll throw it open.

Bob, do you want to talk about harmonization? Is that why you had your card up?

MR. HALSTEAD: Well, I wanted to make a quick statement on harmonization, and I wanted to ask a process question about how you had circulated the rule to the designated agreement state contacts.

MR. CAMERON: Okay. Well, let's hold the process question.

MR. HALSTEAD: Okay. I'll hold that.

MR. CAMERON: And let's go to harmonization, if you want to start us off with that. Then we'll get to the process question when we get to compatibility.

MR. HALSTEAD: Yeah. Well, I'll just state as a matter of principle we question the issue of harmonization for the sake of harmonization, and particularly in any cases where you can't argue a clear benefit to the public in terms of increased protection and in the case where you can't argue some clear benefit to the industry.

Now, often we're struggling over trying to assess how costs and benefits shake out in that kind of a tradeoff analysis either on a specific proposal or usually on a specific proposal, but on the general issue of harmonization, we question whether, in fact, that should be an objective.

Our primary objective is protection of the public health and safety and the environment, and then attempting to do that at minimum adverse cost impacts.

MR. CAMERON: Okay, and I'm not sure. I think that that statement, clear benefit to the public or to the industry, I'm not sure that many would disagree with that, and that's something that we need to test.

I guess the question is: what is a clear benefit? And how do you balance the public and the industry?

I think we know at least one answer to that, but is there any finer point that we can put on this for NRC and DOT?

Fred.

MR. FERATE: I just wanted to point out that there's always at least one potential benefit from harmonization, and that is to think of what would happen if we didn't have harmonization.

If you don't have harmonization, then in many organizations, commercial companies, you will have employees learning or trying to learn different sets of rules to work by, and when you have the same person working by two different sets of rules, then you introduce more possibility, more probability that occasionally there will be errors that derive from accidentally applying the wrong rule to a particular case.

So although I don't know the specific justification used by members of Congress in passing the Hazardous Materials Transportation Act, in which the codification that I referred to in my transparencies is imbedded, I suspect that that was probably one of the fundamental concerns, was that harmonization allows you to simplify the rules that you used to transport shipping hazardous materials.

I also pointed out that Congress did not say you must do this. It said to the extent possible, keeping in mind whether in the agency's own judgment a particular change is protective of the heath and safety of the public and the environment or not.

MR. CAMERON: Okay. Thanks for adding that because I think that we all need to remember that there is a -- if NRC and DOT want to deviate, they

have the flexibility to deviate, but it's tied to protective of public health and safety; is that correct?

Okay. Let's go to Felix and then we'll go over to Diane.

MR. KILLAR: Yeah, I just want to say on behalf of the industry we fully support the concept of harmonization, particularly as it's done here in the United States. The nuclear industry is an international industry, and we routinely ship things out of the country and into this country. And without harmonization, I think as far as the risk of health and safety, it would be adversely impacted if we did have harmonization.

Because if we had a package that we didn't feel comfortable with because some foreign country thought it was okay, we may end up taking that package in because we don't have a uniform standard for evaluating that package or that shipping criteria.

Similarly, as far as shipping papers and things along that line, if we had not had a uniform standard for shipping papers and for labeling and for placarding shipments and what have you, who knows what would be coming into our port and how would people be processing that material as it comes into the ports if

we didn't have these uniform standards.

And so, therefore, from a safety aspect it's very important to have uniform standards and uniform criteria that you evaluate this material against.

Additionally, as international commerce and what have you, you know, this will certainly impact the ability to do international commerce and end up costing a lot more to do international commerce without some form of formalization because then what you would have to do is go to each different country and work out arrangements for shipping material into that country in order to do your business there.

So, therefore, from a cost aspect, besides the safety aspect, you know, it's certainly advantageous for harmonization.

The U.S. actually has been one of the ones that has been behind the eight ball, to speak, and a lot of the countries have already adopted the '96 series. IAEA or I mean -- what's the international air carriers? I can't remember their -- IACA has already adopted this over a year ago, and we're still in a process of going through our review.

And so even though we might not have adopted it here in the United States, if we tried to

put something on a ship or on a plane to send it overseas, we cannot do that unless we meet the 1996 standards.

So we're already working to meet regulations in other countries even though we haven't adopted them here in the United States.

The last point I want to make is a point that has been made several times, which is that if you're dealing with something that's strictly domestic, then you can look at something that's different than what the IAEA regulations recommend, and there is certainly merit in doing that, and we certainly support the concept of having things that have limitations or difference in the IAEA for domestic only shipments.

So I think you have to look at harmonization from a number of standpoints, but also you do have to look at how things do in your own back yard.

I know we're going to talk a little bit about compatibility, and so maybe if I skip ahead just a few seconds and talk about compatibility, since I've got the mic, we certainly support compatibility, and we see the same thing if you deal with an individual state, as we in the United States deal with the world,

and that each state should have the ability to come up with whatever they think is appropriate for intrastate shipments if they feel it's deemed necessary to do so, but for interstate shipments, then you need to make sure that you're compatible with the rest of the world in order to assure the rest of the country that you have good standards and regulations that are consistent across the country and we don't have 50 jurisdictions for doing that.

And so that's a quick comment on that issue as well.

MR. CAMERON: Okay, and we'll come back to that, and I think you've laid out some arguments for harmonization, and we're going to go to Diane now, but I would like Diane, if she could, and also anybody else to specifically address two aspects of Felix's comments besides giving us your own, which is the idea of the possibility of setting higher standards for domestic shipment while still maintaining harmonization for international shipments, but more importantly perhaps, his point of does the lack of harmonization actually lead to deleterious effects on public health and safety.

Fred Ferate pointed out one aspect of that following two different sets of rules. Felix's point

was, well, if we don't have harmonization, how do we know what's going to be coming into this country, I think was the point.

So if we could just have discussion on that. Diane, go ahead with your comment.

MS. D'ARRIGO: Harmonization should not be used as a justification for violating a country's sovereignty or state's right to do something more stringent. So to the extent that states or countries can do something more stringent, we support that.

We already were harmonized before these changes came, and my position is that we need to look better. We need to have the process be more open for how changes are made.

The fact that IAEA made these changes based on ICRP and whatever the participants deemed important should not dictate the United States' regulations. It shouldn't dictate any country's regulations.

And because other countries may have already adopted them should not be rushing us to adopt them. We were in a situation where the rules were compatible, were harmonized in the past, and I'm not trying to say we shouldn't have some international unity in rules. I mean, that obviously makes sense.

However, the amount of control that we have over those rules at this point is nonexistent really, is the feeling that I have.

And so to simply say that somebody made some rules and we have to accept them or it's going to be really dangerous is not acceptable.

That's just part of what I want to say.

MR. CAMERON: Thanks, Diane.

Let's go to Melissa, and then we'll go over to Fred and Allen. Melissa.

MS. MANN: I might be a little jaded on the process because at least within my organization and within our industry we've been looking at the proposed changes for well over ten years. There was a very long lead time, a lot of consideration in which anybody who wanted to ask the U.S. competent authority was given quite a bit of information.

There have been public meetings held by the DOT on these issues for years. So my sense is that these are not just things that suddenly were dropped onto us out of the blue. There has been very continuous, consistent deliberation over these rules.

With regard to harmonization though, harmonization is a sort of value neutral process. It's neither good nor bad in and of itself, and I

think what you do have is an improvement in safety when regulations are consistent among national and international borders, when the communications that are used are consistent, and when people understand what is being meant rather than having two systems.

And moreover, I don't see anything in any of the international regulations which would in nay way diminish or change the ability of our national regulators to take action when they feel certain circumstances merit it or if they feel that there is something that is specific to the United States, whether it be a regulatory requirement, an industry practice or other consideration. There's nothing that changes their ability to make a change.

MR. CAMERON: Okay. Thanks, Melissa.

Diana, did you want to say something?

MS. D'ARRIGO: May I respond? I'm sorry. May I respond?

MR. CAMERON: Did you want to respond?

MS. D'ARRIGO: Yeah. I was not a part of the early deliberations for the past decade on this, and I would question. I mean, I think there's 19 issues here, and I'd question whether you were actively involved in the discussions about exempting radionuclide values at various levels and whether

that's something that you participated in and felt comfortable with because that's one of the major concerns that we have, is that the fact that some other body has adopted that is going to force specific concentrations and quantities most of which increase the concentrations to be exempted in the United States.

MR. CAMERON: And I think that, Melissa, we've talked about some of the overarching criteria on this issue, but perhaps as you said, harmonization can be viewed neutrally, and you really need to look at the individual issue, as Diane is pointing out.

So we need to get to those individual issues, and exemption values is the first one that we're going to go to.

Why don't we hear from Fred and Allen, get some discussion on the agreement state compatibility issue, check in with the audience and then go to exemption values?

Fred.

MR. FERATE: We've heard mentioned several times, and it's one of the items that Chip has put on his --

MR. CAMERON: Parking lot.

MR. FERATE: -- parking lot, if you will,

about the difficulty in knowing what's happening at the IAEA deliberations.

I think that we in DOT would be the first to admit that that process could be a little bit more transparent.

I'd also like to point out that DOT has historically not been a blank wall for people looking for information. We regularly have meetings before and after representatives from DOT attend meetings of the United Nations committee of experts for changes to the U.N. orange book on the transport of dangerous goods.

Now, these meetings are announced in the Federal Register and are held at the DOT headquarters in Washington, D.C.

Specifically, the IAEA meetings on safe transport of radioactive materials at least for the past few years are posted on the IAEA Web site. We in the Radioactive Materials Branch in DOT are available to pass on any information we might have, and I think Ms. D'Arrigo would be glad to confirm that.

We have always been open to trying to help answer any questions that she might have or anybody else might have.

When we attend the meetings at the IAEA on

the various aspects of the safe transport of radioactive materials, and right now I think it's the meetings related to proposed modifications, changes to those IAEA transport regulations that are of most interest, we always bring back the documents that were the working documents for those meetings.

Those documents are kept in our office. They are available for anybody who would like to come in to look them over, probably make photocopies, although I'm not sure always exactly what the copyright rules might be, but certainly on a personal level we have tried and will try in the future to make that information available to people who are interested in it.

Furthermore, as you know, when we go over to the meetings, we essential, one of the persons in our office, will be the head of the U.S. delegation to that meeting, and as such, we have the capability of inviting people to accompany us on the U.S. delegation.

Almost always because of the very close technical relationship that we maintain with the Nuclear Regulatory Commission, almost always one of the persons on that delegation will be from the U.S. regulatory commission.

Occasionally we have had in the past delegates from the Department of Energy, industry representatives, and I would hear publicly say that any concerned or citizen representing a group that is concerned about a particular topic that is to be discussed in one of these meetings, please make known to us if you which to be included on that U.S. delegation. Make known to us your desire to be included. I cannot promise that you'll be included, but certainly your request will be taken into account.

And if I may, Chip, I'd like to also comment on references to this international process whereby people from other countries make decisions that we in the United States are not obligated to follow.

The United States is a member state of the United Nations obviously. It's also a member state of the International Atomic Energy Agency. Other states are also member states of those organizations.

Each government is invited to send its experts to the various meetings that are held at the International Atomic Energy Agency. They generally do so in a process which is perhaps imperfect, but generally I think you will find that representatives of the various countries are working conscientiously

to try to make, if you will, the world a better and safer place to live.

They are generally people with some amount of technical expertise. When they do not have personally that expertise, then they try to rely on larger organizations or organizations with a larger scope, let's say, for expertise that is not immediately at hand.

I'm referring specifically in this case to references to the ICRP. The ICRP is a worldwide organization of scientists which has issued many, many advisory and guidance documents on radiation protection and radiation safety.

And certainly the IAEA has depended a great deal on recommendations of the ICRP in formulating its own regulations, taking into account the hazardous nature of radioactive material.

The recommendations of the ICRP, as of many similar organizations, are based on published research in peer reviewed journal articles. That's as close as we can get in many cases to a scientific consensus about the hazards which may be involved.

We feel that that, while it's not a perfect process, it's one of the best processes that exist in a group of nations to try to get an objective

view of what the hazards might be.

Thank you.

MR. CAMERON: Okay. Thanks for that context, Fred, as well as the suggestions, willingness to make the international process more transparent for people.

Allen, a final comment on this, and then I'd like to go to Bob Owen for some discussion on comparability.

MR. HOWE: Thanks, Chip.

I just wanted to reiterate the point that when we did propose these regulations, the staff has looked at the regulations or the changes proposed by the IAEA, and we do believe that the changes that we propose do maintain the current level of safety both to the public and also an adequate level of protection to the environment.

As a matter of fact, I might want to mention that one of the comments that we received on issue one, which was the adoption of the SI only marking on the packages that we have elected not to incorporate, one of the comments received at the public meetings that we held on the issues was that there could be a potential where a package would be marked on the outside with one set of units and the

actual item or device itself in the medical area might be marked with a different set of units and might cause confusion and possibly a safety issue with concern to, you know, what do we really have here on this package.

That was one of the concerns we heard with that, and it formed part of the basis for why we elected not to adopt the SI only units.

Kind of in conjunction with that, we're also trying to make the regulations compatible with both the DOT, as well as with the IAEA standards, the reason being for that, and this sometimes may provide a sense of tension, is that we don't want to have a regulatory burden which is unnecessary on the licensees.

And what I mean by that is I think that Felix pointed out the fact that there may be a potential where an international shipment would be under one group of requirements and procedures and a domestic shipment might be under another, and our view right now is that if it is appropriate and safe to do that, we would elect to not have dual standards as far as the types of shipments that we would have.

Thank you.

MR. CAMERON: Okay, and we're going to go

quickly after this next discussion to the audience to see if there's any questions or comments on harmonization and compatibility, but I do want to get us to the exemption values and other substantive issues before we break for lunch.

Bob, you've heard Felix's comment on compatibility. Do you want to sort of give us your view on that?

MR. OWEN: Well, in speaking for the Organization of Agreement States, certainly we agree with harmonization of these regulations to the greatest extent possible, and as Chip mentioned for us, it's adhering to a compatibility level with NRC, which is the policy that assures the optimization of that.

And I don't know. I'm not aware that there's any overarching issues associated with conforming to the compatibility levels that are presented by the NRC for this particular draft rulemaking.

There are some I don't want to use the term "issues" necessarily, but points that certainly raise flags for the states that we sort of need to be looking at in the upcoming days.

Certainly the A1, A2 values as presented,

that's something that is certainly far reaching for anyone. That's rather a significant change in some respects, and what's bothersome for me, I guess, in speaking of the states is the lack of data that has been surfaced here today in support of some of these things.

And while I certainly agree with the concept, I think the rationale presented is supportive of making these changes, but I guess being a scientists, I like hard, fast data. I'd like to see that before hanging my hat on something and, like I say, not at this point taking issue with what's presented, but just don't have the comfort level that I would love to have.

Also, there are some other flags, such as in 7195 on extending the reporting period from 30 to 60 days. I'm not sure what that does, maybe nothing. I can certainly understand the rationale as presented, but I don't know. I'm not quite sure what that does beyond what's stated in the NRC's position on that. I'm not sure what that does in other parts of rulemaking that already exists. That's what we will need to do in order to conform to that across the board.

So that's something that we'll be looking

at. Like I say, I don't know if that does present a problem, but it is a flag. It's something that we'll need to look at.

MR. CAMERON: And, Bob, I think you have a number of specific examples that maybe we could share when we get to those substantive areas.

MR. OWEN: Sure.

MR. CAMERON: The point that I hear you making though is that depending on the data, depending on how these provisions come out, then each agreement state needs to assess whether the agreement state needs to be stricter. Is that --

MR. OWEN: That's exactly right, and I think one of the key things, I know, for Ohio and I think at least some of the other major states who have major programs that would fall into a similar fashion is the fact that we experience a number of incidents involving radioactive material. We respond to at least several per week involving agreement state or NRC controlled material.

So when we get into exemption levels or even A2 values, that certainly means something to us relative to that, and certainly for reporting, as far as what we get back in the way of information, I don't know if they'd want to wait 60 days.

MR. CAMERON: Okay. Thanks.

Let's not forget Bob Halstead had a process question on this. Bob, on compatibility?

MR. HALSTEAD: Yeah. As a matter of fact, Bob may be able to help answer this as well. I just didn't see in the documents any discussion that any special effort had been made to either provide the rules or have direct discussions with the designated contacts in the agreement states, and I just didn't know if any special effort had been made there, whether it was needed or whether the organization had reviewed it.

Again, I think the way most of the states will deal with this in my experience is, in fact, they will wait and see what the NRC does first and then react to it. But to the extent that there are things that they should be addressing at this stage, it wasn't clear to me.

I saw that there were comments from New Mexico, Georgia, Florida, and Connecticut in the first round and those were the only -- and in two cases, I knew that it wasn't the designated contact agencies that made the statements for two of those states.

MR. CAMERON: Can we turn t Bob and then possibly Allen and talk about how we're developing

proposed rules or how agreement state comment is --

MR. HALSTEAD: Chip, could I say I don't mean to make a big issue? We have much more important issues to discuss here, and I would feel terrible if I deflected this off. So I'm not asking for a big explanation on this.

MR. CAMERON: Okay.

MR. OWEN: I just in response to that would like to qualify where the agreement states, from a process standpoint, where we stand.

Historically we do wait for NRC to come forward with the proposed rulemaking, and following the issuance of the final rule, the agreement states have three years in which to adopt a similar rule. Based on the compatibility level assigned to that rule or parts of that rule, a state may deviate to some extent from that rule depending upon the compatibility level for that particular part.

As it stands right now, agreement states would probably only come forward with comments, significant comments, if they have an overarching concern relative to proposed rulemaking. Otherwise they would fall back to the historical approach of having three years in which to deal with that.

For this particular rule, I don't see

anything overarching, but certainly we will be taking a much closer look at that as this unfolds in our promulgation.

MR. CAMERON: Okay. Thanks, Bob.

Allen, any comment before we go to the audience?

MR. HOWE: Yeah, I just want to add to that that the proposed rulemaking was sent out to the agreement states in its draft form before we actually presented it to the commission, and I don't have at my fingertips a rundown of the nature and the types of the comments that we have, and I don't see anyone in the audience from OSTP to talk about the mechanics of how that's communicated to the agreement states, but I just did want to add that the proposed rule was provided to the agreement states, and we did receive some comment on it.

MR. CAMERON: Just for a process point, Bob may be interested in this; others may we. Those comments that we get from the agreement states on a draft proposed rule or whatever, are those comments publicly available and made part of the record anywhere?

If we don't, we can get it clarified.

MR. HOWE: I'll have to get back with you

on the exact nature of where the comments are today.

MR. CAMERON: Okay. Thank you.

Audience? Harmonization, compatibility, any points that are different than you've heard up here before we go to the specific issues?

Dr. Johnsrud?

DR. JOHNSRUD: The question might arise that a state which has unusual concentrations of hazardous materials of various types and radioactive materials as well might have special concerns. I wonder where in these regulations that kind of issue would be dealt with with respect to the transport of radioactive waste and materials through such a state that already feels it has a heavy load.

I think perhaps Mr. Owen was suggesting that as a possible concern.

MR. CAMERON: Yeah, I think that you're right, that each agreement state will need to factor in its own peculiar situation.

Bob, do you want to say anything more than that? I think that Dr. Johnsrud characterized your point correctly.

MR. OWEN: Right, and as well as mentioned before, as well as countries are different. Certainly states with the United States are different, have

different scenarios, different issues to address, and certainly for the State of Ohio, we have a spectrum of issues that we need to address.

Like I say, it's not that we take issue with the draft rule that's proposed. Certainly we'll just have to take a closer look at this as we go to promulgate our roles in that regard.

And we know we have some public health and safety issues, and we may need to tighten up in certain areas. We'll just have to see how that shakes out in the form of what we come up with.

MR. CAMERON: Okay. Thank you.

Let's go to Dave. For each of these issues that you see in this first block, starting with exemption values, we're going to ask either Dave Pstrak from the NRC staff or Earl Eastan to do what I call teeing them up, to give you one or two minutes on what it's about.

So we're going to start with exemption values. Let's go to Dave for that and maybe after Dave is done, let's make sure that everybody understands. If there were any information questions that any of the panelists have about what this means, let's try to get that cleared up first.

Dave, do you want to start us off.

MR. PSTRAK: Thank you, Chip.

This is for issue number two, the radio nuclide exemption values.

IAEA's previous regulations used a single activity concentration of 70 becquerels per gram for all radionuclides in exempting materials from the transportation regulations. Although convenient, the 70 becquerels per gram value was empirically based.

In its current regulations, IAEA adopted a dose based approach for material exemptions. Additionally, natural material and ores containing naturally occurring radionuclides that are not intended to be processed for use of those radionuclides are exempt from the regulations provided the activity concentration does not exceed ten times the value specified.

Without this exemption, significant quantities of minimally radioactive material might be regulated only when transported. However, this provision results in different treatment for regulated non-ore material.

As a means of maintaining compatibility with IAEA, NRC proposes to adopt these provisions. Further, the Department of Transportation regulates the definition of radioactive material and transport

and, as well, the department of transportation also intends to propose adoption of these provisions.

Thank you.

MR. CAMERON: Okay. Let's find out whether it's clear to everyone around the table that exactly this means, what the implications are on this. Does anybody have any questions on it at this point before we start a discussion?

And you've heard Don say or Dave rather -- excuse me -- that the NRC proposes to adopt this comment on exemption values. Diane.

MS. D'ARRIGO: I wanted to ask the question that I had before to Melissa.

In your participation in the development of this rule as it was evolving, you know, what your knowledge was of these values and whether it was something that you know, you were saying you were actively participating. Although I was very active on the issue of exemption of PRC at the time, I was unaware, and perhaps I'm guilty of not reading the Federal Register regularly. I know I've tried a few times to find out what was going to happen at IAEA meetings and when they were and all of that.

And I would on the second part of my question go to Fred, but just ask, you know, what

your knowledge as of that during the development of this.

MS. MANN: And let me note that this was not one of the issues in which my company was particularly interested, but certainly the discussion on it was ongoing for many years that there was opportunity to comment on it certainly through national organizations, such as the Department of Transportation, as well as through other U.N. agencies directly.

MS. D'ARRIGO: So then I'll go to asking Fred Ferate from DOT. Did the DOT in its participation in the IAEA meetings on this exemption issue reflect the U.S. rejection in 1992 of the BRC policies and to the working groups, and if so, what happened to that request?

MR. CAMERON: Fred, you go ahead.

MR. FERATE: I think I'm going to ask for some help on this. I joined DOT essentially at the end of this process, and I'm not very familiar with the U.S. interaction with the IAEA during the deliberations.

I had the general impression that, in fact, the United States initially took the position opposing the adoption of the nuclide specific

exemption values on the basis that it took a simple system and made it more complex.

Perhaps I could ask for some help from Mr. Earl Eastan on this matter.

MR. CAMERON: And, Earl, before I ask you to talk about this, I guess that there were a couple of things on Diane's point, one of which was how much of the discussion on the NRC's BRC policy -- how much of that discussion was input for the exemption value discussion.

But I guess the larger point is -- and this is obviously subject to debate -- is are we talking about a, quote, small letter perhaps BRC, unquote, here.

MR. EASTAN: Thanks, Fred.

Can you hear me?

To answer one of your points, yes, the DOT, the NRC did sponsor joint public meetings where they were asked to meet with the delegates that were going to IAEA prior to us adopting this rule in 1995-'96.

Radio specific exemption values was not the leading issue in any of those meetings.

MS. D'ARRIGO: Was not a what issue?

MR. EASTAN: Radionuclide exempt values --

I call them radio specific exemption --

MS. D'ARRIGO: But was not a what issue? How did you describe it?

MR. EASTAN: Was not a major issue at that time. In fact, I don't remember that one being discussed very much in those public meetings, and these happened back in '92-'93.

I think the issue came to the fore much later in the deliberations. You're right the U.S. did initially take a view that we were not in favor of this. We had had a system in place for 40 years that seemed to work, that was simple, that people were trained to, and why change that unless there were some immediate safety problem or, you know, why encourage additional costs in doing so.

I think later we didn't oppose this in the final passage of the rules. We still had some reservation about the data. One of the things was did we capture those type of materials in this rule that we hadn't intended.

One of those things early on were awards and things of that nature in which IAEA did adopt the special provisions. So this is one issue, yes, that we did have some public input, but not from the earlier public meetings. We did take a contrary view

and came to a different view in the end.

MR. CAMERON: I think it does, and we're going to get back to Diane in a minute and also get some input from Rick, but I want to get Charlie Simmons on the record here.

And I guess the point is that, you know, what concerns do people have about adopting this.

Charlie.

MR. SIMMONS: Thank you, Chip.

You asked me some specific questions in advance of this meeting as to describe the nature and quantities of materials that could conceivably be regulated as radioactive Class 7 hazardous materials for transportation purposes, which are currently exempt or exempt under the current scenario, and I will -- just to elaborate a little bit on the current exemption level of 70 becquerels per gram, it's important to understand that that is based on the total specific activity of the material being transported, which includes the parent plus all progeny in the calculation of total specific activity.

When dealing with natural materials and ores that have never been intended to be used as a part of the production or utilization of nuclear energy, we're dealing primarily with the so-called

primordial radionuclides, the naturally occurring uranium, naturally occurring thorium, and Potassium 40 being the predominant radionuclides of natural origin that appear in a lot of mineral products that are transported in commerce today.

To revise an exemption level to a one becquerel per gram of uranium based on total specific activity would result from my back-of-the-envelope calculations about 5.7 or six parts per million of uranium.

Some health physicists in the audience may please check that, but I think that's reasonably accurate.

And what that suggests in looking at data that are available from the U.S. Geological Survey and cross-referencing that with some industry information, along with specific activity information that has been prepared in a 1993 Environmental Protection Agency report entitled "Diffuse Norm Waste, Waste Characterization, and Preliminary Risk Assessment."

I've come up with at least some numbers that I can give you as to the types of materials that are at stake should a one becquerel per gram exemption level for uranium, thorium be adopted based on total specific activity.

First, the zircon materials all exceed a one becquerel per gram. Typical activity values for zircon mineral sands and zirconia ranges around 90 pico Curies per gram, and that puts it in the 400 or so parts per million U and TH combined. It is an unimportant quantity of source material, and it is excluded from NRC's licensing. It's also less than 70 becquerels per gram, but would exceed one becquerel per gram.

That commodity is transported in the nature of a around 100,000 metric tons annually from U.S. sources.

Other minerals which fall into the same category would be the titanium minerals, including the illuminate, rutile, lucoxine, all of which are mined predominantly in the State of Florida and transported around the country and around the world.

The quantity that's reported by USGS range 300,000 to 400,000 metric tons annually.

Now, bear in mind all of these materials are transported by the following modalities. They're generally in bulk, bag, by ship, by barge, and by rail and by truck. All of these are currently regulated pursuant to bulk carriage, but not as hazardous materials. They contain no additional chemical

hazards or other properties that would put them into the 49 CFR HAZMAT table.

Phosphate rock is another commodity which should be considered because phosphate rock contains significant quantities of uranium. The USGS data for the first quarter of this year shows around eight and a half million metric tons of phosphate rock has been transported predominantly from Florida and some of the Midwest states. Figures for 2001 show over 32 million metric tons of that commodity are transported from U.S. origins annually.

Smaller, but no less significant, commodities that would fall under the HAZMAT Class 7 radio active designation would include the tungsten ores. Around five to 6,000 metric tons are transported annually. Vanadium, 2,000 metric tons; rare earths. Now we'll qualify that to say that some rare earths are, indeed, licensable quantities of source material; some are not. The USGS figure is 5,000 metric tons. One can assume a percentage of that would be currently exempt materials.

Bauxite and alumina, ten million metric tons annually. Figures for bauxite alumina, industry data and from EPA data suggest around two plus, two to three becquerels per gram total specific activity,

1 certainly something that could be conceivably
2 considered a HAZMAT radioactive material.
3 Coal ash is a commodity that varies
4 depending upon the geological origin of the coal.
5 Some coal ash will range up to 25 becquerels per gram.
6 Another interesting commodity which is
7 transported and reused in a lot of applications are
8 water treatment residues. Because water treatment
9 residues today are extremely low, I think there's some
10 recent information from ISCORS and EPA's '93 data
11 shows that around two to three becquerels per gram
12 total specific activity based on uranium isotopes.
13 This EPA data is coming from 1993. That
14 is prior to the implementation of EPA's most recent
15 maximum contaminate levels for drinking waters,
16 including uranium MCL which will result in significant
17 increases in uranium removed from drinking water and
18 consequently sludges shall be expected to increase in
19 uranium content, again, lower than ten but above a one
20 becquerel per gram uranium total specific activity.
21 One other commodity which is currently
22 exempt which could be conceivably caught up in the
23 expanding universe of regulation would be phosphate
24 fertilizers ranging from data I've seen, four or seven
25 or ten becquerels per gram total specific activity

based on uranium isotopes.

Potash commodities based on the Potassium 40 isotope looks like it's around 50 or so becquerels per gram.

So we see that what the IAEA has done as they explain in their advisory material is to take a look at the scope of the regulations that they were intending on doing, which is to implement a dose based exemption level.

However, when it came to natural materials in ours, the IAEA realized that to lower the regulatory threshold to a one becquerel per gram based on the uranium or thorium content, it would dramatically expand the universe of regulated materials, and it would become essentially untenable because of the vast commodities that would be regulated as the Class 7 hazardous materials.

One further note which does not make it through to IAEA's ST-1 or TS-R-1 as it's now known, except perhaps by interpolation of the Footnote B in Table 1, is that the draft advisory material for regulations for the safe transport, number ST-2, which I will add that I object this from DOT's Web site, and DOT has been responsive in putting documents on their Web site pertaining to this rulemaking.

The Paragraph 401.6 states that it must be emphasized that in the case of decay change the values in Table 1, Columns 4 and 5 of the regulations relate to the activity or activity concentration of the parent nuclide. This is quite significant because it represents a departure from the current manner in which total specific activity is evaluated for transportation purposes.

And that, again, is sort of a prophylactic measure that the IAEA, I believe, had adopted in order to grossly prevent the gross expansion of the universe of regulated materials to those commodities which are more or less natural materials and ores that are not used or intended for use in the radioactive properties.

Now, the technical information being said, I must mention there are some other factors to consider when determining exemption levels and what materials should be the focus of regulation today and whether we wish to label commodities as radioactive. And that would be, again, looking at the post September 11 emphasis on transportation of materials, on scrutiny of materials that are being transported throughout the country.

We see a predominance of radiation

detectors at ports of entry. We see the State of Pennsylvania having adopted by rule the use of radiation detectors and monitors at all landfills, at trash transfer stations.

We have the State of Georgia that has implemented portable centilometers (phonetic) at truck stops to monitor for the transportation of radioactive materials

Now, what is of concern are those materials which could conceivably be used in weapons of mass destruction. At some point the regulatory authority needs to decide what are those materials of concern, and what does that universe of potentially destructive materials consist of.

And through the exemption of some of these commodities that are innocuous, those are distinguished from those materials that could be of potential concern. That is something that I think many states can relate the incidence of detection of hot water heaters that have accumulated a pipe scale of various types of refractory brick and other materials which have sufficient quantities of naturally occurring materials to set off the portal monitor, but are in no way related to any potential for destructive purposes.

And, again, I think that's perhaps what the IAEA had intended to do with this more or less arbitrary factor of ten, is to draw a line somewhere between those materials which would be of concern and those which rightfully should be regulated as a radioactive Class 7 hazardous material.

MR. CAMERON: Okay. Charlie, thank you for that data.

And let me make sure that we all understand the implications of that data from your perspective is that I take that you support the -- do you support the existing proposed rule provision? Does there need to be something else done to distinguish between materials of concern not only for radiation safety, but also from the perspective of security considerations?

MR. SIMMONS: I think harking back to the 70 becquerels, the 2,000 pico Curies per gram, nobody knows what the origin of that was. It's a technology based standard. Perhaps it came from the desire to keep consignments of film from fogging up in the same shipping container. It has some origin that's not human health based.

IAEA went through some modeling of individual radionuclides to determine what is an

exemption value that would yield a dose of X under certain circumstances. As drafted, the proposed ten becquerel per gram exemption level for natural materials and ores applied on the basis of the parent nuclide, I think that that essentially will exclude most of the common commodities that are in commerce that are not otherwise hazardous, the mineral ores, the ceramics, the materials that would become hazardous materials with all of the attendant increased costs, which by the way should be expected to increase by a factor of two or three over current shipping practices or current shipping costs because of training, insurance rate and other considerations which do not apply to these commodities today.

Generally, if IAEA's exemption values are adopted as drafted, incorporating the materials in the basis of the rule as expressed in ST-2, then I think that most minerals that are currently excluded would remain excluded.

MR. CAMERON: Okay. Thank you for that data and that perspective.

And I would just ask others around the table to keep in mind what Charlie has said if you have any comments on that, but let's go to Bob Halstead, then go to Diane, and then check in with

Fred because what he says may be relevant to that, too.

Bob.

MR. HALSTEAD: Well, I'm having a hard time figuring out how to explain this proposed rule in terms of dose impacts, and I understand a lot of what you've just said is to explain to me why it's difficult to calculate this.

Let me try and explain it this way. When we're talking about spent fuel, I'm pretty comfortable explaining to people that the regulations allow up to a five REM exposure for transport workers, but that for a variety of reasons, DOE has adopted internal or guidance for DOE activities that would apply to the Yucca Mountain shipments that set as a guidance, keeping those exposures for workers below two REM per year and that for some people who may be particularly exposed among members of the public, that these shipments -- the person we've been looking at late is the service station attendant at a service station that serviced a lot of trucks.

There we're concerned about whether that exposure is going to be over 100 millirem per year in accordance with the NRC and EPA guidance for exposures to the public.

Now, there's some discussion in the Federal Register notice at page 21,396 that seems to suggest to me that these dose based exemption values are designed to deal with transport worker exposures in the range of 25 to 50 millirem per year.

So we're talking about transport worker exposures as a group, first of all, for these types of materials that are a lot less than what most of us are concerned with large gamma neutron sources.

So I think a lot of the discomfort, members of the public, representatives of the public interest groups, and some of the affected states is how do I explain that the overall impact as it affects the expected annual dose to the transport workers handling these packages if this exemption value proposal is adopted, does that mean the average goes from 25 to 50 millirem per year? Does it fall from 50 to 25 millirem per year? Can somebody put it in that kind of example for me?

MR. SIMMONS: I'll respond to that.

The IAEA radionuclide specific exemption values, to the best of my knowledge, are based on a modeling scenario that has been done to assess the dose or total effective dose commitment to a worker, a member of the public under normal transportation,

and under accident scenarios.

I am presuming this because I haven't seen that modeling. I don't know what kind of parameters were used, what type of conservatism or not was used in the modeling, but the types of factors that one would presume would be taken into consideration by IAEA would be things like not only the radionuclide specific activity, but the most up to date dose conversion factor for that radionuclide, including the class of solubility, any kind of retention time within the human body, if they're exposed to other than direct exposure in the transportation modality.

For accident scenarios, one would have to consider the chemical nature of the radionuclide, particle size, the aerodynamic mean activity, mean diameter of anything that might be released, and so on.

So you have a whole variety of mathematical parameters that relate to the radionuclide in its chemical form that would be present, say, in a release from its package or the direct exposures from most like a gamma radiation, which would be presumed to penetrate the confinement, the package during transportation. Then that would be probably straightforward based on the type of

radionuclide present.

That being said, there is a document, a recent document from NRC which does take a look at some transportation modeling of source material that is currently excluded from the Part 40 rulemaking, and that is entitled the NUREG 1717 document, systematic radiological assessment of exemptions for source and byproduct materials.

That document discusses at Appendix A.3 several different transportation scenarios for the source materials currently excluded from licensing under 40.13. These would include many, in fact, most of the materials that would be excluded from the DOT exemption values for source materials, mind you, the natural uranium, thorium containing materials present in many ores.

There are some interesting dose conversion factors presented in this document, and I certainly refer you to it. I cannot speak to the accuracy of the model, but it does use a generic distribution methodology, and it does include both highly exposed package near driver, individual dose factors in REMs per micro Curie shipped for commercial truck transport of byproduct material.

We include the average package in center

of cargo area for commercial transportation scenarios. And what I looked at in relation to some of the materials that are of interest to me, the natural materials and ores would be a conservative modeling scenario of the highly exposed package near driver individual dose factors in terms of REM per millirem shipped for commercial truck transport of source material.

MR. CAMERON: Charlie, can I just interrupt you one minute here?

MR. HALSTEAD: Yeah, this doesn't answer the question. I'm going to restate the question, and I'd leave aside the -- oh, sorry.

MR. CAMERON: Before you restate it, and I want you to restate it, I think that Diane may have some similar concerns, and Diane may be wrong about this in terms of how do you explain what this all means, and I didn't know if you wanted to say anything about that because I think Rick Rawl is with us here and perhaps can answer the question that you asked.

MR. HALSTEAD: Well, I want to restate this more bluntly. I have to advise my boss who's going to advise a governor. If I look at this rule and I say to him, "Bob, the overall impact of this rule is that I expect the annual dose to a transport

worker to go from one millirem per year to two millirem per year," I'm going to tell him, "That's not anything you have to worry about. We can live with this."

If, on the other hand, that increase is from 25 millirem per year to 50 millirem per year, I have to say, "Huh. You know, personally I'm not too worried about that, but you know, there are a lot of people who are arguing that that kind of a dose increase is something that we do have to pay attention to."

Now, before I can give that advice, I need to have somebody give me a bottom line, which I don't find anywhere in these documents, on what they think the dose impact of going from an empirical to a dose based exemption value is, and that is the key question.

MR. CAMERON: Okay, and that's where I think Diane might be coming from, too,but I don't want to put any -- all right.

Let's have Rick Rawl take a shot at it. You know it. You've got the gist of Bob's concern.

MR. RAWL: Well, I think there are two questions in the table. The first dealt with what was considered when this particular approach was adopted,

sort of the background to that.

The U.S. was concerned --

MR. HALSTEAD: Do you mean at the IAEA, Rick, or --

MR. RAWL: At the deliberations --

MR. HALSTEAD: Right.

MR. RAWL: -- between member states that take place at the IAEA.

The U.S. was very concerned about this. There were three main objections. The first was a loss of simplicity. The second was: are we casting the regulatory net too wide? Are we going to pick up minerals and other natural materials that should not be included?

The third concern was are the shrinking the regulatory net too much to where we would no longer be regulating materials in transport that should have bee regulated?

Because remember now some of the numbers go up on the becquerels per gram, and some of the numbers go down. All three of those concerns were expressed and had to be addressed.

The way that was addressed is the people proposing the adoption of the basic safety standards, values, brought them in and said, "This is a better

way. This is a dose based way to determine which materials should be in the regulatory net."

And they did that. Those BSS values were derived using a set of about 25 exposure scenarios. They included public exposure. They included worker exposure. They had had different models for calculating the activity number, and they had different models for the activity concentration numbers because the scenarios were al quite different.

The people that proposed that particular approach said, "This is a way for us to move to a dose based system."

And the U.S. said, "Wait a minute. There are no transportation scenarios in those that were used."

And so a working group was put together that developed, I believe, 17, 13 or 17 transportation specific scenarios: a person making delivery surrounding by packages in the very near proximity because they're in the truck; a person sweeping out an enclosed van type trailer where the material is not known to be regulated because it's at the exempt activity concentration; a tractor-trailer load of dirt which contains natural uranium and natural thorium and its daughter products because the daughter products

are the ones that give rise to the penetrating radiation that an entire tractor-trailer load of dirt would generate.

So the transport scenarios were developed, and they apply the same conservative assumptions, that the chemical form is the most restrictive of all those for that radionuclide; that the physical form is such that all the activity is available for inhalation or ingestion. So it used the most conservative parameters when converting the activity to dose.

The result was when they took the 20 selected radio nuclides for this additional investigation, they tried to choose 20 that were representative of all the radioactive emissions that one could expect. We've got alpha emitters. There were soft betas. There were gammas, but it represented all the different types of radiation that one would expect to see.

So the list was felt to be representative of the full list of 300 and whatever. So then the calculations were done to compare the doses from 70 becquerels versus what the BSS value was, using the transport specific scenarios.

And the bottom line answer -- that's the background part -- but, Bob, the bottom line to yours

is at 70 becquerels per gram for these 20 radionuclides the average exposure -- let me deal in micro sieverts here if I can. Fifth micro sieverts, and using the radionuclide specific, they're using the BSS values. The dose would drop to 23.

So the average dose drops by a factor of two. Now, in preparation for the meeting I did a little more statistical analysis to look at, well, how did that deal with the standard deviation because if you look at the spread of doses from the 70 becquerels per gram, the standard deviation is basically five or 700 becquerels or -- sorry -- 700 micro sieverts. That's the spread between the high and the low.

MS. D'ARRIGO: How much?

MR. HALSTEAD: That's 500 -- I'm sorry -- 700, 700. That's the 70 becquerel per gram concentrations, would give a standard deviation from the average from the high to the low. That's an incorrect way of stating what it is, but it's 700.

Using the BSS values, that drops to a little less than 500. So (a) the average goes down by a factor of two, and (b) the standard deviation decreases to five-sevenths of what it was.

The median dose goes from 120 to 80. So by all of the statistical --

MR. HALSTEAD: I'm sorry. It was 120 to what?

MR. RAWL: To 80.

MR. HALSTEAD: To 80. Okay.

MR. RAWL: Seventy-five, 76. So by all the statistical measures that I can think of applying to the results that were calculated, there is a reduction in dose. There's a reduction in the standard deviation of those doses and the median decreases.

MR. HALSTEAD: Well, Rick, if you can stand behind those numbers, I think that's a really important thing to say in this rulemaking, and maybe this is stated somewhere else and I missed it, but I thank you very much for answering this question, and it seems to me this is the key question in explaining to people what the bottom line impact of going from empirical to dose based values is.

MR. CAMERON: Rick, before you go on, keep the microphone. I want to hear what Diane has to say on this, and not with emphasis Bob's point about maybe this needs to be explained a lot better in the supplementary information.

But, Diane, why don't you go ahead and we'll see if there's information that Rick can provide

you?

MS. D'ARRIGO: Well, I'll follow in this vein and then I'll go back to what I was originally asking earlier.

Let's see. I think if the question here has become do we want a dose based system, that should identify that we're switching from a measurable, enforceable, perhaps less scientifically justifiable by the IAEA or the ICRP terminology, but that we're now shifting to a dose based system generally because I don't have a lot of faith in the modeling, and the assumptions that go into the calculation of dose and the fact that it's not enforceable or variable, I am opposed to a dose based system.

However, I think it's something I could live with if the allowable concentrations of measurable radioactivity did not increase because at the last NRC meeting on this issue, the NRC admitted that for the exemption portion of this rulemaking, there is less protection for the exemption because it does allow for more of the radioactivity to be moving unregulated.

My concern, I have a concern for workers, drivers, and people around labeled radioactive shipments, but the concern that I have here with this

exemption is the dose that's going to -- it's the radioactivity and the subsequent dose that will go to unregulated drivers and the public and what happens to the material when it's disbursed into commerce and the marketplace if it's not radioactive.

I brought it up earlier and will repeat that we should not be increasing the allowable exemption values. I don't necessarily support the 70 becquerel per gram number, but if we're going to make a change, we should be reevaluating it not based on someone's determination of how the doses are changing and thus justifying more radioactivity being unregulated.

One of the things that I believe is going on in this rulemaking is a redefinition of the word "contamination," and the NIST, the National Institute of Standards and Technology, comments oppose that. They said that usurping a common word by giving it a special technical meaning contrary to its normal meaning would seem to be a poor practice. We're specifically talking about defining contamination as using the exemption amounts as part of the definition.

So we no longer have contamination of radioactivity being the physical ionizing radioactivity being omitted from the nucleus of the

atom, but we've got it being defined incorporating the exemption amounts that have been accepted by the international agency.

MR. CAMERON: Okay. Let me ask --

MR. HALSTEAD: Can I make one more related one before we go?

Rick, did you do any related calculations on dose impacts to members of the public that would parallel -- I assume those were worker doses that you gave me before.

And again, this gets to the issue that a number of states tried to address, and I don't want to go through all of the issues with the below regulatory concern issue, but particularly where people were concerned about recycling of materials and possibility of exempting materials actually posing a radiation hazard to members of the public.

Have you done any corresponding analysis that would allow us to look at this relative to expected doses to members of the public?

MR. CAMERON: And, Rick, could you try if you can to address some of the points that Diane made?

And what I'd like to do since we are closing in on lunch is to see if we could get Rick on record on some of these. It may help in

understanding, but also Fred and Allen have had their cards up for a while. After Rick's done, let's go to Fred and Allen, and then let's see where we are because I know that there may be people in the audience on this exemption issue.

Rick.

MS. D'ARRIGO: Can Rick also answer the question I asked earlier to Earl about what happened to the NRC's opposition or DOT's opposition, if there was any, to the exemption values through the process? Because it sounds like maybe those were years that you were at IAEA.

MR. CAMERON: Right.

MR. RAWL: Okay. There are three. Help me remember the three.

The first I'd like to address is Bob's last question. There's recognition that exposure to a source of radiation or a practice that involves the application of radiation is regulated in its own right. Transport is not trying to determine what should be regulated or what should not be regulated as a practice or as a source of ionizing radiation. That's what the licensing people do.

So transport safety folks have to sit down and think about what are the measures that are

appropriate for materials that are in transportation.

So it didn't consider -- it didn't look specifically at exposure pathways to members of the general public because it would be so much lower in exposure to the transport workers.

So those types of scenarios are felt to be dealt with appropriately in the radiation protection regimes when the licensing of sources and practices take place. So transport safety just wants to fit into facilitating the transport of materials when they're determined to be radioactive and worth of being subject to regulation.

And so it's trying to not set things like BRC in de minimis levels. It's trying to make sure that whatever levels are being used do not pose a risk, an unreasonable risk, during transportation. So that's why the transport specific scenarios were developed, and they looked at the most exposed individuals, which would be the workers.

On Diane's earlier --

MR. HALSTEAD: Before that, I just want to make a comment for the record on this. The reason I asked this question is not to take a position that there is a specific dose threshold that we're concerned about here or that there's a specific dose

conversion factor that we should be using.

I simply want to clarify for the record that's your best estimate of the impact of adoption of this rule is. It's still a matter of concern to many people at the levels that we're talking about here, exposures at this level.

But what I appreciate is your clarifying for the record information that absolutely should have been in the regulatory analysis and the draft EA. And I think it's tragic that this type of information is coming out at this meeting when we're being asked to write comments instead of being in the documents that we all should have had available to us before we came to the meeting.

And thank you very much, Rick.

MR. RAWL: Wave this at me.

MR. HALSTEAD: I'll wave it at you.

MR. RAWL: But I do want to mention that that analysis we did for the statement of considerations. That's where those average dose figures that are in the preamble came from.

But since I now have the luxury of hindsight with the questions that were raised in the Chicago meeting and so forth, it was clear that some additional analysis might help explain the situation.

So this additional analysis has only come in response to a clearly demonstrated need for it.

And your question also leads into Diane's last question, which is why did the U.S. then go along with this. Well, when it was realized that there was through a movement to the dose based system a reduction in the expected exposures, and these were compared individually, the doses from the BSS value and the doses from the 70 becquerel, and we had a scatter diagram, and you could look at it and see rather visually that the standard deviation for the variation reduced, I mean, this was sort of visual interpretation.

It was hard to argue for the continuation of the 70 becquerel. There was not a good, defensive, technical basis to say we should stay with the 70.

All of the health physics implications pointed towards an improvement in the radiation protection provided during transport of these very low materials by going to the BSS values.

And in looking now to answer your very earlier question, like what's the net effect, I went through those 20 radionuclides and just categorized them into which ones the dose decreases, where it stays the same, and where it increases when you

compare the two approaches.

There are significant decreases for the alpha emitting radionuclides and for radionuclides that have their --

MS. D'ARRIGO: Decreases in what?

MR. RAWL: Alpha.

MS. D'ARRIGO: Decreases in what, dose, risk, amount?

MR. RAWL: The dose, the expected dose. When you compare the doses expected when you're transporting at 70 becquerels per gram and the doses you would expect if you were shipping at the BSS value.

Those are alpha emitting radionuclides and radionuclides that have daughters that have significant contributions primarily through gamma. There were seven of those. There were seven with no significant increase. They were sort of a wash.

And there were six where there was an increase. So I looked more specifically at those that were an increase, and they include radionuclides like Krypton 85, which is always going to be ship packaged, and so offhand I don't know what scenario would allow the amount of Krypton 85, but they believe by far, in general, are soft beta emitting type radionuclides.

So I don't want to indicate that that's a clear break as to why they fall into those categories, but it was just interesting to examine which ones go up and go down.

And the materials I would be personally worried about would be the alpha emitting ones, and those are the ones where the doses and the allowable activity concentrations go down.

MR. CAMERON: Okay, great, and I know that we're taking a lot of time with this, and I think it's important to take time with this, but even given that, thank you, Rick. I think that was very, very helpful.

The message may be more of this material needs to be explained.

Fred, I'm sorry. You've been waiting for a long time. Why don't you go ahead.

MR. FERATE: I had three relatively minor comments, but I think they're all pertinent. Way, way back when I think Charlie Simmons was talking a little bit about the problems with increase sensitivity of radiation detectors at landfills and at metal recycling facilities, and I guess the implication was that if we lower the exemption levels or if we adopt some of the changes from TS-R-1, somehow the alarms

going off are a problem that's connected to that.

I would just point out that in my belief the increased sensitivity of detectors at landfills and recycling facilities, it's completely irrelevant to this rulemaking.

For one thing, all of the increased sensitivity goes well below the present definition of materials radioactive for the purpose of transport. So it doesn't really matter where we put the threshold values. Those radiation protectors are going to continue to see some of this material. That is a technical problem, possibly a regulatory problem, but it has nothing to do with the transport of radioactive material.

Point number two, Bob Halstead has said several times about what a shame it is that information was not made available about the fact that at least on a limited scale the results of the study of the specific transport scenarios for transporting 20 of the most representative radioactive materials actually shows a reduction in the annual dose received by workers transporting material at these levels.

Specifically, the average for the transport scenarios that were considered, the average dose due to those 20 radionuclides was about 23

millirem per year in our old standard U.S. units, when at 70 becquerels per gram the average was about 50 millirem per year.

So we can say that on the basis of adopting the TS-R-1 values, at least for those 20 presumably most commonly transported radionuclides and with the restrictions of the fact that specific thought to be representative transport scenarios were used, there is a significant reduction in the annual dose to workers transporting at that level.

And that discussion is found in the discussion of DOT's issue number one in the DOT notice of proposed rulemaking, found on pages 21,330 to 23,332. of the DOT document in your blue folder.

Point number three, Diane pointed out a comment from an NIST commentator on our advanced notice that he thought that it was a little bit misleading to define contamination when obviously if you had values of, say, contamination of the surface of a package which was less than those defined values, it still was contaminated. Aren't we confusing the issue?

I would point out that essentially we're following the path here or a practice which perhaps unfortunately, but for decades we have set our

definition of radioactive for purposes of transport at 70 becquerels per gram.

That does not mean that if you have 15 becquerels per gram you don't have radioactivity. It only means that we consider regulating radioactive material only when its activity concentration is above 70 becquerels per gram.

The definition of contamination that is proposed, I believe, in both the NRC and DOT regulations has the same meaning. What we mean is that if you have contamination above those thresholds which we define there, then we would consider that your material is subject to the radioactive material transport regulations. If you have contamination below those limits, then it is not contaminated, in quotes, for the purposes of transport, but obviously technically speaking, there would still be radioactive material there.

Thank you. That was it.

MR. CAMERON: All right. Thank you, Fred.

I want to make sure that we check in with the audience so that perhaps when we come back from lunch we can go to to A1-A2 issue.

Any comments, questions out here that we haven't addressed up at the table on exemptions?

Let's go to Fred.

MR. DILGER: Fred Dilger, Clark County.

Let me just say that by Friday Chairman Meserve is going to have a letter from our commission chairman requesting that the cock stop on commenting on this rulemaking until after the kind of information that Rich Rawl has provided us has been disseminated.

When we look at the document packet that was provided to us prior to this meeting, it was very surprising to us because we did not see how the Nuclear Regulatory Commission could claim to be making a risk based rulemaking, given what was in that packet.

Now we see that there is information out there that could justify that claim, but we have not seen it, and we need to see that. We need to see the transportation scenarios. We need to get more information before we can possibly make any kind of informed decision about this rulemaking.

MR. CAMERON: Okay. Thank you, Fred.

And, Naiem, before we go to you, let me make sure that we've got everybody out here.

Okay. Naiem, do you want to make a quick point to us?

MR. TANIOUS: Yes, I would like to say

that our FRN has some of the information that Rick provided today. I'm looking at page 21,396 in the right-hand column. From the halfway to all the way to the bottom there's a description of these radionuclides and the fact that the dose under the old regime is 50 millirem per year and will drop to 23 for these 20 radionuclides that are most commonly transported.

So maybe you want to send your letter still, but some of the information is already in the FRN.

MR. CAMERON: Okay. Some of it is, and I think what we're hearing is that perhaps more information or perhaps a better explanation of implications might be helpful.

We're going to go to --

MR. HALSTEAD: Chip, I just want to bring up the point. Remember we pointed out that that information is not in the EA or the regulatory analysis. I think I began by saying, in fact, the data is referenced in the proposed rule. It's not in the supporting documentation, obviously was added late and, frankly, isn't cited in an easy way to access.

MR. CAMERON: All right. Thanks. that's a good point, Bob.

MR. CAMERON: We're going to close this out on exemptions with two quick comments, I hope, from Diane, one from Diane and one from Charlie Simmons, and then we'll be done.

Diane, why don't you go ahead?

MS. D'ARRIGO: Charlie can go first.

MR. CAMERON: Okay. Charlie.

MR. SIMMONS: Thanks.

Very quickly, going back to Fred's comment on the nexus between portal monitors and the regulatory zone, one thing which has not become apparent because it's really outside the jurisdiction of these agencies, that is, the landfill disposal of naturally occurring radioactive materials and these, so-called mixed waste, where you have technologically advanced norm involved with RCRA regulated hazardous constituent.

There are numerous RCRA C landfills around the country that have adopted an EPA approved and state approved program for the disposal of the technologically enhanced norm or chemically mixed RCRA chemical hazard plus a norm component and adopted pretty much by reference the DOTs 70 becquerel per gram threshold as a regulatory value which has been pretty much confirmed through the modeling of their

own containment cells to be protective for their landfill.

And this is something that is seen in numerous locations. Query what the effect is going to be once the numbers change. It may require a much more detailed radionuclide specific modeling or exemption values to be adopted through the next cycle with permanent issuance for those landfills.

And the second small but worth noting is that should the exemption values be adopted in a way which departs from IAEA, for example, one becquerel per gram based on total specific activity, which would dramatically expand the universe of Class 7 radioactive materials, it would be worth pointing out DOT's enforcement penalty policy provides huge dollar fines for things like failure to register as a carrier, shipper, and so on, and that folks who suddenly enter into the zone of regulated HAZMAT offerors or transporters would suffer extreme exposure to monetary penalties for failure to compliance, in addition to other costs.

Thank you.

MR. CAMERON: Okay. Thank you, Charlie. Diane, a final comment?

MS. D'ARRIGO: Yes. Of the 382

radioisotopes listed, 222 of the allowable concentrations go up for exemption above 70. For those, I have yet to understand how the risk or the dose goes down.

It may be that others are having lower concentrations, which we would support, and we have suggested that the agencies adopt the new science only in a way that's more protective for the public, thus keeping it at 70 for those who would go up and going lower for those that would go down using the new science.

That way you're using the new science, but you're also not unnecessarily increasing the risks to the public.

And at some point we will take on the 70 percent. We have not talked at all about the exempt quantities tables. I reiterate my lack of faith in the projections of dose. However, using existing dose models, some of the concentrations -- I'm sorry -- some of the quantities that are exempt could lead to well over worker doses to members of the public from unregulated amounts of exempt quantities of radioisotopes, as listed in the chart.

There's no consideration in these new proposed tables or in its back-up documentation for

the newer evidence that low doses of radiation are actually more harmful, could be more harmful per unit dose than previously known; that there are synergistic effects and other types of uncertainties in radiation health effects.

There's also no limit on the number of these supposedly negligible doses that people are going to get from the exemptions, which is why I said earlier that we can't know how much is going to be exempted in terms of Curies or becquerels. Perhaps it can be estimated, but we're looking at the amounts of radioactivity that's currently under regulatory control that's being monitored and cared for in some way.

And the agencies have not been able to figure out what the cost would be, the savings. I think that's partly because we don't really know what all would be exempted.

And once a rule is set, even though one can try to project on the basis of the current industry, we can't know into the future what the amounts will be that will be exempted.

So what I'm saying is that there is no justification for increasing the allowable concentrations, and there are ramifications beyond

transportation. We know that NRC is interested in using this once it's in Part 71 to shift it over to Part 20 and use it as exemptions for all radioactive materials. It's been discussed in the past.

And one other note here. Also looking at the -- well, it's not just the relationship between the federal government and the agreement states. It's the federal government and the states, and it has to do with the fact the Department of Transportation regulations preempt and supersede, expressly supersede state and local laws and regulations.

And so not only making things less protective for the public or making it more difficult, if not impossible for people to protect themselves greater, as was discussed earlier as something that would be good under harmonization and compatibility.

MR. CAMERON: Okay. Thank you, Diane.

We're going to start at 1:45 sharp. We're going to have Dave Pstrak give us a little tee-up on A1 and A2, and then we'll move through those other three issues and then go on from there.

Thank you.

(Whereupon, at 12:53 p.m., the meeting was recessed for lunch, to reconvene at 1:45 p.m., the same day.)

A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N

(1:55 p.m.)

MR. CAMERON: I just wanted to give you an idea of where we are in this agenda. Theoretically we're still on time. It's hard to believe.

We're going to go to division issue three, revision of A1 and A2, and then we're going to do grandfathering, and then the package design for transport by aircraft.

We have some additional issues there that you'll see, special package authorizations. We're going to try to roll through those though to see if we can get to the double containment of plutonium at 3:30.

We do have some flexibility because I wanted to emphasize to people you'll see a whole bunch of issues on at 4:15. Those issues were just listed there for your convenience. We didn't intend to discuss any discuss any issues except for issues that were important to people around the table.

The issues that you see before that time are all issues that the NRC and the Department of Transportation thought would be significant issues. So, therefore, they were on there.

So don't get too frightened by this whole

list of issues in the 4:15 time frame. They're just listed for the sake of completeness. But, again, if you have an issue there, we'll discuss it.

So we may have some time to carry on there. So I think we're doing okay on time, but I always like to indulge in some optimism as the facilitator on those issues.

But let's go. Dave, A1.

MR. PSTRAK: Thank you, Chip.

This is issue number three, the revision of the A1 and A2 issues. The A1 and A2 values are used to determine the appropriate transportation category and package activity limits.

IAEA updated their Q system, and based on the latest dosimetric models performed an analysis on each radionuclide. With this assessment, IAEA adjusted the A1 and A2 values to reflect the results. The potential dose remains the same as the A values increase or decrease. That change merely reflects that more or less material is needed to produce that dose.

NRC proposes to adopt the new A1 and A2 values coming out of TS-R-1.

Thank you.

MR. CAMERON: Okay. Thanks, David.

Now, that seems fairly straightforward, but is there anybody around the table who wants to say anything about the A1-A2 issue? Does it need to be revised in any way? Are there questions about what the implications are?

Obviously we've had this overarching theme about is there requisite data for any of these provisions. Is there a data problem here with A1, A2?

And, Fred, did you want to add something to tee up here? Okay. Go ahead.

MR. FERATE: I'd like to kind of present to you my view of the adjustments in the A1-A2 values, and my view is that this is just good science. This is what we should be doing periodically now and in the future.

It's my understanding that since the A1-A2 values were calculated for the 1985 IAEA regulations in the Safety Series 6 that we have gained additional knowledge of the details instead of the decay seams for some radionuclides that are in our transportation regulations; that we have gained additional knowledge in terms of how these radionuclides or some of these radionuclides in various chemical molecular compounds are absorbed into and excreted from the human body.

So that using this newer data, more up to

date data, presumably more accurate data, we have tried to use -- we have used -- the same, to my knowledge, the same scenarios and the same dose criteria as were used for the 1985 A1-A2 values, but have used upgraded decay schemes, more recent and presumably more accurate biological excretion data.

And I guess probably I should throw in there also updated mathematical models, if you will, of the various compartments of the human body.

And on the basis of at least those three additional pieces of information, but using the same dose criteria which were used for the 1985 values, we have recalculated what the amount of activity should be in a special form, source or in a non-special form source to lead to these same doses.

So in some cases some of the old A1-A2 values sent up. In some cases they went down, but the point is the safety implications are that the level of safety which was inherent in the A1-A2 values of the 1985 regulations are the same level of safety inherent in the new A1-A2 values in the 1996 regulations.

MR. CAMERON: Thank you for more context on that, Fred.

Anybody around the table on A1-A2?

Anybody in the audience have any comments

on A1-A2?

Okay. Diane, go ahead.

MS. D'ARRIGO: I actually have some questions that I wasn't able to figure out from the documents.

There's a provision discussed. I think it's in the DOT document on using the A1-A2 values. Let's see. What I've written is do they have a provision for de facto exemptions with some kind of discussion, whether you're talking about the 16 radionuclides that were removed from the exempt tables by DOT that's on page 21,334, and I wanted to clarify if A1 and A2 values are used to de facto develop exempt concentrations.

MR. CAMERON: Fred.

MR. FERATE: I believe the issue that Diane is referring to has nothing to do with exempt concentrations. I think that these are isotopes which were included in the DOT/NRC adoption of the 1985 regulations. Our final rule for that, I believe, came out in September of 1995.

And at least some of these radio nuclides had been included at the request of the Department of Energy. Those were not and are not listed in the IAEA list of radionuclides.

We felt that it would be better to use the mechanism which has always existed in our regulations such that if somebody wants to ship these radionuclides and there are no A1-A2 values in the table, they may, number one, either use the default values, which are the conservative values in two tiny tables at the end of the big one, or they can apply to the Associate Administrator of the Office of Hazardous Material Safety in RSPA with argumentation, with suggested values and argumentation, to justify those suggested values, and we would analyze their request, quite possibly with the help of the Nuclear Regulatory Commission, to decide on A1-A2 values which could be used for those specific shipments.

Part of the reason for going that way is that we didn’t feel that we had in DOT, probably not in NRC either, enough knowledge of the decay schemes or of biokinetic data. Possibly one could use biokinetic data of analogous or the radionuclides, say, in the same column of the periodic table or something, but most likely such calculations would have to be done by people very specialized and experienced in doing that, and we felt that it was better to leave that an exception, which could be dealtwith bythe mechanisms fordealing with exceptions.

MR. CAMERON: Okay. Thank you.

Diane, do you have another comment?

MS. D'ARRIGO: Well, it says we propose in this notice of proposed rulemaking to include a similar mechanism to obtain approval for use of non-default exemption values for these radionuclides. So I didn't know what the -- is the phrase "exemption values" being used in a different way here?

MR. FERATE: Sorry? The default values are the ones I was talking about in the two little tables following the big table.

MS. D'ARRIGO: For exemptions or for A1 and A2?

MR. FERATE: For A1 and A2.

MS. D'ARRIGO: This is for exemptions.

MR. FERATE: I see. Okay. Excuse me. I see where Diane is going now.

Yes, that sentence says -- let me read the sentence. At the end of the very first paragraph on page 21,335 of the DOT proposal, and it says, "We propose in this notice of proposed rulemaking to include a similar mechanism to obtain approval for use of non-default exemption values for these radionuclides."

And she's absolutely right. There are

tables for A1-A2 values, and we have long had in our regulation two mechanisms for determining A1-A2 values when those radionuclides are not in the big table. One is to use default values. The other is to present documentation to us in which you show us why we should adopt or allow, authorize those A1-A2 values which you desire for those radionuclide values.

And we're saying now that we're also proposing exemption values for individual radionuclides, if you want to define or have defined exemption activity concentrations or exemption consignment activities for a radionuclide not in the table and you don't want to use the default values proposed in the regulations for those, then, again, you can come back to us with argumentation, suggested exemption values and argumentation in which you try to justify those values, and we would analyze those also.

Those did not historically exist in Title 49 because historically we had 70 becquerels per gram as a threshold activity concentration, and we had no consignment activity thresholds.

MS. D'ARRIGO: So I don't understand. What's happening here? Here's the existing reg. I don't see a chart with an exemption default, but I want to know how this plays into my concern about

exempting something.

I mean if there's a default mechanism for calculating an exempt --

MR. FERATE: There are presently default mechanisms for calculating A1-A2 values in our regulations

MS. D'ARRIGO: What in the new rule then would be the default mechanism for calculating exemptions?

MR. FERATE: In the new rule I think that there -- I'd have to go back and look, but I think that there are default values for exemption values also, but --

MS. D'ARRIGO: Well, I want to know about that.

MR. FERATE: I'll look through it here in the next few minutes.

MS. D'ARRIGO: Okay.

MR. CAMERON: Let's table this and we'll come back to this for Diane, okay, so that it's crystal clear what that reference to exemption values is there, and when we come back to it, if any of the rest of you, Melissa or someone has anything to offer on that, let's do that.

David, do you want to go to the next issue

for us, which is, I believe, grandfathering.

MR. PSTRAK: That's correct. This is issue number eight, grandfathering previously approved packages.

The purpose of grandfathering is to minimize costs and impacts of implementing changes in regulations on existing package designs. Within TS-R-1, those regulations are more restrictive in the area of grandfathering than previous versions of the IAEA regulations. Improvements in IAEA regulations support that newer, post 1973 packages have improved safety features that were lacking in other types of packages.

These improvements include introduction of the A1 and A2 system, standards for defining acceptable containment system performance, emersion tests for Type A fissile material packages, maximum normal operating pressure, environmental test conditions, and quality assurance requirements.

The overall impact of adopting TS-R-1 into Part 71 is, number one, discontinued use of Safety Series 6 1967 packagings; the discontinuation of Safety Series 6 1973 packagings. Continues use would be allowed.

Number three, the discontinued fabrication of Safety Series 6 1985 packagings as of December

31st, 2006, but continued use would be allowed.

Packages that were previously approved for use by any of the pre-1996 requirements can on a case-by-case basis be submitted to the NRC for consideration for approval to the current standard.

Thank you.

MR. CAMERON: Okay. Thank you, Dave.

Grandfathering previously approved packages. Anybody want to start us off on that? Any concerns with doing that?

NRC, are there any data needs that we specifically want to highlight for people on this?

Felix.

MR. KILLAR: Yeah, we support the concept of introducing and utilizing new or improved packages, but at the same time, we have real problems and reservations about packages that are currently in existence being phased out for no safety justification whatsoever. We see that packages have operated successfully for years. They do have an existing QA program under Part 71 to maintain those packages and those packages have been maintained, and there's no reason to continue utilizing those packages.

We certainly support the concept of don't manufacture new packages to the old standards and

stuff, but as far as the continued utilization of them, we see no justification from a health and safety reason for phasing those packages out.

And so we certainly don't support the proposal as the NRC has proposed it.

MR. CAMERON: Okay. Thanks, Felix.

Anybody else want to reaffirm any part of what Felix said or take another position on that? Bob Halstead.

MR. HALSTEAD: Well, I found both the timing of the reassessments and the phase-in schedule very difficult to understand, and in particular I'm looking in this case at one specific instance, and that is the way that packages that are currently certified, spent fuel and other Type B packages might be used for shipments to Yucca Mountain after 2010, and basically I would just ask a staff explanation of the cycle of phase-in of, I guess -- if you could explain the timetable under which packages would be automatically excluded.

MR. CAMERON: Dave, is that you?

MR. PSTRAK: The timetable would be that those packages that are currently recognized as Type B, open parentheses packages, those are recognized in the industry as being the 1967 approved packages.

They would be phased out, and I did not say in my introduction here, but we are looking for a three-year phase in of this rule once the final rule is adopted.

So listening to what we heard earlier on this morning, we are looking at roughly a four-year period from today, barring any change in the current schedule.

But, again, the time line is those packages that are approved to the 1967 standard would be eventually phased out, and then, again, the time line for those packages approved to the 1973 standard, we would discontinue fabrication of those, but they could continue to be used.

They're lopping off the older ones, keeping some of those that met not only the '73 standard, but there are some improvements, those six items that I mentioned as improvements to this system, and then, again, you have those approved, and then again you have those approved by the 1985 standard and then those based on the current TS-R-1 standard.

MR. CAMERON: Bob, is that an answer to your question?

MR. HALSTEAD: It doesn't completely, but you know, I don't want to bog us down on this because it's something we can do later.

Thank you.

MR. CAMERON: Okay. I think all of you have heard going back to what Felix said about this particular provision. Does anybody want to say anything in response to that, either agree, disagree for various reasons?

Okay. I know we have some people who want to --

MR. HOWE: Chip.

MR. CAMERON: Yeah, Allen.

MR. HOWE: Hi. Just to follow on with what Felix said, one of the things that we would be interested in is specific information of the types and numbers of packages that would be effective. That would help us with getting some clear information and data in terms of supplementing the information in the final regulatory analysis.

MR. CAMERON: Okay. That’s the type of information that would be helpful in terms of influencing how that provision is eventually going to come out.

Just killed someone’s computer again.

MR. ERWIN: Thank you, Chip.

I’m Don Erwin with Hunton & Williams, and I represent J.L. Shepard, and as I mentioned this

morning, Shepard is one of the participants in this industry that has a particular set of issues with the grandfathering provision. I'm not going to repeat the number of arguments that were advanced by participants in 2000, but a great number of them remain valid, and they improve such things as the rate at which current regulations will be reconsidered in the future.

As a practical matter, if you have a two year rolling consideration of revision of regulations pertaining to package design, the designers and users of packages will get on a treadmill that they can never catch up to. But that's a separate issue than the one I want to discuss briefly today.

And that is the phase out over three years of the 1967 Safety Series 6 packages as designed for use with Type B shipments of material in special form. The proposed rule is pretty direct in stating that there's no discernable safety benefit to adopting TS-R-1 on this issue and in admitting that there's not any direct economic information on the effect of implementing this proposal and in asking for cost-benefit information from the regulated community.

What I want to do is give a little bit of this kind of information because the NRC's proposal seems logical on its face, and as Felix Killar said,

nobody in this industry is opposed to technological change.

And the corner of this that I'm going to be talking about, it has nothing to do with the international stuff. It's solely as applied to U.S. domestic shipments where there is no necessary conflict or other kind of tendency with IAEA guidance or regulation, however one wishes to characterize it.

What you've got here is a type of package which was well designed, has been well built and by NRC Part 71 regulations maintained, and these things work. There have not been accidents with them. There have not been releases from them, and they cost money.

And to phase them out over a period of three years is very likely to drive some important players out of the business and have a very unintended side effect of creating probably in excess of 1,000 orphan sources of considerable size throughout the United States, and that is something you all really need to take into account.

Let me describe these packages just briefly for people who are not already familiar with them. They consist of an outer pack or over pack, which provides primarily physical integrity. Again, it's a heavy cylinder, typically made of wood, metal,

and has been manufactured to Part 71 QA specifications.

Second, inside it is a radioactive device, and the device itself is important to understand. It's a source, which is in special form, which means its physical integrity is already assured to some degree by the container in which it is encapsulated.

It also contains or that source is contained inside an inner container which provides shielding, and the interim container is made of lead or other heavy metal.

The trick about this thing is the inner container stays with the source as a device in use, but it regulated by the NRC and DOT as part of the packages.

Now, this becomes important because the packaging definition of a COC includes not only the outer pack, but the inner radioactive shielding, and if you are in the business of manufacturing sources for medical or utility or other kinds of use, you make various kinds of models, and so ont all of your devices are identical.

But because the containers themselves are quite expensive, you wish to minimize the number of different outer container designs. In fact, if you'd

like to have one outer container which will hold several kinds of inner containers, as long as you've described them and analyzed them appropriately.

Now, against this background the other thing you need to know is that these things are ubiquitous. They are used in most major medical research facilities in this country for irradiation, for teletherapy heads, another application. They are used in every nuclear power plant in the country. They are used by a number of military applications. They are used by DOE both in the Office of Civilian Waste Management and the Navy Nuclear Power Propulsion Program. They're everywhere, and they need to be periodically serviced. They need to be -- the sources need to be reactivated.

Occasionally new sources are manufactured, and occasionally new sources are taken out of commission, but the vast majority of shipments are just normal resourcing and maintenance of existing containers.

Now, how many packages and devices are we talking about here? You've got in terms of COCs or packages, main package under NRC COCs, you've probably got a couple hundred COC packages, which mean by which I mean the outer container. I'm sorry. The whole

package manufactured for you probably a couple of dozen designs.

There's a second category, which is physically the same as what I've just been talking about, but a different animal regulatorily, and these are packages that are manufactured under DOT's specifications rather than NRC's COCs. They both are approved under Part 71, and they may also be under the 1967 regs. or specifications.

But the DOT specification packages are more numerous yet. There are probably between one and 2,000 of them in this country, and they are shipped in probably between 100 and 200 over-pack (phonetic), which have been manufactured pursuant to DOT's specifications, primarily 20 WC.

What kind of shipping volume do you have of these? I don't know exactly. I can tell you what my client J.L. Shepard does. They on a normal year will ship close -- make close to 200 shipments a year of these devices. My understanding is that other entities, such as DOE, make probably several times that number of shipments in the course of a year, although DOE representatives can probably give more accurate information on this.

My point is that there's a lot of this

activity that takes place. Now, what's the problem?

First of all the containers in which these devices that are being shipped now are in many, if not most cases the only containers licensed for this purpose at this point. You can't just simply say, "We're not going to use this COC," or, "we're not going to use that 20 WC. We'll ship it in something else," because in most cases there are not other parallel containers of any economic equivalent.

I mean, conceivably you can take a large Duratek or Sierra Pacific cask to hold spent fuel, but nothing is designed to hold one of these, and by the way, these containers are typically on the order of, say, four to six or six and a half feet tall, and typically cylinders three and a half to five feet at most in diameter.

MR. CAMERON: We are having a problem with that microphone.

MR. ERWIN: Is it feed back on you?

MR. CAMERON: So if you could finish up over here.

MR. ERWIN: Sorry about that.

Okay. The problem is that these things are costly to replace, as well as time consuming. The cost of designing and testing and licensing a new COC

design is on the order of half a million dollars. The time required to accomplish this is private sector time before the NRC reviews it probably on the order of a year, a year and a half, give or take. So you've got a fairly long cycle.

But you've also got significant capital costs.

Secondly, as I mentioned, the number of devices which are associated with one of these outer pack designs is flexible, and the number of outer pack designs, the number of COCs you're going to have to get depends on the licensing flexibility that the NRC provides.

I've read the words in the proposed rule book. We're not sure exactly what it means, but if you have to get one COC or one outer pack which will hold ten different models, that's $500,000, give or take. If you have to get ten, that's $5 million.

Most of these companies are not the size of General Electric. Talking about spending in J.L. Shepard's case potentially their entire cash flow in trying to redesign 1967 containers, there's a special and further problem yet with the DOT spec. containers, and that is that the inner packages, while they are manufactured to good industrial quality standards,

they were not the inner containers because the 20 WCs are a DOT spec. and the DOT spec. relates only to the outer container and doesn't define the inner container. The inner containers have not been manufactured with NRC QA pedigree.

What that means almost as a matter of definition is you can't qualify them. They don't have QA paper associated with them, and unless there's an understanding that can be arranged for that, you are going to have 1,000 orphan sources no matter what you do. That is a very real problem.

So in terms of costs, the cost of implementing this rule is somewhere -- and I can't put a better number on it today -- but its' somewhere in the range of probably ten to $50 million and probably 20 to $25 million is a better order of merit if you have to discard all of the existing items.

The cost in terms of environmental impact is that of safeguarding what will become about 1,000 to 2,000 orphan sources and as well as the business and economic fallout of putting several players in this business out of business.

There's an additional dimension which has been talked about in a post 9/11 world house, and that is do you like the idea of having this many new

sources around. Probably don't.

The fix is relatively straightforward, and that is to permit domestic shipments only of devices which were licensed under 1967 specs. Don't permit anymore manufacture, and require manufacturers or certificate holders or licensees to continue to inspect them and remove from service any containers which no longer meet specs.

There's a lot more that can be said on this subject, and I don't want to say it today. We'll say it in comments, but these are very real effects which I don't think have been considered in the rulemaking record to date, and by the way, it's hard to get completely holistic information because it's a fragmented part of the industry. It's not as coherent as the reactor licensees, for instance, but this will give you an idea of at least one player's perspective.

MR. CAMERON: Thanks, Don.

I had one question for you. So just stay up at the mic. Can you just clarify what types of material these packages are used to ship just for the sake of the participants?

And, secondly, is there any other alternatives in terms of what you've suggested, in other words, longer transition periods? Does that

take care of it?

MR. ERWIN: The two types of material that are shipped are cesium and cobalt.

In terms of transition periods, I mean, obviously the longer a transition period I have, the less immediate the bite.

I think equally important though is the flexibility of the regulatory construct under which you have to transition. I mean if you have definitionally a set-up where you cannot license containers that were designed for 20 WCs, you've got a very big problem, and also COC flexibility. If you've got a COC that says an over pack of X dimensions which is allowed to hold inner containers of anything between A and B size, C and D width, E and F weight, and so forth, that's much better than a more prescriptive kind of COC which matches unique dimensions up to unique dimensions.

MR. CAMERON: Okay. Thank you very much.

Diane, do you have a question?

MS. D'ARRIGO: Well, I apologize because we were discussing the A1-A2 stuff when you started speaking. So you're talking about sealed sources?

MR. ERWIN: Yes.

MS. D'ARRIGO: Expressly. Okay. I just

wanted to clarify that.

MR. ERWIN: These are in special form, which means they are in defined, very precise shapes in their own --

MS. D'ARRIGO: They serve as their own packaging.

MR. ERWIN: Yes. Well, they have their own packaging, and then they are shielded in these licensed containers that I've just been talking about.

MS. D'ARRIGO: So what you're saying is up to a certain what, '67 or something, that they shouldn't make them that way anymore, but that --

MR. ERWIN: Oh, no, you would still manufacture these sources.

MS. D'ARRIGO: That way, but there's a way that has to meet some new requirements.

MR. ERWIN: That's right.

MS. D'ARRIGO: But the old ones could stay around.

MR. ERWIN: Yeah. Look. The 1967 packages are tested to the exact same tests as the current ones with the exception of the deep immersion test, and with respect to continental shipments in the United States of non-fissile material, that deep immersion test doesn't matter.

Now, I understand that DOT has a question as to whether or not the 1967 packages, in fact, conform to the test specs. I submit that that's a different issue from whether the 1967 specs. are valid or not, but we can talk about that as a different matter.

MR. CAMERON: Okay, Don. And we're going to move on here, but Bob Halstead has one quick question.

MR. HALSTEAD: Two quick questions. What's the range of activity contents and Curies on these? Are there any of these shipped by air?

MR. ERWIN: They can be. They typically are not in the United States because they're heavy, and I have a client that has had regulatory problems because of air shipments, but they can be, but typically in the United States they're shipped by truck.

MR. HALSTEAD: What about Curie content?

MR. ERWIN: Curie content, they'll range. They're all Type B shipments, and the range I'm familiar with is typically in the range of about three to about 35 or 40,000 Curies.

MR. CAMERON: Here's a clarification for you, and please tell us your name.

MR. TURKANIS: Marvin Turkanis from Neutron Products.

On your question by air, the answer was correct. They don't get shipped from Point A in the United States to Point B in the United States by air. A lot of them get shipped from Point A in the United States to Point B somewhere else by air.

We ship Cobalt 60 teletherapy sources, also special for all of the things that were mentioned here, and I'd say the average one is about 7,000 Curies, and going out they could be as high as 15,000. Coming back they're generally in the range of 1,000 to 2,500.

That's an important thing. Every shipment going out has one coming back. We almost insist on that because if we're going to leave those sources around the world, you have the problems with the orphan sources we're talking here, but you have them in other countries, and we know from experience that they could and have caused problems.

MR. ERWIN: So just so we're absolutely clear, J.L. Shepard has no problem at all with the imposition of the phaseout on international sources. They absolutely believe that that's appropriate.

MR. CAMERON: Okay. Thank you.

We're going to get a short clarification in a minute on this A1-A2 discussion between Diane and Fred, but I want to get this other topic on for us, and Earl Eastan is going to tee it up: fissile material package design for transport by aircraft.

MR. EASTAN: Okay. This is Issue 11, package design for transporting fissile material by aircraft.

In this issue, the NRC is proposing to put additional requirements on the design of fissile material packages that are shipped by air. Basically Type A, Type B packages shipped by air will be subject to Type C test conditions and have to remain subcritical after undergoing those test conditions.

I should note that the NRC is not proposing to adopt Type C package requirements. That is Issue 6, for reference, but we're only going to change the rule to put in those criticality requirements that deal with the shipment of fissile material as they apply to other types of fissile material packages.

MR. CAMERON: Okay. Thanks, Earl.

And I think we have a working mic now.

Data that the NRC needs. Any comments on this particular provision?

All right. Anybody in the audience?

Okay. In the interest -- and obviously keep in mind that you can file written comments up until July 29th -- in the interest of moving on now, we're going to keep Earl up there for special package authorizations.

MR. EASTAN: This is Issue 12, special package authorization. This proposal comes out of lessons learned for a package that we approved about four years ago, the Trojan reactor vessel package. That reactor vessel was being decommissioned. It was put on a barge and trucked up the Columbia River and short haul over land to Hanford, I believe.

The package weighed about 1,000 tons, and it was pretty unique in terms of the type of packages we had previously approved.

IAEA regulations right now as they're basically written are basically a one size fits all arrangement. All Type B packages are supposed to meet Type B package standard.

Here we had a package that weighed 1,000 tons, which obviously would be hard to imagine would be lifted 30 feet and then dropped or when transported under very stringent arrangements would have some sort of accident that could impact, in part, on the package

that sort of energy that would be represented by a 30 foot drop test.

In processing this package, we had to do an exemption. Also, DOT had to do an exemption to get it to comply with their rules, and it took a great deal of time and effort by staff.

We feel that given special package approval authority, we can spent a lot more of that time focused on other safety issues, provided that the special package approval conveys the very stringent requirements, the equivalent requirements that we would require for other such packages, alternative to Type B package standards perhaps.

The proposed rule would make it clear that the threshold for acceptance for special package authorization would be set high, and that the provision would apply primarily to one time shipments or those very unique shipments that would be judged on a case-by-case basis.

MR. CAMERON: Okay. Thanks, Earl.

Let’s go to Bob Halstead on this one.

MR. HALSTEAD: Again, this is one that’s important, but we can’t spend a lot of time on it today.

I have a comment, and that is generally i

think the Trojan reactor shipment is a unique one particularly because for barge shipment it was, frankly, an easy barge shipment, given the origin and destination, and I think it would be a mistake to make too much of a precedent from it.

So that's the general comment,. and many other people gave you the same comment before.

My question is in what you're proposing, Earl, would you still be planning to do at least an EA and possibly an EIS specifically on shipping a reactor vessel, since you picked that example?

And I'm thinking, for example,a bout the number of reactor vessels that are currently located around the Great Lakes, St. Lawrence Seaway or ones that might be shipped on other navigable waterways.

So it's not clear to me from the proposed rule exactly how you're going to use this precedent, and I think we would feel that this was a saner idea if we had an understanding that you see each particularly moving reactor vessels as a pretty significant movement that ought to have a significant NEPA review.

MR. CAMERON: Earl, you know, you might want to address, following along with Bob's question about what are the implications of this, if there's

anything else you can offer to people on the implications of using this proposed framework versus using an exemption, the existing exemption framework, that might be helpful along the lines does it change the way the environmental review is done, for example.

Earl.

MR. EASTAN: Yeah, I think in many ways this type of approval is envisioned to follow the same pattern of how we approve Type B packages now. In other words, there would be a safety evaluation report. There'd be a certificate approval, a document issued, et cetera, et cetera that would be open for public inspection, et cetera.

I think the big difference would be, number one, what we plan to do here is put acceptance criteria or some sort of target for what we're trying to achieve when we do these package approvals, like an equivalent level of safety to Type B package.

Now, when you look at exemption it's very vague. There is no criteria. You can almost do an exemption on anything you could justify. So I think that would be a very important component of this that you spell out what your level of acceptance is for this type of approval.

I think one of the advantages of going to

this type process is to focus, again, on safety and not so much the extra paper work that has to go into an exemption.

By having a standard set forth and if you meet that standard, you don't have to go through all the extra provisions, I think, that we did in the Trojan reactor vessel.

I don't think we envision going through environmental assessments and that sort of thing. I think what we're trying to do is make this a more regular process, much like we do in Type B package certificates.

There we have an environmental category exclusion. The idea is that if these meet certain safety thresholds for a Type B package that they wouldn't have much effect on the environment.

MR. HALSTEAD: Well, I just want to say as a follow-up comment I think you would be well advised to separate the issue of shipping retired reactor vessels from other types of movements from which you might consider this exception process.

You know, again, because I don't want to bog us down today, we'll follow up that in writing, but I think that people deserve a NEPA process for this as a means of having input into this as part of

a decommissioning decision, and I secondly think you're just going to generate all kinds of unnecessary hell being pulled down on yourself over it, but, boy, if you're anxious for it, so be it.

MR. CAMERON: Okay. Did you want to say something?

MR. EASTAN: Yeah, I was just saying as part of licensing process and decommissioning process, in fact, the transportation may be considered at that time. This just applies to the package approval, whether it's safe, whether it meets certain conditions.

MR. CAMERON: Okay. Felix, do you want to add onto this?

MR. KILLAR: Yeah, just a few quick comments.

We certainly support the concept of the special package approvals. The only thing is that we wish that the NRC would look and provide a little bit more specificity as to how they're going to go through the process of doing that.

We recognize that, you know, what you went through for Trojan was a unique situation, but we do see other things out there that we'll probably be looking to ship in the near future, things like core

barrels, possibly steam generators. I reckon some of that stuff may fall over to DOT rather than to the NRC, but if we could have some type of standard criteria, it would make it easier so rather than we're trying to figure out for sure what you're looking for.

MR. CAMERON: So, Felix, in terms of the specificity, you're talking about what types of package it might apply to with the criteria for review or any --

MR. KILLAR: Well, along the lines of the criteria, what the review will be. Yeah, we know what kind of package. What we're looking for is what are you trying to look for, recognizing, you know, if you've got something like you say it's a 100 ton package; you recognize a drop test may not be necessary, but we still have to provide something like for instance, the idea of the submersion test if it rolls off the barge into the river or something like that.

So we're just trying to get a little bit better feel for what we would be looking for.

MR. CAMERON: Okay. So basically you're focusing on what are the criteria for review, what types of information is going to be required, and that would be helpful.

All right. Anybody in the audience on special package approval?

Okay. Earl is going to tee up the next issue for us: change authority for dual purpose package certificates.

MR. EASTAN: The next item is Issue 15, changes authority for dual purpose package certificate holders.

The proposal that we're making here has its origin in the way we basically go about licensing Part 72 storage cask. Under Part 72, there's a provision 7248 where we allow people who are licensed to store in storage casks, dry cask storage casks, to make minor design changes provided it doesn't constitute an unreviewed safety question.

I'll give a trivial example. They may want to change a finish on a cast. They may want to change a color of a cask. They may want to have a replacement material. They may have a part that's no longer available, if they have an equivalent part, et cetera. But it has to definitely not constitute an unreviewed safety question.

In Part 71, that system is very unforgiving when you make changes as far as the regulatory perspective. Every change in the design

requires you to come to the regulatory authority to get an amendment, a certificate from the NRC.

We believe that this is basically incompatible with how we do this in Part 72. If Part 72 licensees can change casks, and many of those will be dual purpose casks, does it make sense that they then have to come in and make the same -- they cannot make the same minor change under our authority to approve transportation.

Again, what we would do is pattern this Part 72 provision on the 72 model, which would say, yes, you're allowed to make minor changes provided that there's no unreviewed safety question.

Importantly, we're going to do this proposal. So it's limited to a domestic use of dual purpose casks, and to effect that, we're going to develop a new subpart in Part 71 and new package designation, new cask designations just having to do with dual purpose casks.

MR. CAMERON: Okay. Does anybody see any reason why there should be a distinction between the way dual purpose and single purpose casks are handled in regard to these changes?

We're going to go to Bob first and then Felix. Bob.

MR. HALSTEAD: Well, I'm going to dodge your question, Chip, because the one that I want to raise is a little different. I certainly can understand from the standpoint of Part 72 certificate holders how they might view minor changes to hardware that's essentially staying on site. You know, once it leaves the plant gate and it's a 71 issue, I think you have to look at where these dual purpose casks are going to go.

Now, I will admit that I would put the odds of licensing for Yucca Mountain at somewhere less than 50 percent, and there is this possibility that there will be a private fuel storage facility in Utah and some dual purpose casks like Holtechs and New Homes and things. The NAC STs that are currently licensed might make those trips, and certainly that type of hardware might be used for shipments to Yucca Mountain.

So this is not a trivial issue, and again, for those of you who are nervous, I'm not going to belabor this point because it's our obligation to do this in writing, but I think it's worth pointing out that when off site shipments of dual purpose casks occur in any large numbers, it is most likely going to be as part of shipments to a repository or to some

other type of interim storage facility.

There are possibly going to be large numbers of these shipments, nd these are going to be large Curie sources, probably on the neighborhood, on average, of a minimum of 1.8 million Curies per package, and they could easily be four and a half or five if they're shipped with ten year cooled fuel.

So I guess if we had a more detailed listing from you of what you define to be minor design changes that don't have safety significance, we might perhaps be less concerned about this, and I would appreciate having some follow-up with you on that afterwards before we do our comments.

I would say secondly it is very important to understand that design changes made by certificate holders at reactor may have some impact on waste acceptance at the repository, and you really need to use a systems approach to this, and I don't get a clear sense from your regulation that -- I mean, it's clear to me that you're looking at the relationship 72 and 71, but between 72 and 71 and 60 or however the surface facilities of the repository are going to end up being licensed, I guess the bottom line is if you specify -- if this rule were specified a little more fully, we might not have a problem with it, but as it

is, we have a problem because it doesn't seem to be adequately specific to us.

MR. CAMERON: Okay. Good comment, Bob.

let's go to Felix and then we'll go to Diane.

MR. KILLAR: The industry fully supports the concept of putting the changed process in by Part 71 for dual purpose casks, but we actually feel they should actually go further into any cask that's licensed or any type of Type B container license under Part 71 should have the provision to do minor modifications as appropriate without impacting the safety envelope. And so we think it should be expanded beyond there.

I know that part of the argument was that the quality assurance program, Part 72, is superior to Part 71, and I find that just quite the opposite. We feel that the programs are very comparable, and actually to Part 71 because we have a longer history with the quality assurance program with Part 71. The maintenance program requirements in Part 71, we actually have a better history in Part 71 than we do in Part 72.

So I think you ought to consider expanding the change process to all of the packages under Part

71.

MR. CAMERON: Felix, you just turned Bob's statement that they might not have trouble with it if there was some idea given about how this might be bounded, in other words, what types of changes. Is that something that you think could be developed? Examples could be developed along those lines?

MR. KILLAR: The industry, particularly for a fixed facilities have been doing this for years, you know. At the reactors we have 5059s. In the new Part 70, we have 7072, 7072(f). I can't recall which it was.

In the USAC certifications for the enrichment plants, they have a change process in there, and what you do is you do an evaluation to make a determination of this change you're going to make to is so that if this modification, if that is going to take away from any of your safety levels, and if you can demonstrate adequately that it is not, then you can make that change.

So now certainly there are certain limitations. You can't go out and change it so that you can't recognize the package, but the thing is if you're just making minor modifications to the package, and particularly in the transportation area it has

been an issue, and we've had people who have run into issues because of compliance issues, not because of safety issues, but because of compliance. They recognize there is a small deficiency in the package. They went out and made the change, actually proved the safety of the package, but then they got their hands slapped because they made a modification without coming and getting the approval of the NRC prior to that.

So it's more of a compliance issue when we're talking about these type changes than it is a safety issue.

MR. HALSTEAD: Well, I just think it's going to be real complicated when dual purpose casks start moving off site. I mean, there are going to be all kinds of issues with what type of heavy haul you can use in places where you don't have rail access. If you use a barge, what type of barge, what type of loading, what type of skids you use, whether it's a roll on, roll off. I mean, there are going to be all kinds f issues in the immediate near site transportation.

I guess I still didn't hear a definition, and frankly, it seems to me if somebody at the NRC -- if a certificate holder proposing a minor change still

has to call somebody at the NRC and says, "Here's what we're proposing to do. Is this a minor change or not?" it's not clear to me that that's part of your procedure.

If there's some ongoing interaction with the NRC so that the NRC is notified before these changes are done, then I think that addresses some of the concern, but I'm not sure exactly what process you're proposing.

MR. KILLAR: Okay. I think there's two parts to that. First off, anyone who uses a package at COC has to be registered for that package. They have to be familiar with all of the requirements for the use of that package, including cradles, handling devices, what have you, for getting that package on and off.

And so if someone makes a minor modification, they cannot make that modification which would jeopardize those tie-downs, those handling devices and what have you.

So from that aspect of it, it would have no impact as far as the potential impact as far as different users using that same package.

On the other side of the coin, because all of the COCs are registered either through the DOT or

the NRC, what you would have is just like we have for our fixed facilities, is that periodically when somebody has made changes, that they will apply notification to the NRC.

The notification of that change would be listed with the COC and, therefore, would be available to any subsequent users of that package, that modification.

MR. CAMERON: So I think Bob is saying that the criteria somehow should take into account the context in which that cask is going to be used. In other words, a minor change might be minor in one context, but not in another.

And from, Felix, what you're saying, there is a notification requirement or as opposed to the record of the change just sitting there in the licensee's file drawer.

MR. KILLAR: That's correct. If I'm using a package, I have to have all of the documentation for that package in order to use it, and I have to be a registered user of that package. So, therefore, any history prior to that package is available to me, and any of the requirements specifically in the licensing conditions to utilize that package I have to abide by.

MR. CAMERON: But in terms of Bob's

notification point, there wouldn't be a notification, I guess, in that context of we've made this change that's a minor change. It would be a record that would exist.

And, Bob, am I going off on --

MR. HALSTEAD: No, if I'm following what Felix is saying, there would be a record of the change that would then be appended to the certificate, and that the NRC would be aware of that before an off site shipment were made, and presumably either the resident inspector or however we end up doing the inspect -- I think our concern is, on the one hand, we support dual purpose casks. We've been supporters of dual purpose casks for a long time because of the flexibility that that puts into the system, and it takes some of the pressure off to do something which may be foolish, which is moving forward on licensing of a defective repository site or question.

There are many reasons why dual purpose casks deserve everybody's support. So I'm not trying to be stupid about this. I guess what I'm trying to say is we just want to make sure that before a cask would be moved off site, that there would be an NRC -- there would be something in the documents where the NRC would be able to say probably through the resident

inspector that that was an acceptable minor change that didn't affect safety.

So we support dual purpose casks.

MR. CAMERON: We're going to go to Diane, but I wanted to Diane, but I wanted to hear Eric. Earl, you were nodding your head on that. Do you want to --

MR. HALSTEAD: Does that make sense, Earl?

MR. EASTAN: Before licensees or certificate holders make change, they've got to do an analysis to prove to themselves and the world that this is a minor change, and it doesn't really undermine the safety basis, and that's always available to NRC inspectors at any time to come inspect and verify that.

MR. HALSTEAD: I just didn't feel that was adequately spelled out in the rule, and that's what my comment is going to be. It will probably be six pages long when it gets written out, but that will be the essence of it.

MR. CAMERON: Okay. Thank you.

Diane.

MS. D'ARRIGO: I don't know whether it was my organization or one of the groups that we worked with, but we had concerns about this kind of change in

the Part 72 in the first place, and I personally don't know what the track record has been on that, but I know that there was concern about that when that passed.

And my understanding was that that has passed relatively recently. It's not something that has been on the books for many years.

We believe from reading this that it appears that the NRC would not be notified or have to give approval for the changes. I guess what you're saying is that an inspector could come and look at the books and find it out, but there would be no notification.

I don't see that just because it's been approved for one purpose that it's necessarily the same for transportation conditions. Transportation conditions could be different. So we are at this point, based on the understanding that we have of this, opposed to this change.

MR. CAMERON: Okay. So I think that the message for the NRC, at least the minimum message, is really try to spell out more what this process involves so that people can understand that.

Anybody out here? Yes, sir. Do you have comment on change authority? Do you want to come up?

All right.

MR. GUTHERMAN: My name is Brian Gutherman. I'm with Holtech International. I'm a licensing manager there. We hold dual purpose certification for our High Star system of both Part 71 and 72.

We support the change authority for both COC holders, and we would suggest for licensees as well. Right now the Part 71 language doesn't include licensee changes, but the licensees can make changes to these dual purpose casks under Part 72, and since it's a common piece of hardware, the change doesn't get unchanged for Part 71.

So we strongly suggest you include licensee authority there as well.

What I would say is that the change process is very well understood as is the documentation for the changes and the reporting requirements for the changes. There is a periodic reporting requirement in Part 71 as proposed and in Part 72 that on I believe it's a biennial basis we tell the NRC all of the changes we've made under this change process.

In addition to that, it's available for inspection at any time.

By not having a change process whereby licensees and COC holders can make minor changes of their own volition and through their own approval process, that dilutes the NRC's resources in really focusing on the safety significant changes that do arise and are required to review and approve.

So this is a very important change for safety that must be made. What I will add though is that the eight criteria that are used to determine whether prior NRC review and approval are required for a given change have been extracted verbatim from Part 72 and Part 50 for that matter into Part 71.

Now, Part 71 may be unique enough that there should be some consideration. Maybe those eight criteria need to be customized for Part 71 and we'll look into that as our owners group puts together a comment package on this rulemaking.

As an example, consequences in Part 72 are based on site boundary doses. Part 71, that really doesn't have any meaning. So we'll try to articulate some comments in that regard.

And that's all I have.

MR. CAMERON: Okay. Thank you very much, and that first piece of information may be the type of information that we would be well served putting in

the supplementary information so that people could understand that better.

Anybody else on change authority before we go to the next issue?

Diane, did you have a comment or is that up from before?

MS. D'ARRIGO: Oh.

MR. CAMERON: All right. Let's go to fissile material exemptions and general license provisions.

MR. EASTAN: Okay. This is Issue 16, fissile material exemption and general license provisions.

Around 1997, the commission found itself having to approve an emergency final rule to amend the fissile material exemption in Part 71. This was in relationship to weapons material being returned from the Soviet Union that had a high concentration of beryllium, beryllium being a moderator.

So we modified our rule, and within about a two-month period, which is fast for us, emergency rule to put different provisions into effect.

At the same time, we tried to be compatible with what we saw coming up with the IAEA for their fissile material exemption.

In the process we received a lot of comments. The rule went out as an emergency final rule, with the opportunity to comment once it went out. We did receive a lot of comments. Most of the comments were claiming that we went a little bit too far. Our rule was a little bit too restrictive.

At the same time, we realized that our general licenses for shipping fissile material went back in many instances to 1960s and the 1970s, were not consistent among themselves. I think we had four general licenses, each of which developed around particular shipments that were being made in the ’60s and ’70s.

One general license would control parameter A, one B, one C. We realized that these weren’t very consistent among themselves. So we tried to simplify that by first doing a study which we sponsored at Oak Ridge National Laboratory, and the author of that study, Cecil Parks, is in the front row here if you have any tough questions.

What we did come up with, some suggestions on how these general licenses might be simplified and consolidated into one single license. We believe that this is roughly a risk approach tact to fissile material exemptions. There’s a level below

which we exempt material from your having to consider it fissile at all.

There's another step where you have a general license which the provisions are a little more stringent. Beyond that you step into Type A fissile and beyond that into Type B fissile.

So this is one of many steps of how we deal with fissile material.

MR. CAMERON: Okay. Thanks, Earl.

Is it clear what the NRC is proposing at this point?

Diane.

MS. D'ARRIGO: Do you have NUREG CR5342 around? I notice that in the summary of it there's quite a bit on exemption that I think I'd like to know more about.

MR. EASTAN: Cecil has a copy of it right there, I think.

MR. CAMERON: All right. Is this what you were looking for?

MS. D'ARRIGO: Yes.

MR. CAMERON: All right. Okay, all right. Melissa.

MS. MANN: I'd actually like to ask some questions to the NRC as well because this is a rather

significant deviation from the TS-R-1 requirement, which now has not only the 15 gram U-235 limit, but what they call a mass consignment.

The NRC has gone a different direction with its three tiered system and introduced a masked ratio requirement which dramatically increases the complications associated with shipping fissile materials.

My company ships thousands of packages every year of fissile material, and getting into these calculations, I think you're going to find that the facilities are presented with a lot of difficult decisions to make to figure our where they fall, and for international you're going to have to attempt to mesh together the sort of strange NRC system with what the rest of the world is doing.

And, again, I think simple is easier when it comes to compliance.

With regard to your initial cut, your Tier 1 or fissile exempt quantities, it would also be useful to have clarification regarding what is meant by iron. Do you mean Fe or do you mean steel?

Secondly, I think I understand the history here in the NUREG document going back to the beryllium oxide, but I don't think what's been carefully looked

at is what might happen to the rest of the nuclear fuel cycle because there could potentially be very significant difficulties in shipping front end material such as uranium hexafluoride because as drafted, the NRC and DOT rulemakings together don't mesh for UF-6.

MR. CAMERON: And that not meshing is in terms of uranium hexafluoride specifically and other --

MS. MANN: There is a specific problem potentially, yes, with UF-6. So a lot more clarification, I think, on why there would be such a significant deviation from the international, some clarification on exactly what is meant and how you figure out which of the three NRC tiers you're classified into.

And then additionally what I would regard as a tremendously significant change would relate to the section in terms of calculating the total criticality safety index per consignment. The NRC is proposing a change to the total shipment CSI in cases where you have storage incident to transport, effectively doing away with an exclusive use condition, and that is absolutely not explained in the rulemaking.

I would certainly urge the staff to clarify what they were getting at there, particularly as you would still be maintaining segregation and storage requirements.

MR. CAMERON: Okay. Again, the need for additional clarification, and I guess I would ask Earl. You heard Melissa's comment about this is a significant departure, and would you agree and have we offered any rationale for that in the proposed rule?

MR. EASTAN: Yeah, our proposal goes to a system of an exemption and general license provisions, and then on into the Type A, Type B fissile.

IAEA doesn't have general license provisions for fissile.

In earlier revisions they did have general license, I believe, and did have a similar system, but in time they moved away. This at one point was a proposal that we had intended to take to IAEA and, you know, do our thing at IAEA and get the benefit of their discussion prior to adopting it.

In a way, we got on a different tact, different timetable because of the emergency rule that we had to do. But maybe some of the details -- I don't know -- we might want to have Cecil talk to. He's the author of our study.

But when we first got into that, we realized that our general licenses were very old, outdated, geared towards people shipping different things years and years ago, and being regulators we were put off by the inconsistency between those, and this was our attempt to come up with one simple general license. That was our intent in doing this, at the same time trying to recognize some sort of risk informing where the package requirement rose as the hazard rose.

MR. CAMERON: Okay. I just would repeat, I guess, just what Melissa said in that regard. Simpler is better.

And, Cecil, do you want to add something to this since you're the expert?

MR. PARKS: The history on this is that it mostly hit on several different issues. I think Earl has covered the general licenses fairly well. They are historically or were initially in the IAEA regulations, were pulled out, be it maintained in the U.S. regulations to basically enable material that would be under the NRC authority because it is fissile to not have to come to the NRC for approval if it's below certain subcritical conditions. And those are pretty well laid out in the four paragraphs.

In reviewing those paragraphs it was obvious that they were rather complex in historically how they were put together; tried to simplify the paragraphs and consolidate them into something that's a little simpler.

There were some obvious things that had not been taken into consideration in previous revisions when it went from fissile classes to remove the fissile classes that had not really been appropriately considered in the general licensing. So that was correct.

Then over to the fissile exemptions. The fissile exemptions, there are not easy answers. There was much consternation and discussion at the IAEA over the course of the last decade relative to concerns with fissile exemptions with no real easy solution provided.

The concern is relative to accumulation of the fissile material. You can say 15 grams is fine per package, but if you accumulate significant enough packages, there's a potential, be it however low probability, for a concern in our accident conditions.

The current fissile exemptions are sort of concentration based. In other words, how much fissile materials in a certain volume, and the volumes are

very difficult to control.

MR. CAMERON: I think we have another question.

MS. MANN: I don’t know if Cecil is done.

MR. PARKS. Well, let me try to finish and then I’ll get back to Melissa for further questions.

So the fissile exemptions were sort of a matter of accumulation. What was provided the IAEA was to go with a consignment limit, indicating that would be sort of an ad hoc control of mass accumulation.

However, in the U.S., as Earl mentioned with these, in sort of looking at the emergency rule issue, it became obvious that many shippers were not with any malice but simply as a matter of course, would see the regulations say you can only put so many grams in a consignment, and they’d say, "Well, fine. We’ll separate our" -- one consignment was previously on a truck and two consignments, and so it really was not a very de facto method of accumulation, to control accumulation.

So that’s why we basically came up with the gram per gram approach, to try to have more of a mass controlled approach which would provide inherent material in conjunction with the fissile mass to help

control potential safety issues.

MR. CAMERON: Okay. Thank you, Cecil.

Let's go to Melissa and then Felix.

MS. MANN: Well, actually I'm a little hesitant to get into criticality issues with you since you're the real expert, but essentially I don't understand the difference. Under your general license I could just put enough metal around the package and ship unlimited quantities of fissile material, depending on the size of my package.

So that's doesn't seem to get to a real criticality control concern. But when I look at the types of materials that we ship and the volumes, what you're going to do in many cases is force larger volumes of shipment, which I'm not sure is really the appropriate way to manage this issue.

MR. CAMERON: Do you understand that?

MR. PARKS: Well, I think sort of. Not the general license, but the fissile exceptions. Exemptions is more what you're talking about, right, Melissa?

MS. MANN: I was, no, actually the general license. I mean when we look at what we could put in a Type A container, assuming that your mass ration met the requirement.

MR. PARKS: No, the mass ratio does not apply to the general license.

MS. MANN: Okay.

MR. PARKS: The mass ratios are limited -- I mean, the general licenses are limited by a certain amount of there's a TI control based on a total mass. So you're limited to basically half of a subcritical limit.

So, again, we try to look at equivalence of safety with what has to be certified under 10 CFR 59 -- excuse me -- 7159 in terms of having the two end packages that are actually conditions, subcritical, or five under our normal conditions.

And so with that, the general licenses have a maximum mass limit which you cannot exceed, and the TI is based on not exceeding that mass limit. The ratio only comes up under the fissile exemptions, the 15 grams, for example.

MS. MANN: The 15 grams. Well, also, since we're on that topic, can you give clarification on the definition of iron?

MR. PARKS: Basically from a technical viewpoint that can be extended to be any noncombustible, insoluble material.

MS. MANN: Then why the distinct --

MR. PARKS: It would not have to be restricted to iron. It could be steel.

MS. MANN: Then why the distinction between the two categories, the iron and the nonsoluble, noncombustible?

MR. PARKS: As you see, that is not in 5342. I would have to go back to the NRC to look at the history on that.

MS. MANN: Let me just say from a practical standpoint I think that the clarification on the exemptions in terms of the iron definition is helpful, and that might help to mitigate some of the impact in terms of the CSI calculations that's outlined in the 7122 draft language.

What you would effectively be doing is increasing the number of shipments, not just double or triple, but maybe even tenfold and the costs that go along with that.

MR. PARKS: I'm not sure I understand why, but maybe I could see the comment in writing. I mean, I believe what you're saying. I just don't know if I understand why.

MS. MANN: Right. I guess the difficulty we're having is understanding why storage incident at transport would somehow prevent something different

control-wise than you would have on a vessel versus on a truck.

MR. PARKS: The storage incident to the transport, which particular paragraph are you talking about?

MS. MANN: It's in several places, the first of which is in the proposed 7122(d)(3). That's on page 21450, and it's also repeated subsequently in the proposed modified 7159.

MR. PARKS: Okay. Melissa, 7122 what? (d)?

MS. MANN: (d)(3). It would be the top of the right-hand, for shipment of multiple packages containing fissile material, the sum of the CSIs must less than or equal to 50 per shipment under nonexclusive use or being stored incident to transport.

MR. CAMERON: Okay. This looks like it's something that needs to be studied a little bit. I think that the point is made, and let's go to Felix and then see if there's any other comments here.

I want to give Diane a chance to just make her statement on the A1 issue so that we have it for the record, and then take a break.

MR. KILLAR: Yeah, my questions actually

lead a little along the same lines as Melissa's does, is that we support the exemption values and stuff. The only thing is we're not sure we understand how they got to where they got to if you look at what's in the NUREG versus what's in the rule. You know, we've always supported a concentration limit, and so that way you wouldn't have to worry whether it was 15 grams or 350 grams of fissile material as long as you're within that concentration limit, as concentration limits have gone away.

Additionally, the 15 grams and the combustible or noncombustible material stuff, we're concerned about that because things that we routinely have been shipping now have not had any problems any potentially thoughts of criticality and stuff. Now we have to go back and reevaluate for a potential criticality. Things like resigns from power plants and things like that we have to look at.

So the way that this thing has been written up and revised, recreating a burden in the paper work where there's no justification for the criticality assumptions that have been made.

MR. CAMERON: Thank you very much, Cecil.

Any other comments out here on this particular issue?

Diane, can you just summarize what the results of your conversation with Fred were?

MS. D'ARRIGO: Yeah, it's that in the proposed NRC and DOT A1-A2 value section, there's a table. It's A3 in the NRC proposal. I'm not sure what it is in the DOT proposal, but just to point out that there are exempt concentrations and exempt quantities or consignments that are incorporated into the A1 and the A2 value section. The values are different.

Well, there's a lot of different values in the exemption section, and these are fall-back values that would be used for isotopes not listed among the 382, as I understand it, and the 16 that I alerted my attention to it in the first place.

So I'm just pointing out that there's another area where exemption of radionuclides is embodied in the proposals.

MR. CAMERON: Okay. Thank you.

The next issue after the break is going to be the double containment issue. How about being back at 3:45? That gives you enough time to get up there and get some coffee.

(Whereupon, the foregoing matter went off the record at 3:29 p.m. and went back on

the record at 3:53 p.m.)

We're here to discuss double containment next, but first of all, I wanted to just tell you a little bit about where we are in the agenda.

We're going to talk about double containment of plutonium. After we're done with that discussion, I'm going to ask Charlie Miller to tell us a little bit about the meetings that are going to take place in Nevada and in Washington, D.C. in August on the package performance issues, specifically test protocols, and Charlie will tell us a little bit about that.

And then we're going to go to this other issues category. Again, they're listed here only for convenience. We're not going to go through them one by one, but if anybody wants to say something about any of them, then we certainly want to hear that.

And I don't want to forget about the parking lot issues. We've got some issues in there that we have to deal with, some corrections for the record.

So we want to do that and see if we can get out by five o'clock. And I'm going to ask Earl to tell us about double containment.

MR. EASTAN: Thank you.

This is Issue 17, double containment of plutonium. In this proposal the NRC is responding to a petition from a member of the public who requested that the NRC reevaluate the double containment requirement for plutonium and to eliminate that requirement.

Currently the requirement is that if you are shipping over 20 Curies of plutonium, it has to be in a solid form, and it has to be in a package that has two levels of containment.

There are some exceptions to that rule: plutonium in solid form; plutonium in the form of fuel elements, and there's a more recent requirement where we exempted vitrified glass waste containing plutonium under certain provisions.

Staff has reviewed the petition and believes that the NRC's Type B packaging standards provide adequate containment for all radionuclides, including plutonium without the need for double containment. Staff has also proposed granting the petition with the provision that the solid form requirement be retained.

This proposed rule, if adopted, would put plutonium on the same risk basis as other radio nuclides under the IAEA's Q system. One of the

benefits in eliminating the double containment requirement would be the possibility that the number of plutonium shipments could be reduced due to the fact that greater payloads could be shipped within an individual package.

MR. CAMERON: And, Earl, just one clarification perhaps that you could give us. By issuing the proposed rule, and tell me if this is incorrect; by issuing the proposed rule, we essentially granted the petition.

MR. EASTAN: Yes.

MR. CAMERON: But granting the petition does not necessarily mean that we agree with what the petitioner suggested. It only means that we will examine the issue in this proposed rulemaking?

MR. EASTAN: Right. In issuing the proposed rule, we're granting the petition in part. I believe the original petition was to eliminate the whole provision of double containment. The part that we're not granting is the requirement that we're retaining that plutonium in excess of 20 Curies, be it in a solid form, but we are eliminating the requirement for double containment.

MR. CAMERON: Okay. Let's go to Diane, and then we'll go to Bob also.

MS. D'ARRIGO: Power is a solid form, isn't it?

MR. EASTAN: Yes.

MS. D'ARRIGO: I just wanted to clarify that.

I have a brief statement from another organization. In August 1973, the Atomic Energy Commission issued a notice of proposed rulemaking including shipping containers for greater than 20 Curies for plutonium. Ten CFR 71.42 was issued in June '74 and required such double containment.

While DOE has requested exemptions at various times, the double containment requirement has been in place for hearing 30 years. The original proposed shipping container, TRUPAK I was rejected in the mid-1980s in significant part because it provided only single containment.

The WIPP shipping containers, TRUPAK II, which are in use, and Half Pack, under construction, do provide double containment. A lot of public discussion about the safety of WIPP shipments has been predicated on the fact that the shipping containers do provide double containment, and that even in a severe accident, the are unlikely to allow releases of radioactivity.

Changing the regulations to allow for plutonium shipments in single containment would roll back nearly 30 years of regulatory practice without demonstrating improved safety to the public. In fact, the opposite is true.

Single containment increases the likelihood that plutonium will be released from shipments, especially in accidents.

In a July 1986 report, EEG-33, the Environmental Evaluation Group estimated for WIPP shipments double containment dramatically reduced the latent cancer fatalities in case of a serious accident from 20 latent cancer fatalities for a single containment.

Moreover, the Environmental Evaluation Group also calculated that a single containment package in a serious accident would result in radiation releases 12 times during WIPP's lifetime, while a double containment container would result in releases .02 times.

You don't have to agree with these calculations, but the point is that DOE and NRC approved risk models, and double containment is significantly safer than single containment.

So it's not just the public, but NRC and

DOE's own data that shows that double containers are safer than single shelled ones.

That's from Southwest Research Information Center.

MR. CAMERON: And, Diane, could we attach that to the transcript or perhaps have the sources that are cited as data sources, too?

MS. D'ARRIGO: Okay.

MR. CAMERON: Bob, do you want to speak no?

MR. HALSTEAD: Yes. Some of the points I want to make are similar to the ones that Diane has made, and I'll try not to be overly redundant. Regarding the risk issues as they relate to accidents and the use of single containment versus double containment, I do not find that anything in the rule, anything in the draft regulatory analysis, or anything in the draft EIA has negated the same conclusions that Diane referred to from the EEG report, and I think it's worth stating again.

The principal advantage to double containment is in drastically reducing the latent cancer fatalities that would occur if a severity Category 7 or 8 accident were to occur. For example, an average Savannah River plant shipment involved in

a Category 8 accident would result in about 20 latent cancer fatalities with the current design, and only -- this is now referring to the original TRUPAC I, which was single containment -- and only about eight LCFs with double containment.

And another issue is the advantage in the double containment is a drastic decrease from 12 to less than one in the expected number of radionuclide release accidents.

Again, without belaboring the point because it’s late in the afternoon, I’ve read all of the material that was submitted in response to the proposals in 2000, and I don’t find that they have been responded to or refuted either on the risk issues or on the economic impact issue.

Beyond this, let me make a larger issue that doesn’t have to do with specific risk or cost calculations, and it has to do with an assumption, I think a very dangerous assumption, to see imbedded in a proposed rule, and it is on page 21,424.

"The NRC believes that the proposed rule would not invalidate the existing TRUPAC II design, and thus, DOE could continue to use the TRUPAC II to ship transuranic waste to and from WIPP or the DOE could consider an alternate Type B package."

I believe that the NRC has not fully evaluated the regulatory impact of this proposed change, which is somewhat difficult to explain because it involves a large program that has evolved to my knowledge from my participation in it over more than 12 years.

The current WIPP transportation program is probably the only truly successful transportation program that the Department of energy has developed in cooperation with the affected states. The program is supported by all of the Western governors through a memorandum of understanding that has been signed both by the Secretary of Energy and all of the governors.

And the acceptance of the transportation program for WIPP involves (a) the specific use of the TRUPAC containers shipped by truck. (b) It reflects the fact that the TRUPAC II containers were subjected to extensive full scale testing, very unusual for a Type B package.

And so beyond the technical risk issues, the risk perception issues that are so important in public confidence are very much tied up with a specific piece of hardware being deployed in a specific mode.

And finally, there is a whole body of

extra regulatory safety enhancements that involve inspections, periodic stops and walk-arounds, and basically the types of extra regulatory measures that we believe show the type of program that the Department of Energy will have to develop for truck shipments to a repository or to any other type of large shipment number, multi-year shipping campaign.

Now, the problem with this proposed rule is not just as it affects whether or not DOE will have to use the TRUPAC II in the configuration for which it has been approved within inner containment. I think there is a larger issue here which is difficult to document, but given the current interest in the Department of Energy in cutting the cost of the current WIPP program because of budget constraints, we're already beginning to see disagreements between the states and DOE over previously agreed upon issues, like exactly what type of mechanical safety inspection should be carried out under the CVSA accords and so forth.

And we know that there is further budget pressure driving the consideration of moving part or all of the WIPP shipments from truck to rail and moving all or part of the WIPP shipments away from the TRUPAC container to a number of single containment

containers, some of which are rail cars, total package rail cars, and some of which would involve shipping the TRUPACs without the inner containment on flatbed cars.

The long and the short of it is that we feel that there is an enormous risk in this particular proposed rule in that it will, in fact, encourage the Department of Energy to make such significant changes in its transportation program that this fragile, but workable cooperation that has been achieved for about 700 shipments so far out of a projected total of perhaps 25,000 to 30,000 shipments, there are still some issues to be resolved over waste characterization and quantities.

So the argument I would make here is that I believe very little benefit has been demonstrated to accrue from this proposed rule, and it’s certainly possible for us to debate the risk issues, which I don’t want to do in detail today, but the larger issue that seems to have been missed at the NRC is that this particular rule change at this particular point in time is likely to trigger a cataclysmic change in institutional relationships between DOE and the Western states, and this, in turn, is likely to affect the way that those Western states view the role of the

NRC as a protector of the public health and safety in the entire realm of radioactive materials transportation.

And I can virtually assure you that whatever we are unable to achieve in rulemaking because of the limits here, I mean, basically I have found once a proposed rule like this has been published in the Federal Register, it's awfully hard to turn it around.

We're very unhappy with this. You will likely see litigation. You will likely see legislation, and you will likely see immediate adverse impacts if this rule goes forward.

MR. CAMERON: Okay. Sort of a summary of what Diane read to us from Southwest and what Bob said is that there's no evidence in the rulemaking record about why this should be changed. The existing data show that double containments significantly reduce hazards.

Bob's point on risk perception is that this change might exacerbate a change to the DOE program which right now, at least in terms of WIPP, is viewed positively from the public from a risk perception standpoint.

Let's go to Bill and then we'll go to Bob.

Bill. Bill Lake.

MR. LAKE: Thank you, Chip.

I'd like to stay away from specific programs, but just point out that there are some real benefits to removing this double containment requirement, and that pertains to health impacts on radiation workers.

One of the problems with having a double containment is you've got to demonstrate that the containment is there, and what that means is increasing worker exposure to doing tests that require the workers to be in close proximity to the radiation source.

Packaged as it may be, there are different conditions before the package is fully assembled, and so you do run increased risk of exposure to the workers. And that's something I think that needs to be factored into this decision, and I think what you've done is good in that respect.

MR. CAMERON: Okay. Thank you.

Let's go to Bob.

MR. OWEN: I'll have to put on yet another hat.

As the gubernatorial appointee to the Midwestern Radioactive Material Transportation

Committee, which used to be the High Level Reactor Waste Committee, it's a consortium of 12 Midwestern states, and we look at issues relative to the DOE transportation analogous to what the Western Governors Association does.

And I'd have to, I guess, recognize that what Bob Halstead has just said, being a truism from a perception standpoint. Certainly as a health physicist, I recognize the benefit of going from double containment to single relative to radiation worker exposure. I certainly understand that the transportation record lends itself to substantiating the move in that direction.

But, however, I also recognize the fact that there would be an awful lot of explaining that would have to be done by us and others, whether NRC does so or not or whether they deal directly with the public on that issue or not.

The states and these consortiums are where the rubber meets the road, and we are the ones that have to deal with the public. We're the ones who have to insure public health and safety for the citizens directly, and this is something that we just can't walk away from.

And although I recognize that this may be

certainly acceptable from a purely technical propriety standpoint, I think there is a balance here that needs to be recognized.

MR. CAMERON: Okay. Thank you, Bob.

Do we have anyone who wants to take on the risk perception issue that Bob Halstead and Bob Owen have talked about?

Bill gave us an example of a benefit that should be factored into the equation. Anybody else on the risk perception point that's being made?

Anybody in the audience? Yes, Eileen.

MS. SUPKO: Eileen Supko, Energy Resources International.

While I believe that risk perception is very important, we shouldn't base our regulations on perceived risk. We should base them on real and actual risk. If there's a problem with risk perception where the public deems there to be a greater risk than the actual risk is, that should tell us that we need to do a better job of communicating risk and putting the risk into perspective such that people understand what the true risks is, and I think that's one area where we as an industry fail very frequently.

I don't know what the right answer is. I

think forums like this help, but you're really not getting out to all of the people, and there has to be a better way to explain some of the risks with all of the issues that we've been talking about today.

But imposing regulations strictly to deal with risk perception is not the right thing to do.

MR. CAMERON: And, Eileen, I had a question for you, but it's more for the NRC staff also, is that both Bob and Diane talked about the data shows that there's a substantial reduction in actual risk from using double containments. And this is the part for the NRC.

Are we disputing that data at this point? Are you saying that, well, you really don't need that much protection?

And I guess I would want to go to Earl after I ask Eileen. What do you think about these statements on the actual risk?

MS. SUPKA: Well, I think the numbers that Diane quoted were a reduction from 20 latent cancer fatalities to eight latent cancer fatalities. The thing that people need to keep in mind is that those are calculated values, and there's a lot of conservatism built into both the dose response models and the calculations that are done, you know, subject

to transportation, risk assessments, et cetera.

And while I don't mean to sound cavalier when I say this, but a reduction of 28 latent cancer fatalities to eight latent cancer fatalities in the real world wouldn't be measurable. If you were talking about and if you look at any of the epidemiological studies that are done, that level of reduction is something that's simply not measurable in the population at large.

It's important when you're trying to look at risk as it applies to one decision over another, but it really doesn't seem to me to be a large decrease, you know, based on the very low risk associated with shipping hazardous materials on the radioactive materials.

MR. CAMERON: Okay. Thanks, Eileen.

Earl, do you have any comment on this?

MR. EASTAN: Well, it's always difficult when you deal with different sets of data, different studies. There's been no historical experience with plutonium shipment accidents, and we don't want any. I'm not saying that.

But there has been a lot of experience, many millions of shipments of Type B packages, and they go along very safely.

But what are we talking about here, some sort of catastrophic accident which is probably a low probability, but strong enough to breach one containment and not strong enough to breach a second containment?

That's probably, indeed, a very, very low probability event.

The other thing, you know, I just wanted to mention is I know part of what was said her eis TRUPAC I was rejected by the NRC. Actually we never got a chance to. It was never before the NRC for any sort of review. So I just wanted to make sure, you know, that people knew that the only TRUPAC package that we had actually for review was TRUPAC II.

And there we were very meticulous in making sure it met Type B standards. I happen to have been the original project manager for TRUPAC II, and it was a new design. So I thought the most important thing with that package was being a new design, was analysis sufficient to analyze it or did you need a full scale drop test.

We dropped it in that case, as we do when there's any doubt at all, to actually make it undergo full scale 30 foot drop test, fire test. We chilled it down to minus 20 and did a leak test.

So I think when packages meet those conditions, they provide a high level of safety.

Also, you know, there are other things, other radionuclides with A2s as bad as plutonium that we ship routinely, too, and to make double containment for lutonium has singled it out as maybe more dangerous than it is, certainly if you measure it by A2 quantities. That's another probably misconception.

MR. CAMERON: Okay. Bob, you've heard these comments.

MR. HALSTEAD: Well, I'm sorry that my effort to get us out of here early failed, and I am sad that my comments, when I said I would not belabor the issue of measurable risk versus perceived risk led people to jump in and say that we're only talking about perceived risk.

This is nonsense. Now, the same people who are here telling me how concerned they are about worker exposures are the same people who are quite comfortable with those five REM per year regulatory limits and two REM per year. Pardon me for not putting this in sieverts, but I'm going to continue to be old fashioned.

So, you know, I'm sorry. I just don't believe that this comes down to a tradeoff between

worker exposures and public risk, and it's precisely because of this.

Most of what is being shipped to WIPP that we're talking about here is contact handled, transuranic waste, and there are a few places like Los Alamos where there's a lot of Americium 241 mixed in there, and you do have to worry about a gamma dose.

For the most part, I believe this issue of advantages in worker exposure is a theoretical argument that has not been presented backed up by data from the actual workers involved in the waste characterization and the loading operations.

Remember we are only 700 shipments into something that may well go for 30 or 35,000 shipments. So, on the one hand, while I would be the first to admit that there probably are some significant additional worker exposures, I believe that they're concentrated at a few sites, and they are determined by the specific waste characteristics at those sites, and I believe that it is incorrect to argue on a system-wide basis that there is a significant problem with worker exposures loading contact handled transuranic waste.

On the other hand, I want to read to you from pages 21,424 on to 21,425 from the Federal

Register notice of April 30th and look at what basis the NRC is using for this rule. Now, here's what the NRC says.

"NRC also agrees that the use of a double containment does provide defense in depth and does decrease the absolute risk of the respirable plutonium to the environment during a transportation accident. Consequently, while defense in depth afforded by a double containment does reduce risk, the NRC believes the question that should be focused on is whether the double containment requirement is risk informed.

"The NRC is unaware of any risk statements which would provide either a qualitative or quantitative indication of the risk reduction associated with the use of double containment in the transportation of plutonium. Rather, NRC would look to the demonstrated performance record of existing Type B package standards to conclude that double containment is not necessary."

What hypocrisy. We've got a whole proposed rule here for which the NRC has not looked at a database on shipments and Curies updated since 1982. So I've got a whole rule here proposed, a whole package on qualitative analysis. Now, when we get to one portion of it, which really doesn't have much to

do with IAEA standards as I understand the history of this; now all of a sudden the NRC believes that some slight alleged quantitative advantage based on reduced worker exposures and based on a low showing of quantitative risk of severe accidents is a sufficient reason to pass this rule and set in motion what I assure you will be the biggest dog fight in nuclear materials transportation in certainly the last ten years.

Proceed with this if you care to, but I think (a) there is no basis here from a regulatory standpoint to say that this decision is risk informed compared to the overall lack of quantitative data for the entire package of rules, and (b) using a common sense approach to what are likely to be the impacts here.

And remember the argument I made. It's not just that DOE will use TRUPACs without inner containments. DOE is talking about loading up rail cars with barrels and shipping them through the North Denver yards to save money, and I hate to tell you that that idea apparently originated with someone who works in the State of New Mexico and not for DOE itself.

And, in fact, there may be many other

quantifiable issues here, but we'll probably have to resolve them in a court of law or in the Congress of the United States instead of in a friendly rulemaking forum.

Thank you.

MR. CAMERON: Okay. Thanks, Bob.

Diane, did you have anything that you wanted to add on that? I saw your card up earlier.

MS. D'ARRIGO: Well, are we going to talk at a different point about the tests that are required for fissile materials, the crush and drop tests?

MR. CAMERON: Yes.

MS. D'ARRIGO: Is that on here?

MR. CAMERON: Yeah, it is. It's one of the issues that's in the next section, and if it's an issue that's of importance to you, then we're going to talk about that. Okay?

MS. D'ARRIGO: Okay. It was just related to this.

MR. CAMERON: All right. Okay. Anybody else on double containment?

MS. D'ARRIGO: Oh, and the other thing, I think that one of the many things that Bob said is that we're looking at an enormous increase in the number of plutonium shipments in the country right

now. So the history only tells us so much.

We're looking at MOX shipments. We're looking at DOE shipments, and so -- and the WIPP shipments, thousands of those.

MR. CAMERON: Okay. Thank you.

Anyone else on double containment before we go to our sort of open issues category?

Yes. And, Judy, we need to get you on this microphone. All right?

DR. JOHNSRUD: At page 21,423 and on to the following page, 424, I note that NRC has stated, "Furthermore, the NRC has reviewed the legislative history associated with the act and has not identified any discussions on the use of double containment for the shipment of transuranic waste."

And another sentence, "Therefore, the NRC believes the absence of specific language in Section 16(a) of the act requiring double containment should be interpreted as requiring that the NRC apply its independent technical judgment."

In strong support of Bob Halstead's quite eloquent statements. I find myself wondering in what other regulatory circumstances should the argument that I've just quoted from your document be applied to allow or encourage the NRC to relax additional

regulations.

It's a tortured argument and one that really is not worthy of the agency.

MR. CAMERON: Okay, and thank you, Judy.

And I don't know if anybody from the NRC wants to say anything, but usually you only see arguments like that if someone has made the counter argument that such-and-such a thing is required because of the legislation.

But we'll let that go and let's go to the other issues, and let's pick up on the one that Diane raised, which is crush test for fissile material package design, right? Diane, Issue 10?

Okay. We'll let you -- do you want to? I guess we do have some material on that.

Earl, do you want to just keep going here or do we want to get David back up? And, David, you can sit over on the other side, too. You guys don't have to shift around if we're going to be doing a tag team here.

So I take it that's yours; is that right, Dave?

MR. PSTRAK: Earl.

MR. CAMERON: That's Earl. Okay.

Earl, do you want to give us a little

summary on this before we go to discussion?

MR. EASTAN: Okay. This is Issue No. 10, crush test for fissile material package design.

Both Safety Series 6 and the current 10 CFR 7173 require the crush test for packages having a mass not greater than 1,100 kg -- I think that's kg -- an overall density of 62.4 pounds per cubic foot or density of water and radioactive content greater than 1,000 A2.

Under IAEA regulations, the criteria for radioactive content greater than 1,000 A2 has been eliminated for packages containing fissile material. The 1,000 A2 criterion continues to apply to all Type B non-fissile and newly created Type B package designs.

The broadened application was created in recognition that the crush test environment was a potential accident force that could be protected against for both radiological safety purposes and criticality safety purposes.

Current test requirements in 10 CFR 7173 differ for those in IAEA Safety Series 6 and TS-R-1. Specifically TS-R-1 and Safety Series 6 both require performance of a nine meter free drop test or crush test, but not both as presently required in 7173.

When given the option during the last time we revised Part 71 to adopt the crush test, we chose not to exercise it and require both the crush test and the drop test, whereas IAEA lets you do one or the other.

MR. CAMERON: So basically we still require crush and drop, and we are not going to harmonize in this regard with the IAEA.

MR. EASTAN: We require both, yes.

MR. CAMERON: Okay. Great. Diane.

MS. D'ARRIGO: I thought you were going to harmonize on this.

MR. CAMERON: It seems clear, Earl, that we're not adopting the IAEA standard.

MS. D'ARRIGO: It says, "NRC proposes to adopt the requirement for a crush test for fissile materials and eliminate the 1,000 A2 criteria for fissile packages."

MR. CAMERON: Do we go to Rick for some clarification on this?

This is Rick Raw. Rick.

MR. RAWL: Thanks, Chip.

Now, I think it's just a miscommunication. They are harmonizing with respect to adopting the crush test for fissile material packages. They are

not harmonizing because they are going to continue to require the drop test in addition to the crush test.

So they're taking the approach that was used for the radiologically required crush test, meaning both drop and crush, and extending that in their adoption of a fissile crush test.

MR. CAMERON: Okay. Diane, is that --

MS. D'ARRIGO: Nope.

MR. CAMERON: How else can we explain this?

MR. EASTAN: I think we're requiring a crush test for everything the IAEA requires a crush test for. In addition, we're requiring a drop test where IAEA does not require a drop test.

MS. D'ARRIGO: So then this rule would not allow the DP-22 containers to be approved?

Well, it doesn't meet the crush and the drop, and it was my understanding, perhaps misunderstanding, that if this rule passed, the DP-22 could be licensed or could be approved.

MR. EASTAN: If it meets both tests.

MS. D'ARRIGO: It does not. So then it couldn't?

MR. CAMERON: It's just to not use a -- to use a hypothetical example --

MR. EASTAN: If a package would not meet the test that it is required to meet, we wouldn't approve it.

MR. CAMERON: Which are crush and drop.

MR. EASTAN: Crush and drop.

MR. CAMERON: I think Diane's concern is that somehow the requirements are being relaxed, and what I hear you saying, Earl, is that the requirements are not being relaxed; is that correct?

MR. EASTAN: No, they are not.

MR. CAMERON: Okay.

MS. D'ARRIGO: Okay, and then I have another question, which I've actually called a few people at NRC about and not gotten an answer yet. So I wanted to know A2 times ten to the fifth, is that definitely going to be -- I mean, the previous rule was for a million Curies. And so if we take ten to the fifth times A2, is that going to always be a million Curies or more, or is it possibly going to be raising the radioactivity amount for the containers?

MR. CAMERON: Are we still on the crush test?

MS. D'ARRIGO: Yes. Yes, we are.

MR. CAMERON: Okay.

MS. D'ARRIGO: The first part was for less

than 1,100 pounds, and this is for more than 1,100 pounds fissile.

MR. CAMERON: Okay, Right.

MS. D'ARRIGO: And it's Type B irradiated. It's 21407, I think, or somewhere about there.

MR. EASTAN: You're talking about the deep emersion test?

MS. D'ARRIGO: Yes.

MR. EASTAN: And that's Issue 7?

MS. D'ARRIGO: Well, I'm under Issue 10. I may be mixing the issues, but immersion is listed under Issue 10.

MR. EASTAN: I think Issue 7 reads "for expanding the applicability of the deep immersion test to all Type E packages containing greater than ten E to the fifth A2," or it was for spent fuel packages of ten E to the sixth Curies.

MS. D'ARRIGO: Okay.

MR. EASTAN: Is that --

MS. D'ARRIGO: Well, okay. I see. That's Issue 7. I also saw the immersion test listed for the crush test, but let's go ahead if we could jump to seven and answer that. I don't know if that's okay.

MR. CAMERON: Diane, let me just make sure that we're straight with everybody out here on the

crush test, and apparently there was a misunderstanding there.

Okay. Diane, why don't you raise an issue, and then we're going to go and see if there's other issues from other people. You want to talk about the immersion test now, right?

MS. D'ARRIGO: Well, yeah.

MR. CAMERON: Okay. Go ahead. Is that you? That's Earl. Okay.

MR. EASTAN: Issue No. 7. I was immersed.

Deep immersion test. Previously the IAEA regulations required additional emersion testing packages for spent fuel containing greater than a million Curies, ten E to the six Curies.

IAEA expanded the applicability of this test to any Type B package or Type C package with contents greater than ten E to the fifth A2. The expansion in scope of the deep emersion test was due to the fact that radioactive material, such as plutonium and high level waste are increasingly being transported by sea in large quantities.

NRC proposes to adopt this provision.

MR. CAMERON: So, Diane, your question on this is?

MS. D'ARRIGO: What is -- how does ten to

the fifth A2 compare to the previous one million Curies.

MR. CAMERON: Earl?

MR. EASTAN: Well, every individual radionuclide has a different A2 value. So if this were equivalent to ten Curies A2, they'd be exactly the same, which is the example for Cobalt 60.

MS. D'ARRIGO: What do you mean if it was equivalent to ten Curies A2? Oh, because ten to the fifth. Right. So anybody with an A2 value.

But it's all the isotopes. I mean the A2 is -- if you've got irradiated fuel, you've got all of the -- you've got a lot of radionuclides listed.

MR. EASTAN: For example, if you had an A2 of one, it would be ten to the fifth curies. If you had an A2 of a half, it would be half that.

MS. D'ARRIGO: But you're going to have a lot of A2s. I guess you're going to do a sum of the fractions or something like that?

MR. CAMERON: Okay. Let's see if we --

MS. D'ARRIGO: I just want to know if it's more or less than a million. I mean if there's a -- if there are containers that are going to hold less than a million Curies that are going to get licensed that don't have to meet certain criteria.

MR. EASTAN: Right. The value was actually chosen to try and be equivalent. So the ten Curies per A2 -- sorry -- the ten Curies per A2 was chosen as a value to approximate the same activity level that would be in a spent fuel cask.

MR. CAMERON: Okay. Let's see if there is anther issue. Bob, you have your card up from before or for now?

MR. HALSTEAD: Yeah. I'm going to try to just quickly clear the decks on the issues starting with this one. On the deep immersion test proposed rule as it would apply to spent fuel packages, we think the proposed language is advantageous in terms of enhancing cask safety.

However, we think there are two problems. One, we believe that the -- boy, at this point I can't remember if it's in the regulatory analysis or the EA, but I really believe that the estimate of the cost of compliance and the burden that will fall upon licensed holders to demonstrate cask integrity at the 200 meter equivalent level, I believe that that dollar cost is grossly underestimated.

And while the State of Nevada has never been shy about proposing regulations that we thought were necessary to protect public health and safety and

the environment, we also think there's some value in trying to figure out accurately what it's going to cost to do those things.

A second problem with that proposal is we have the standard for an undamaged cask maintaining its integrity at 200 meters, and we have a standard in the sequential test for a damaged cask after the fire immersion or after the fire puncture and impact test to survive emersion at a shallow depth. A real problem here, we believe is a gap in the regulations, which, frankly, hasn't been that important in the past because we really haven't had many spent fuel shipments in the United States by water. Most of those have been smaller Curie packages coming in from the Atoms for Peace Program, and as logistically impressive as the Shorham shipments to Limerick may be, let's face it. That was very slightly irradiated fuel and is not in any way equivalent to shipping large rail casks that would contain two to three million Curies per shipment, which is what the Department of Energy has proposed to do in its Yucca Mountain EIS, literally proposing 1,575 shipments over 24 years from 17 reactor sites into 15 receiving ports, and that includes ocean coastal shipments, river shipments and Great Lake shipments.

So there's a whole new set of potential shipments that need to be addressed, and the bottom line is these would involve the performance of a damaged cask in water depths that would more realistically reflect what would be available near those shipping channels. And we haven't figured out exactly what that standard should be. It's probably in the neighborhood of a 50 to 75 meter depth.

At any rate, I'm not sure how we will pursue this, but for the record, we want to say that we think there's a regulatory gap there.

I would like to say on another issue that we appreciate the NRC's willingness to maintain both the international and the familiar system of becquerels and Curies and sieverts and REM that we are most comfortable with, and it's nice that we can all probably say one good thing, although there may be some people that don't want to say anything good about the NRC today.

I think there are good things -- I'm sorry. Did you want me to cover my list so I'm done or how did you want to do this as individuals?

MR. CAMERON: I just want to make sure. I want to check in with the audience to make sure that if there's anybody here that wanted to make a comment,

that they get an opportunity to do that.

And I see Earl has his business card up over there.

MR. HALSTEAD: Okay, all right.

MR. CAMERON: So we're getting the message because I think he wants to respond to something you said.

MR. HALSTEAD: Sure, sure.

MR. CAMERON: But let's go to ear and then I want to make sure that we have cleared the decks here with the audience because we are going to be quitting at 5:15 at the latest, which is 15 minutes after our allotted time.

Earl.

MR. EASTAN: Yeah, I just wanted to put in context the deep immersion test. There is a reason why it's not in 7173 hypothetical accident conditions. Because primarily when this was set up, it wasn't really a safety standard. It was a standard that was aimed at facilitating recovery. If you sunk a ship and a spent fuel cask went down on the continental shelf, that's where they got the 200 meters.

So it was really to allow divers to go down and recover it. The reports at the time, the studies at the time indicate that if you lost it in

deeper water, you probably wouldn't get dire effects on shore, but if you lost it in the coastal zone, you'd want to recovery it.

So our standard is actually a little bit more restrictive than IAEA. I think IAEA says without gross rupture. Okay? In other words, when IAEA allows this standard to come into effect, it can in-leak water, but it just can't grossly fall apart because the presumption is divers are going to be working around it and recovering it.

So this is purposely not an accident standard. It's a recovery standard.

MR. CAMERON: Okay. Thanks, Earl.

And unfortunately we're at the time where we're speeding up to get things in, and there's just a couple of parking lot issues that were raised that I think we need to respond to, but I want to go to the audience at this point and make sure that we get everybody.

Marvin.

MR. TURKANIS: I've got a two-part question on Issue 19. Sorry. I had to put my glasses on to read it.

As I read it, this requires a jointly written report by the certificate holder and the

shipper, and how is this going to work? How do you perceive it is going to work when the certificate holder is in Russia or U.K. or South Africa or Australia?

MR. CAMERON: Is this Dave? All right. Dave is going to answer this one for us.

Dave.

MR. PSTRAK: I don't know that I'm necessarily going to answer it. I was ready to tee it up.

MR. CAMERON: Well, okay.

MR. PSTRAK: Just for the sake of everybody here and Marvin, obviously you're a little bit ahead of the game. Let me go ahead and go through this event reporting.

This is Issue 19, modifications of event reporting requirements. In a staff requirements memorandum, the commission directed staff to consider whether conforming changes to the event notification requirements of Part 72 and 73 should be made subsequent to revision to the Part 50 event reporting requirements.

During review of the Part 72 event reporting requirements, staff concluded that similar changes should be made to the Part 71 event reporting

requirements.

NRC proposes to extend the schedule for submission for written event reports from 30 days to 60 days, which is similar to the recent changes in 10 CFR 50.73.

Also, because some reportable events may involve questions on the adequacy of a package's design, the NRC proposes that licensees submitting such reports obtain input from the cognizant certificate holder.

So that's the issue. I don't know that we necessarily addressed the origin of a letter coming in from a foreign country or a foreign licensee. This modification here was to reduce some of the burden associated with current regulation, and that's really what we're looking to do there.

I don't know if any other folks from NRC want to add anything else.

MR. TURKANIS: I'm sorry. I wasn't clear. I'm not concerned about the letter coming in from a foreign certificate holder. What I'm concerned is the 60 days goes by and there's no letter from the foreign certificate holder. We can't get them to respond.

MR. CAMERON: If we haven't contemplated that yet, that's fine, but if we treat this as a

comment where the rule has to be clarified, the proposed rule has to be clarified in that regard.

All right. Thanks, Marvin.

Bob, do you have another one?

MR. HALSTEAD: Yeah, I had a comment on Issue 19, and it goes to something Bob Owen raised, that business of the 30 versus 60 days. And I have to admit I wasn't thinking about foreign reports coming in in the international dimension and, you know, 60 days might be seen as not an unreasonable period of time.

On the other hand, I think there's an issue if there's a serious safety problem in allowing an extra 30 days for it to be reported. Again, I don't have strong feelings about it.

I generally think that the Issue 19 proposal is a good idea and will enhance safety, and likewise, I feel that Issue 113, as I've evaluated it for the State of Nevada, that I think we can support that expansion of QA requirements.

And I will say that we thought there were some intriguing benefits associated with what I guessed the NRC saw as the parallel proposal. I can't remember its issue number now and my eyes won't read anymore at this point, but the proposal to adopt the

ASME code is something that at some other time perhaps is worth discussion.

I don’t know at what point it was dropped in the rulemaking, and I don’t know if the NRC saw it as an alternative to the QA or whether they, indeed, thought of the possibility of both adopting the ASME code and expanding the QA requirements.

And since we may not have another time to say this, I just want to say that for all of the complications that I see in the way that the NRC has had difficulty communicating through its documents, I really think that this type of proceeding has been very useful. Frankly, I was looking forward to today as a wasted day, and it has actually turned out, I think, to be extremely useful, and for this type of rulemaking I think that this extent of public participation is probably something that is one of the things that you’ve done right.

Thank you.

MR. CAMERON: Okay. Thank you, Bob.

Do we have other issues that we need to address around the table before we go to the parking lot?

Melissa.

MS. MANN: To reiterate again, if I could

go to the issue regarding CSI, criticality safety index, we support the addition of the CSI and think it goes a long way towards more accurately communicating what you have in a shipment.

So, again, I would like to express concern about the change that's outlined in the proposed 7159 with regard to storage incident to transport and what it does to the exclusive use conditions.

MR. CAMERON: And this would be the point you made earlier about increasing the number and the volume.

MS. MANN: Correct.

MR. CAMERON: Okay. Before we go to parking lot issues, Charlie Miller is going to just tell you about some public meetings that the NRC is going to do in Nevada and Washington, D. C. -- Rockville, rather, to get public input on a package performance issue.

Charlie, do you want to tell us a little bit about that?

MR. MILLER: Sure. As many of you know, NRC is going to be performing a package performance study, and one of the things that we wanted to do before we begin the study in its earnest and testing is give public input to the test plan in a similar

manner and forums as we're having today here.

And in that light we're going to hold three meetings. One is going to be August 21st in Perrault, Nevada, at the Mountainview Casino from 7:00 to 9:00 p.m., and that will be the type of meeting where we receive general public comment.

The second meeting is going to be on August 22nd in Las Vegas at the Russell Cameron Office, which is located on 4701 West Russell Road, and there will be two meetings. The first will be a round table discussion of experts from 9:30 to 3:30, and that will be followed by a 4:00 to 6:00 p.m .meeting to receive general public comments.

The third meeting will be August 27th in Bethesda at the Hyatt Hotel from 9:30 to 3:30, and that will be, again, a round table discussion of experts.

And if anyone here is interested in possibly sitting on one of those panels, I'd invite you to contact Chip in that regard.

MR. CAMERON: And, again, there will be an agenda for these meetings. It will be noticed on the NRC Web site in plenty of time before the meeting.

MR. MILLER: It's our intent to try to get the testing plan out in early July so that people have

an opportunity to come to the meetings prepared to comment

MR. CAMERON: So we are going to have the draft test plan available.

MR. MILLER: Draft test plan and issues report will be out, and the Office of Research, of course, has the lead on that.

MR. CAMERON: Oh, great. Thank you.

MR. MILLER: And so you should be looking for that on the Web site. That should be forthcoming.

MR. CAMERON: Thank you, Charlie.

Just to go back through the parking lot in reverse order, Rick Rawl made a statement on micro sieverts earlier, and I think he wants to amend the use of that term.

Okay, Rick, and give us a context.

MR. RAWL: Back on the exemption values, just to illustrate the dangers of converting back and forth between the SI and the conventional, I had stated that it was average dose based on the BSS exemption values, was 23 micro sieverts. That's incorrect. It's 23 millirem as is stated in the two Federal Register notices.

The same for the dose from the 70 becquerels per gram. That should be 50 millirems, not

50 micro sieverts.

MR. CAMERON: Thank you very much, Rick.

The next issue was Bob Halstead was talking about state, agreement state and other state comments, and we noted that the draft proposed rule -- and correct me if I'm wrong, Allen -- but something before the proposed rule was sent to the agreement states for comment, and the question was: are those comments publicly available.

Allen.

MR. HOWE: Okay. Let me just provide an update on that. It was about 18 months ago that we contacted the agreement states and requested their comments, and during the course of this meeting, we have not been able to determine the status of the comments.

We understand there were three comments that were received, and as a follow-up to this meeting, we will work with the Office of State and Tribal Programs and figure out some means to make those comments publicly available if they're not already publicly available.

MR. CAMERON: Okay. So that's the commitment we're making, is make the agreement state comments available. Okay.

MR. HOWE: Well, the commitment is that we'll look at the possibility of making them available. We have to check with both the Office f State and Tribal Programs and possibly with the commenters since the forum at that time was a communication directly with the agreement states.

I can't speak for what their preferences are in terms of releasing those comments.

MR. CAMERON: All right. Good. Thanks for that clarification. I was ahead of you on that one.

The next issue is the issues that Bob Halstead raised on the scope of the rule. He cited the May 10th, 2002 letter from the Chairman about the application of Part 71, the existing Part 71, I take it, and that there are some implications there for what the scope of the proposed rule is.

And I don't know, Allen, if you had time to take a look at that.

MR. HOWE: No.

MR. CAMERON: Okay. So that at some point I think we need to take Bob's statement as a comment on the proposed rule. In other words, what is the scope of the proposed rule in light of the May 10th letter from the Chairman?

Is that fair, Bob?

MR. HALSTEAD: Yeah, that will do it.

MR. CAMERON: All right. Okay. Let's see. Okay. I think we have discussed the lack of quantitative data and the fact that the rule is not risk informed. We talked a lot about that.

Again, the scope of the rule was mentioned early in the comments. We talked about implications for the Western governors' agreement with DOE in light of the double containment issue.

Recycling implications. David brought this up early in the day. We've sort of danced around, I guess, a little bit in the exemption discussion of landfills, et cetera, et cetera, et cetera.

David, I'm going to ask you what else do we need to do on this recycling implications issue. Do you have anything more to say on that?

And I'll ask anybody else if they have anything to say on it.

MR. RITTER: Well, I still have concerns, and I think that some of that's been discussed as far as the exempted levels could still potentially be basically a way to get some recycling and release done through the back door.

I need to read more about what's in this document, frankly, in all of these documents in order to really discuss it. I mean, yeah, I still think that there is definitely a lot of issues surrounding that and still have significant concerns.

MR. CAMERON: All right. Thanks, David.

The NRC should note this comment.

The last issue is the need for environmental assessment. I think that this is a Halstead comment, but I sort of lost the thread, Bob, on --

MR. HALSTEAD: This is on the special package exceptions and particularly as it relates to retired or decommissioned reactor vessels.

MR. CAMERON: Okay, which you went into in more detail when we discussed that issue.

I think we've had a good discussion, and I would thank you again for being here and for the discussion, and I guess what I'd do is ask if there's any final comments from around the table.

Melissa, do you have any final observations you want to give us?

Okay. Thank you.

Bill, anything? Thanks.

Felix?

Bob?

MR. HALSTEAD: Just again thank you for having this meeting.

MR. CAMERON: All right. David?

Mark?

Allen? Yeah.

MR. HOWE: I just want to thank everybody for coming here today and providing the very insightful and detailed comments, and we also want to invite you to augment, amplify your comments in terms of any written comments that you may want to provide to the NRC or to the Department of Transportation.

MR. CAMERON: Okay. Thank you.

And Fred.

MR. FERATE: In the same vein, I would ask anyone who's interested in commenting on the DOT notice to, if possible, utilize the mechanisms that I pointed out in my hand out by either E-mail or -- excuse me -- by regular mail, sending in two copies to our docket section, or there is a mechanism on the Internet.

And finally, when I'm in the office, I would be quite willing to try to facilitate getting your comments to the docket section on the DOT notice.

MR. CAMERON: Is that for a little

overworked fax machine?

MR. FERATE: It can handle it.

MR. CAMERON: Okay. Diane.

MS. D'ARRIGO: I'll reiterate that the exemption value should not be adopted and that any of the weakening provisions should not be adopted and that I do appreciate the opportunity to get questions answered. It's a complex issue.

I would also support the extension of the comment period that was requested earlier by a couple of different people that commented.

MR. CAMERON: Okay. Thank you.

Beth?

Bob?

Charlie?

MR. SIMMONS: I just want to underscore the comments that were expressed by the others on the panel that this is a fine example of an open forum for the regulatory authorities' consideration of all different points of view.

And in light of some of the comments that were also expressed on the International Atomic Energy Agency's deliberative process that it goes through, it's been mentioned that we do have national representatives that attend those meetings. The IAEA

does post fairly well on its Web site its agenda of meetings, many of which are not open to the public, and there are workshops and other discussion fora that take place at IAEA that ultimately, given what we've seen here today, will work their way through to our own national rulemaking process.

It would be a very positive thing going forward if our own regulatory authorities from NRC or who the competent liaison to IAEA were would allow for or enable a more participatory or user informed type of process so that the regulated or potentially regulated folks can participate in the process as it takes place at IAEA.

MR. CAMERON: Okay. Thank you, Charlie, for that suggestion.

And, Dave, I didn't mean to skip you. You and Earl were resource people for us, but, Earl, do you want to say anything at this point?

MR. EASTAN: Charlie just said most of what I wanted to say, but you know, the rules of tomorrow are being debated today. This is an ongoing process.

The next revision comes out in two years or so, and I guess member states have already submitted some proposals they wanted for change.

So I think don't go away now and think this is it for a while. I think interested folks need to keep involved and involvement at an early stage is always to everyone's benefit.

MR. CAMERON: And, Dave, did you want to add anything?

All right, and before we go to Charlie, Diane, did you have a comment in response to --

MS. D'ARRIGO: I just wanted to know is it Richard Boyle that's the -- who is the person and could we get the Web site for the meetings and know who the person is because obviously we weren't doing this in '96, and we're pretty mad about it now?

MR. CAMERON: Who is the contact?

MS. D'ARRIGO: Who? Where?

MR. CAMERON: Let's go to Fred. Fred.

MR. FERATE: Yes, I think Rick Boyle would be your primary contact. I've occasionally attended those meetings, but I tend to go to the ones where, you know, you have to get into a working group and so on. I think Rick has a much better overview of the process.

And he has been involved and will be involved in the so-called two year cycles of accepting and evaluating new proposals from the member countries

for future changes in TS-R-1.

MS. D'ARRIGO: And when is the next meeting?

MR. FERATE: I believe it's this September.

MS. MANN: The first week of September.

MR. CAMERON: All right. Thank you.

And, Charlie, do you want to close off for me?

MR. MILLER: Yeah, thanks, Chip.

I guess on behalf of Spent Fuel Project Office I'd like to thank everyone for their participation today. I wanted to spend most of the day listening today to try to absorb the various viewpoints and the comments that we've received.

And the interesting thing to me was that we received what I consider to be a large number of very good comments, and it was interesting that we have a variety of stakeholders here with a variety of different perspectives and interests and views. However, there were certain common themes that came out regardless of who you were representing, and I think it gives us a lot to chew on with regard to how we want to move forward in evaluating what needs to be done before any rule is finalized.

So, again, thank you.

MR. CAMERON: Okay. Thank you, Charlie. And with that, we're adjourned and thank you again.

(Whereupon, at 5:08 p.m., the meeting was concluded.)