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Part 71: Packaging and Transportation of
Radioactive Materials

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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

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1 PRESENT (Continued):

2 M. ELIZABETH DARROUGH, Ph.D., USEC

3 ELIZABETH GOLDWASSER, USEC

4 ROBERT HALSTEAD, Nevada Agency for Nuclear
5 Projects

6 FELIX KILLAR, Nuclear Energy Institute

7 WILLIAM LAKE, DOE

8 MELISSA MANN, Transport Logistics International

9 CHARLIE MILLER, NRC

10 ROBERT OWEN, Ohio Department of Health

11 DAVID RITTER, Public Citizen

12 MARK ROGERS, Airline Pilots Association

13 CHARLES SIMMONS, Kilpatrick Stockton

14 KEVIN S. BLAKE, ICF

15 EARL EASTAN, NRC

16 DON HAMMER, ICF

17 DAVID PSTRAK, NRC

18 RICHARD RAWL, Oak Ridge National Laboratory

19 NAIEM TANIOUS, NRC

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

(9:07 a.m.)

1
2
3 MR. CAMERON: My name is Chip Cameron.
4 I'm the Special Counsel for Public Liaison here at the
5 Nuclear Regulatory Commission, which will be called
6 the NRC today and probably for the rest of its
7 existence.

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

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

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

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

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

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1 participant introductions before we get into that.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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1 time.

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

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

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

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

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

4 So I would ask you to respect that.

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

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

14 And let's start with Allen Howe.

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

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

25 MR. CAMERON: Okay. Thank you very much,

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1 Fred.

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

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

8 And let's go to Elizabeth.

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

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

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

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

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

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

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

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

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

17 MR. CAMERON: Thanks, Charlie.

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

22 MR. CAMERON: Thank you for admitting
23 that.

24 (Laughter.)

25 MR. MILLER: Good morning. My name is

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

6 MR. CAMERON: Thank you, Charlie.

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

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

21 Thank you.

22 MR. CAMERON: thank you, Bill.

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

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

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

8 MR. CAMERON: thanks.

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

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

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

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

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

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

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

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

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1 Thank you.

2 MR. CAMERON: Okay. Thank you, Bob.

3 Dave.

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

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

15 Thanks.

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

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

24 MR. CAMERON: Okay. Good.

25 Thank you.

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

3 MS. D'ARRIGO: Hi.

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

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

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

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

14 MR. CAMERON: Thank you.

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

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

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

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

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

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

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

20 That's a summary of some of it.

21 MR. CAMERON: Okay. Thank you, Diane.

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

25 There are some other issues that I noted

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

25 We think that the adoption of the SI units

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

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

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

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

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

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1 requirements to comply with.

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

6 We seek your comments on both of these
7 documents.

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

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

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

22 Thank you very much.

23 MR. CAMERON: Okay. Thanks, Allen.

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

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

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

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

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

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

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

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

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

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

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

25 NRC approves package quality assurance

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

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

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

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

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1 establishes international standards for the safe
2 transport of radioactive material.

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

8 The IAEA has issued many revisions of
9 regulations for the safe transport of radioactive
10 material. Such revisions have been issued in 1961,
11 '64, '67, '73, '85. Most of those revisions were
12 published in a little orange book called "Safety
13 Series No. 6."

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

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1 adoption of those international regulations.

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

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

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

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

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

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

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

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

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

25 On the very last page of the handout, I do

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

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

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

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

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1 on our DOT notice.

2 Thank you.

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

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

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

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

19 Diane.

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

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

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

9 MR. CAMERON: Okay. Good.

10 Fred.?

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

20 MR. CAMERON: Okay. Thank you.

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

25 Felix.

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

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

8 And when do we anticipate this rule
9 becoming effective?

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

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

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

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

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

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

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1 It will be effective on issuance?

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

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

8 Bob Halstead.

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

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

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

21 MR. CAMERON: Al?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

25 Thank you.

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

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

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

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

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

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

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

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

16 MR. CAMERON: Okay, Bob. Thank you.

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

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

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

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

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

6 MR. CAMERON: Okay. Thanks, Allen.

7 Let's go to Diane.

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

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

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

25 And to deliberately exempt these things

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

9 MR. CAMERON: Okay. Thanks, Diane.

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

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

15 Bob.

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

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

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

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

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

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

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

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

3 MR. CAMERON: Okay. Thank you, Fred.

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

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

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

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

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

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

24 MR. CAMERON: Thanks for pointing that
25 out.

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1 Rick.

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

4 MR. RAWL: Thanks, Jim.

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

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

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

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

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

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

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

8 Charlie.

9 MR. SIMMONS: Thank you.

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

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

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

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

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

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

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

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

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

11 MR. CAMERON: Thanks, Charlie.

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

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

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

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

5 MR. CAMERON: Okay. Thanks, Charlie.

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

9 MR. HALSTEAD: Yeah, I want to throw out
10 one new issue, and I'm not sure exactly how it should
11 be addressed relative to this proceeding, but on May
12 10th, Chairman Meserve of the NRC sent a letter to
13 Senator Durban in response to an information request
14 that has a couple of very interesting statements in
15 it.

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

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

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

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

4 Now, if you look at transportation risk as
5 having any relationship to the number of Curies being
6 shipped, if you could imagine a big pie chart of the
7 shipments we'd expect over the next 35 or 40 years,
8 assuming that DOE goes forward with their Yucca
9 Mountain proposal, they're talking about shipping an
10 average of 500 million Curies a year, of which about
11 200 million Curies a year would be Cesium 137.

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

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

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

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

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

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

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

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1 to feel confident that we have a basis for comment.

2 Now, I understand that you've been at this
3 for a while, but some of us sat this one out watching
4 for the early rounds, and particularly hoping that
5 some of those issues that were raised by commenters in
6 2000 would be resolved. And we find now that those
7 issues are not resolved.

8 MR. CAMERON: Okay. Thank you, Bob.

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

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

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

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

2 Is that a correct statement?

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

5 MR. CAMERON: Okay. Well, thank you.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

12 MR. CAMERON: Okay. Thanks, Don.

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

16 Fred, please tell us who you are.

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

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

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

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

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

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

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

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

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

4 Was that --

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

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

14 MR. CAMERON: Thank you very much, Fred.

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

17 DR. JOHNSRUD: Actually process related,
18 Chip.

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

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

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

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

12 MR. CAMERON: Okay. Thank you, Judy.

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

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

21 MS. SUPKO: Eileen Supko, Energy Resource
22 International.

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

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

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

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

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

24 Thank you.

25 MR. CAMERON: Okay. Thanks, Eileen.

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

8 I can see you're shaking your head.

9 Okay. Other comments in the audience?

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

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

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

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1 100,000 shipments of irradiated fuel, the decision on
2 that to be made in the very near future.

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

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

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

25 We simply don't know how many Curies of

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

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

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

11 MR. CAMERON: Okay. Thanks, Diane.

12 Thank you all.

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

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

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

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

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

8 MR. FERATE: (202) 366-4498.

9 MR. CAMERON: Thank you.

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

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

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

16 MR. CAMERON: Thank you.

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

21 Fred Ferate, his phone number at DOT is
22 (202) 366-4498. He's given us a fax number, but he's
23 already sort of discredited it saying it may be
24 unreliable, but (202) -- and we'll go to you in a
25 minute Fred -- (202) 366-3753.

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

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

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

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

15 Clarification, Diane?

16 MS. D'ARRIGO: Yeah, I would just say that
17 usually on the day of the comment deadline is when a
18 lot of people actually get around to faxing their
19 stuff in. So, I mean, that would probably be -- I
20 mean, if they're ready in advance, they probably
21 wouldn't have a problem mailing it. It's just on July
22 29th, you can probably expect that you're going to get
23 a bunch of faxes to that fax.

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

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1 that number.

2 MR. CAMERON: Good point, Diane.

3 Fred, do you?

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

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

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

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

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

7 MR. MILLER: Thanks, Chip.

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

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

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

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1 definitions that are necessary to understand radiation
2 protection concepts.

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

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

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

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

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

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

25 MR. CAMERON: Okay. Thanks, Charlie, for

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1 that overview.

2 And what I'd like to do is --

3 MR. MILLER: Oh, excuse me, Chip. If I
4 can, I'd just point everything. The table is located
5 and you got these in your packets today. On page
6 21435 it begins the table for reference purposes.

7 MR. CAMERON: Okay. Thank you.

8 And thank you, Don.

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

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

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

25 Fred Ferate's presentation gave a couple

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1 of reasons why four adoption.

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

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

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

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

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

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

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

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

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

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

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

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

21 Fred.

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

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

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

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

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

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

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

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

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

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

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1 we didn't have these uniform standards.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

8 MR. CAMERON: Thanks, Diane.

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

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

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

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

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

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

15 MR. CAMERON: Okay. Thanks, Melissa.

16 Diana, did you want to say something?

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

19 MR. CAMERON: Did you want to respond?

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

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

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

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

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

20 Fred.

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

24 MR. CAMERON: Parking lot.

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

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

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

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

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

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

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

25 When we attend the meetings at the IAEA on

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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1 view of what the hazards might be.

2 Thank you.

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

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

10 MR. HOWE: Thanks, Chip.

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

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

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

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

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

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

24 Thank you.

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

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

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

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

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

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

25 Certainly the A1, A2 values as presented,

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

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

15 Also, there are some other flags, such as
16 in 7195 on extending the reporting period from 30 to
17 60 days. I'm not sure what that does, maybe nothing.
18 I can certainly understand the rationale as presented,
19 but I don't know. I'm not quite sure what that does
20 beyond what's stated in the NRC's position on that.
21 I'm not sure what that does in other parts of
22 rulemaking that already exists. That's what we will
23 need to do in order to conform to that across the
24 board.

25 So that's something that we'll be looking

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

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

7 MR. OWEN: Sure.

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

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

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

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1 MR. CAMERON: Okay. Thanks.

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

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

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

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

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

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1 proposed rules or how agreement state comment is --

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

7 MR. CAMERON: Okay.

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

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

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

25 For this particular rule, I don't see

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

4 MR. CAMERON: Okay. Thanks, Bob.

5 Allen, any comment before we go to the
6 audience?

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

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

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

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

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1 on the exact nature of where the comments are today.

2 MR. CAMERON: Okay. Thank you.

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

6 Dr. Johnsrud?

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

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

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

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

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

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

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

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

12 MR. CAMERON: Okay. Thank you.

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

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

25 Dave, do you want to start us off.

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1 MR. PSTRAK: Thank you, Chip.

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

4 IAEA's previous regulations used a single
5 activity concentration of 70 becquerels per gram for
6 all radionuclides in exempting materials from the
7 transportation regulations. Although convenient, the
8 70 becquerels per gram value was empirically based.

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

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

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

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

3 Thank you.

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

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

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

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

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

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1 your knowledge as of that during the development of
2 this.

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

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

17 MR. CAMERON: Fred, you go ahead.

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

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

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

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

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

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

15 MR. EASTAN: Thanks, Fred.

16 Can you hear me?

17 To answer one of your points, yes, the
18 DOT, the NRC did sponsor joint public meetings where
19 they were asked to meet with the delegates that were
20 going to IAEA prior to us adopting this rule in 1995-
21 '96.

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

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

25 MR. EASTAN: Radionuclide exempt values --

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1 I call them radio specific exemption --

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

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

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

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

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

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1 and came to a different view in the end.

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

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

8 Charlie.

9 MR. SIMMONS: Thank you, Chip.

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

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

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

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

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

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

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

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

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

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

18 The quantity that's reported by USGS range
19 300,000 to 400,000 metric tons annually.

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

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

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

12 Smaller, but no less significant,
13 commodities that would fall under the HAZMAT Class 7
14 radio active designation would include the tungsten
15 ores. Around five to 6,000 metric tons are
16 transported annually. Vanadium, 2,000 metric tons;
17 rare earths. Now we'll qualify that to say that some
18 rare earths are, indeed, licensable quantities of
19 source material; some are not. The USGS figure is
20 5,000 metric tons. One can assume a percentage of
21 that would be currently exempt materials.

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

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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

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1 based on uranium isotopes.

2 Potash commodities based on the Potassium
3 40 isotope looks like it's around 50 or so becquerels
4 per gram.

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

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

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

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

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

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

25 We see a predominance of radiation

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

5 We have the State of Georgia that has
6 implemented portable centimeters (phonetic) at truck
7 stops to monitor for the transportation of radioactive
8 materials

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

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

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

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

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

17 MR. SIMMONS: I think harking back to the
18 70 becquerels, the 2,000 pico Curies per gram, nobody
19 knows what the origin of that was. It's a technology
20 based standard. Perhaps it came from the desire to
21 keep consignments of film from fogging up in the same
22 shipping container. It has some origin that's not
23 human health based.

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

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

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

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

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

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

3 Bob.

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

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

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

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

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

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

20 MR. SIMMONS: I'll respond to that.

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

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1 and under accident scenarios.

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

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

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

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1 radionuclide present.

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

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

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

25 We include the average package in center

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

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

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

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

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

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

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

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

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

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

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

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1 sort of the background to that.

2 The U.S. was concerned --

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

5 MR. RAWL: At the deliberations --

6 MR. HALSTEAD: Right.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6 So the average dose drops by a factor of
7 two. Now, in preparation for the meeting I did a
8 little more statistical analysis to look at, well, how
9 did that deal with the standard deviation because if
10 you look at the spread of doses from the 70 becquerels
11 per gram, the standard deviation is basically five or
12 700 becquerels or -- sorry -- 700 micro sieverts.
13 That's the spread between the high and the low.

14 MS. D'ARRIGO: How much?

15 MR. HALSTEAD: That's 500 -- I'm sorry --
16 700, 700. That's the 70 becquerel per gram
17 concentrations, would give a standard deviation from
18 the average from the high to the low. That's an
19 incorrect way of stating what it is, but it's 700.

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

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

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

3 MR. RAWL: To 80.

4 MR. HALSTEAD: To 80. Okay.

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

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

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

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

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1 you?

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

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

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

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

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

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

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

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

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

4 MR. CAMERON: Okay. Let me ask --

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

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

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

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

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

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

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

6 Rick.

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

13 MR. CAMERON: Right.

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

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

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

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1 appropriate for materials that are in transportation.

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

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

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

20 On Diane's earlier --

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

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1 conversion factor that we should be using.

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

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

15 And thank you very much, Rick.

16 MR. RAWL: Wave this at me.

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

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

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

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

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

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

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

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

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1 compare the two approaches.

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

5 MS. D'ARRIGO: Decreases in what?

6 MR. RAWL: Alpha.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

11 And that discussion is found in the
12 discussion of DOT's issue number one in the DOT notice
13 of proposed rulemaking, found on pages 21,330 to
14 23,332. of the DOT document in your blue folder.

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

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

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1 definition of radioactive for purposes of transport at
2 70 becquerels per gram.

3 That does not mean that if you have 15
4 becquerels per gram you don't have radioactivity. It
5 only means that we consider regulating radioactive
6 material only when its activity concentration is above
7 70 becquerels per gram.

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

19 Thank you. That was it.

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

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

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

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1 Let's go to Fred.

2 MR. DILGER: Fred Dilger, Clark County.

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

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

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

20 MR. CAMERON: Okay. Thank you, Fred.

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

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

25 MR. TANIOUS: Yes, I would like to say

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

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

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

16 We're going to go to --

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

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

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

5 Diane, why don't you go ahead?

6 MS. D'ARRIGO: Charlie can go first.

7 MR. CAMERON: Okay. Charlie.

8 MR. SIMMONS: Thanks.

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

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

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1 own containment cells to be protective for their
2 landfill.

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

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

22 Thank you.

23 MR. CAMERON: Okay. Thank you, Charlie.

24 Diane, a final comment?

25 MS. D'ARRIGO: Yes. Of the 382

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

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

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

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

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

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

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

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

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

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

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

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

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

17 MR. CAMERON: Okay. Thank you, Diane.

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

22 Thank you.

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

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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

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

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

8 But let's go. Dave, A1.

9 MR. PSTRAK: Thank you, Chip.

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

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

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

24 Thank you.

25 MR. CAMERON: Okay. Thanks, David.

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

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

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

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

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

25 So that using this newer data, more up to

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

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

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

16 So in some cases some of the old A1-A2
17 values went up. In some cases they went down, but the
18 point is the safety implications are that the level of
19 safety which was inherent in the A1-A2 values of the
20 1985 regulations are the same level of safety inherent
21 in the new A1-A2 values in the 1996 regulations.

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

24 Anybody around the table on A1-A2?

25 Anybody in the audience have any comments

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1 on A1-A2?

2 Okay. Diane, go ahead.

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

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

15 MR. CAMERON: Fred.

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

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

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

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

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1 MR. CAMERON: Okay. Thank you.

2 Diane, do you have another comment?

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

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

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

14 MR. FERATE: For A1 and A2.

15 MS. D'ARRIGO: This is for exemptions.

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

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

25 And she's absolutely right. There are

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

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

18 Those did not historically exist in Title
19 49 because historically we had 70 becquerels per gram
20 as a threshold activity concentration, and we had no
21 consignment activity thresholds.

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

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1 exempting something.

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

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

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

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

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

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

18 MS. D'ARRIGO: Okay.

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

25 David, do you want to go to the next issue

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1 for us, which is, I believe, grandfathering.

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

5 The purpose of grandfathering is to
6 minimize costs and impacts of implementing changes in
7 regulations on existing package designs. Within TS-R-
8 1, those regulations are more restrictive in the area
9 of grandfathering than previous versions of the IAEA
10 regulations. Improvements in IAEA regulations support
11 that newer, post 1973 packages have improved safety
12 features that were lacking in other types of packages.

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

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

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

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1 31st, 2006, but continued use would be allowed.

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

6 Thank you.

7 MR. CAMERON: Okay. Thank you, Dave.

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

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

13 Felix.

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

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

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

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

6 MR. CAMERON: Okay. Thanks, Felix.

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

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

21 MR. CAMERON: Dave, is that you?

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

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

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

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

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

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

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

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1 Thank you.

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

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

9 MR. HOWE: Chip.

10 MR. CAMERON: Yeah, Allen.

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

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

22 Just killed someone's computer again.

23 MR. ERWIN: Thank you, Chip.

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

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

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

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

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

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1 nobody in this industry is opposed to technological
2 change.

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

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

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

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

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1 and has been manufactured to Part 71 QA
2 specifications.

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

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

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

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

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

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

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

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

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

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1 package manufactured for you probably a couple of
2 dozen designs.

3 There's a second category, which is
4 physically the same as what I've just been talking
5 about, but a different animal regulatorily, and these
6 are packages that are manufactured under DOT's
7 specifications rather than NRC's COCs. They both are
8 approved under Part 71, and they may also be under the
9 1967 regs. or specifications.

10 But the DOT specification packages are
11 more numerous yet. There are probably between one and
12 2,000 of them in this country, and they are shipped in
13 probably between 100 and 200 over-pack (phonetic),
14 which have been manufactured pursuant to DOT's
15 specifications, primarily 20 WC.

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

25 My point is that there's a lot of this

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

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

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

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

19 MR. ERWIN: Is it feed back on you?

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

22 MR. ERWIN: Sorry about that.

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

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

6 But you've also got significant capital
7 costs.

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

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

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

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

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

12 So in terms of costs, the cost of
13 implementing this rule is somewhere -- and I can't put
14 a better number on it today -- but its' somewhere in
15 the range of probably ten to \$50 million and probably
16 20 to \$25 million is a better order of merit if you
17 have to discard all of the existing items.

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

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

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1 sources around. Probably don't.

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

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

18 MR. CAMERON: Thanks, Don.

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

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

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1 take care of it?

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

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

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

19 MR. CAMERON: Okay. Thank you very much.

20 Diane, do you have a question?

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

24 MR. ERWIN: Yes.

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

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1 wanted to clarify that.

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

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

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

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

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

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

17 MR. ERWIN: That's right.

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

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

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

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

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

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

19 MR. HALSTEAD: What about Curie content?

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

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

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1 MR. TURKANIS: Marvin Turkanis from
2 Neutron Products.

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

8 We ship Cobalt 60 teletherapy sources,
9 also special for all of the things that were mentioned
10 here, and I'd say the average one is about 7,000
11 Curies, and going out they could be as high as 15,000.
12 Coming back they're generally in the range of 1,000 to
13 2,500.

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

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

25 MR. CAMERON: Okay. Thank you.

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

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

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

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

22 MR. CAMERON: Okay. Thanks, Earl.

23 And I think we have a working mic now.

24 Data that the NRC needs. Any comments on
25 this particular provision?

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1 All right. Anybody in the audience?

2 Okay. In the interest -- and obviously
3 keep in mind that you can file written comments up
4 until July 29th -- in the interest of moving on now,
5 we're going to keep Earl up there for special package
6 authorizations.

7 MR. EASTAN: This is Issue 12, special
8 package authorization. This proposal comes out of
9 lessons learned for a package that we approved about
10 four years ago, the Trojan reactor vessel package.
11 That reactor vessel was being decommissioned. It was
12 put on a barge and trucked up the Columbia River and
13 short haul over land to Hanford, I believe.

14 The package weighed about 1,000 tons, and
15 it was pretty unique in terms of the type of packages
16 we had previously approved.

17 IAEA regulations right now as they're
18 basically written are basically a one size fits all
19 arrangement. All Type B packages are supposed to meet
20 Type B package standard.

21 Here we had a package that weighed 1,000
22 tons, which obviously would be hard to imagine would
23 be lifted 30 feet and then dropped or when transported
24 under very stringent arrangements would have some sort
25 of accident that could impact, in part, on the package

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1 that sort of energy that would be represented by a 30
2 foot drop test.

3 In processing this package, we had to do
4 an exemption. Also, DOT had to do an exemption to get
5 it to comply with their rules, and it took a great
6 deal of time and effort by staff.

7 We feel that given special package
8 approval authority, we can spent a lot more of that
9 time focused on other safety issues, provided that the
10 special package approval conveys the very stringent
11 requirements, the equivalent requirements that we
12 would require for other such packages, alternative to
13 Type B package standards perhaps.

14 The proposed rule would make it clear that
15 the threshold for acceptance for special package
16 authorization would be set high, and that the
17 provision would apply primarily to one time shipments
18 or those very unique shipments that would be judged on
19 a case-by-case basis.

20 MR. CAMERON: Okay. Thanks, Earl.

21 Let's go to Bob Halstead on this one.

22 MR. HALSTEAD: Again, this is one that's
23 important, but we can't spend a lot of time on it
24 today.

25 I have a comment, and that is generally i

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1 think the Trojan reactor shipment is a unique one
2 particularly because for barge shipment it was,
3 frankly, an easy barge shipment, given the origin and
4 destination, and I think it would be a mistake to make
5 too much of a precedent from it.

6 So that's the general comment,. and many
7 other people gave you the same comment before.

8 My question is in what you're proposing,
9 Earl, would you still be planning to do at least an EA
10 and possibly an EIS specifically on shipping a reactor
11 vessel, since you picked that example?

12 And I'm thinking, for example, a bout the
13 number of reactor vessels that are currently located
14 around the Great Lakes, St. Lawrence Seaway or ones
15 that might be shipped on other navigable waterways.

16 So it's not clear to me from the proposed
17 rule exactly how you're going to use this precedent,
18 and I think we would feel that this was a saner idea
19 if we had an understanding that you see each
20 particularly moving reactor vessels as a pretty
21 significant movement that ought to have a significant
22 NEPA review.

23 MR. CAMERON: Earl, you know, you might
24 want to address, following along with Bob's question
25 about what are the implications of this, if there's

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1 anything else you can offer to people on the
2 implications of using this proposed framework versus
3 using an exemption, the existing exemption framework,
4 that might be helpful along the lines does it change
5 the way the environmental review is done, for example.

6 Earl.

7 MR. EASTAN: Yeah, I think in many ways
8 this type of approval is envisioned to follow the same
9 pattern of how we approve Type B packages now. In
10 other words, there would be a safety evaluation
11 report. There'd be a certificate approval, a document
12 issued, et cetera, et cetera that would be open for
13 public inspection, et cetera.

14 I think the big difference would be,
15 number one, what we plan to do here is put acceptance
16 criteria or some sort of target for what we're trying
17 to achieve when we do these package approvals, like an
18 equivalent level of safety to Type B package.

19 Now, when you look at exemption it's very
20 vague. There is no criteria. You can almost do an
21 exemption on anything you could justify. So I think
22 that would be a very important component of this that
23 you spell out what your level of acceptance is for
24 this type of approval.

25 I think one of the advantages of going to

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1 this type process is to focus, again, on safety and
2 not so much the extra paper work that has to go into
3 an exemption.

4 By having a standard set forth and if you
5 meet that standard, you don't have to go through all
6 the extra provisions, I think, that we did in the
7 Trojan reactor vessel.

8 I don't think we envision going through
9 environmental assessments and that sort of thing. I
10 think what we're trying to do is make this a more
11 regular process, much like we do in Type B package
12 certificates.

13 There we have an environmental category
14 exclusion. The idea is that if these meet certain
15 safety thresholds for a Type B package that they
16 wouldn't have much effect on the environment.

17 MR. HALSTEAD: Well, I just want to say as
18 a follow-up comment I think you would be well advised
19 to separate the issue of shipping retired reactor
20 vessels from other types of movements from which you
21 might consider this exception process.

22 You know, again, because I don't want to
23 bog us down today, we'll follow up that in writing,
24 but I think that people deserve a NEPA process for
25 this as a means of having input into this as part of

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1 a decommissioning decision, and I secondly think
2 you're just going to generate all kinds of unnecessary
3 hell being pulled down on yourself over it, but, boy,
4 if you're anxious for it, so be it.

5 MR. CAMERON: Okay. Did you want to say
6 something?

7 MR. EASTAN: Yeah, I was just saying as
8 part of licensing process and decommissioning process,
9 in fact, the transportation may be considered at that
10 time. This just applies to the package approval,
11 whether it's safe, whether it meets certain
12 conditions.

13 MR. CAMERON: Okay. Felix, do you want to
14 add onto this?

15 MR. KILLAR: Yeah, just a few quick
16 comments.

17 We certainly support the concept of the
18 special package approvals. The only thing is that we
19 wish that the NRC would look and provide a little bit
20 more specificity as to how they're going to go through
21 the process of doing that.

22 We recognize that, you know, what you went
23 through for Trojan was a unique situation, but we do
24 see other things out there that we'll probably be
25 looking to ship in the near future, things like core

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1 barrels, possibly steam generators. I reckon some of
2 that stuff may fall over to DOT rather than to the
3 NRC, but if we could have some type of standard
4 criteria, it would make it easier so rather than we're
5 trying to figure out for sure what you're looking for.

6 MR. CAMERON: So, Felix, in terms of the
7 specificity, you're talking about what types of
8 package it might apply to with the criteria for review
9 or any --

10 MR. KILLAR: Well, along the lines of the
11 criteria, what the review will be. Yeah, we know what
12 kind of package. What we're looking for is what are
13 you trying to look for, recognizing, you know, if
14 you've got something like you say it's a 100 ton
15 package; you recognize a drop test may not be
16 necessary, but we still have to provide something like
17 for instance, the idea of the submersion test if it
18 rolls off the barge into the river or something like
19 that.

20 So we're just trying to get a little bit
21 better feel for what we would be looking for.

22 MR. CAMERON: Okay. So basically you're
23 focusing on what are the criteria for review, what
24 types of information is going to be required, and that
25 would be helpful.

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1 All right. Anybody in the audience on
2 special package approval?

3 Okay. Earl is going to tee up the next
4 issue for us: change authority for dual purpose
5 package certificates.

6 MR. EASTAN: The next item is Issue 15,
7 changes authority for dual purpose package certificate
8 holders.

9 The proposal that we're making here has
10 its origin in the way we basically go about licensing
11 Part 72 storage cask. Under Part 72, there's a
12 provision 7248 where we allow people who are licensed
13 to store in storage casks, dry cask storage casks, to
14 make minor design changes provided it doesn't
15 constitute an unreviewed safety question.

16 I'll give a trivial example. They may
17 want to change a finish on a cast. They may want to
18 change a color of a cask. They may want to have a
19 replacement material. They may have a part that's no
20 longer available, if they have an equivalent part, et
21 cetera. But it has to definitely not constitute an
22 unreviewed safety question.

23 In Part 71, that system is very
24 unforgiving when you make changes as far as the
25 regulatory perspective. Every change in the design

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1 requires you to come to the regulatory authority to
2 get an amendment, a certificate from the NRC.

3 We believe that this is basically
4 incompatible with how we do this in Part 72. If Part
5 72 licensees can change casks, and many of those will
6 be dual purpose casks, does it make sense that they
7 then have to come in and make the same -- they cannot
8 make the same minor change under our authority to
9 approve transportation.

10 Again, what we would do is pattern this
11 Part 72 provision on the 72 model, which would say,
12 yes, you're allowed to make minor changes provided
13 that there's no unreviewed safety question.

14 Importantly, we're going to do this
15 proposal. So it's limited to a domestic use of dual
16 purpose casks, and to effect that, we're going to
17 develop a new subpart in Part 71 and new package
18 designation, new cask designations just having to do
19 with dual purpose casks.

20 MR. CAMERON: Okay. Does anybody see any
21 reason why there should be a distinction between the
22 way dual purpose and single purpose casks are handled
23 in regard to these changes?

24 We're going to go to Bob first and then
25 Felix. Bob.

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1 MR. HALSTEAD: Well, I'm going to dodge
2 your question, Chip, because the one that I want to
3 raise is a little different. I certainly can
4 understand from the standpoint of Part 72 certificate
5 holders how they might view minor changes to hardware
6 that's essentially staying on site. You know, once it
7 leaves the plant gate and it's a 71 issue, I think you
8 have to look at where these dual purpose casks are
9 going to go.

10 Now, I will admit that I would put the
11 odds of licensing for Yucca Mountain at somewhere less
12 than 50 percent, and there is this possibility that
13 there will be a private fuel storage facility in Utah
14 and some dual purpose casks like Holtechs and New
15 Homes and things. The NAC STs that are currently
16 licensed might make those trips, and certainly that
17 type of hardware might be used for shipments to Yucca
18 Mountain.

19 So this is not a trivial issue, and again,
20 for those of you who are nervous, I'm not going to
21 belabor this point because it's our obligation to do
22 this in writing, but I think it's worth pointing out
23 that when off site shipments of dual purpose casks
24 occur in any large numbers, it is most likely going to
25 be as part of shipments to a repository or to some

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1 other type of interim storage facility.

2 There are possibly going to be large
3 numbers of these shipments, and these are going to be
4 large Curie sources, probably on the neighborhood, on
5 average, of a minimum of 1.8 million Curies per
6 package, and they could easily be four and a half or
7 five if they're shipped with ten year cooled fuel.

8 So I guess if we had a more detailed
9 listing from you of what you define to be minor design
10 changes that don't have safety significance, we might
11 perhaps be less concerned about this, and I would
12 appreciate having some follow-up with you on that
13 afterwards before we do our comments.

14 I would say secondly it is very important
15 to understand that design changes made by certificate
16 holders at reactor may have some impact on waste
17 acceptance at the repository, and you really need to
18 use a systems approach to this, and I don't get a
19 clear sense from your regulation that -- I mean, it's
20 clear to me that you're looking at the relationship 72
21 and 71, but between 72 and 71 and 60 or however the
22 surface facilities of the repository are going to end
23 up being licensed, I guess the bottom line is if you
24 specify -- if this rule were specified a little more
25 fully, we might not have a problem with it, but as it

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1 is, we have a problem because it doesn't seem to be
2 adequately specific to us.

3 MR. CAMERON: Okay. Good comment, Bob.

4 let's go to Felix and then we'll go to
5 Diane.

6 MR. KILLAR: The industry fully supports
7 the concept of putting the changed process in by Part
8 71 for dual purpose casks, but we actually feel they
9 should actually go further into any cask that's
10 licensed or any type of Type B container license under
11 Part 71 should have the provision to do minor
12 modifications as appropriate without impacting the
13 safety envelope. And so we think it should be
14 expanded beyond there.

15 I know that part of the argument was that
16 the quality assurance program, Part 72, is superior to
17 Part 71, and I find that just quite the opposite. We
18 feel that the programs are very comparable, and
19 actually to Part 71 because we have a longer history
20 with the quality assurance program with Part 71. The
21 maintenance program requirements in Part 71, we
22 actually have a better history in Part 71 than we do
23 in Part 72.

24 So I think you ought to consider expanding
25 the change process to all of the packages under Part

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1 71.

2 MR. CAMERON: Felix, you just turned Bob's
3 statement that they might not have trouble with it if
4 there was some idea given about how this might be
5 bounded, in other words, what types of changes. Is
6 that something that you think could be developed?
7 Examples could be developed along those lines?

8 MR. KILLAR: The industry, particularly
9 for a fixed facilities have been doing this for years,
10 you know. At the reactors we have 5059s. In the new
11 Part 70, we have 7072, 7072(f). I can't recall which
12 it was.

13 In the USAC certifications for the
14 enrichment plants, they have a change process in
15 there, and what you do is you do an evaluation to make
16 a determination of this change you're going to make to
17 is so that if this modification, if that is going to
18 take away from any of your safety levels, and if you
19 can demonstrate adequately that it is not, then you
20 can make that change.

21 So now certainly there are certain
22 limitations. You can't go out and change it so that
23 you can't recognize the package, but the thing is if
24 you're just making minor modifications to the package,
25 and particularly in the transportation area it has

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1 been an issue, and we've had people who have run into
2 issues because of compliance issues, not because of
3 safety issues, but because of compliance. They
4 recognize there is a small deficiency in the package.
5 They went out and made the change, actually proved the
6 safety of the package, but then they got their hands
7 slapped because they made a modification without
8 coming and getting the approval of the NRC prior to
9 that.

10 So it's more of a compliance issue when
11 we're talking about these type changes than it is a
12 safety issue.

13 MR. HALSTEAD: Well, I just think it's
14 going to be real complicated when dual purpose casks
15 start moving off site. I mean, there are going to be
16 all kinds of issues with what type of heavy haul you
17 can use in places where you don't have rail access.
18 If you use a barge, what type of barge, what type of
19 loading, what type of skids you use, whether it's a
20 roll on, roll off. I mean, there are going to be all
21 kinds of issues in the immediate near site
22 transportation.

23 I guess I still didn't hear a definition,
24 and frankly, it seems to me if somebody at the NRC --
25 if a certificate holder proposing a minor change still

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1 has to call somebody at the NRC and says, "Here's what
2 we're proposing to do. Is this a minor change or
3 not?" it's not clear to me that that's part of your
4 procedure.

5 If there's some ongoing interaction with
6 the NRC so that the NRC is notified before these
7 changes are done, then I think that addresses some of
8 the concern, but I'm not sure exactly what process
9 you're proposing.

10 MR. KILLAR: Okay. I think there's two
11 parts to that. First off, anyone who uses a package
12 at COC has to be registered for that package. They
13 have to be familiar with all of the requirements for
14 the use of that package, including cradles, handling
15 devices, what have you, for getting that package on
16 and off.

17 And so if someone makes a minor
18 modification, they cannot make that modification which
19 would jeopardize those tie-downs, those handling
20 devices and what have you.

21 So from that aspect of it, it would have
22 no impact as far as the potential impact as far as
23 different users using that same package.

24 On the other side of the coin, because all
25 of the COCs are registered either through the DOT or

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1 the NRC, what you would have is just like we have for
2 our fixed facilities, is that periodically when
3 somebody has made changes, that they will apply
4 notification to the NRC.

5 The notification of that change would be
6 listed with the COC and, therefore, would be available
7 to any subsequent users of that package, that
8 modification.

9 MR. CAMERON: So I think Bob is saying
10 that the criteria somehow should take into account the
11 context in which that cask is going to be used. In
12 other words, a minor change might be minor in one
13 context, but not in another.

14 And from, Felix, what you're saying, there
15 is a notification requirement or as opposed to the
16 record of the change just sitting there in the
17 licensee's file drawer.

18 MR. KILLAR: That's correct. If I'm using
19 a package, I have to have all of the documentation for
20 that package in order to use it, and I have to be a
21 registered user of that package. So, therefore, any
22 history prior to that package is available to me, and
23 any of the requirements specifically in the licensing
24 conditions to utilize that package I have to abide by.

25 MR. CAMERON: But in terms of Bob's

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1 notification point, there wouldn't be a notification,
2 I guess, in that context of we've made this change
3 that's a minor change. It would be a record that
4 would exist.

5 And, Bob, am I going off on --

6 MR. HALSTEAD: No, if I'm following what
7 Felix is saying, there would be a record of the change
8 that would then be appended to the certificate, and
9 that the NRC would be aware of that before an off site
10 shipment were made, and presumably either the resident
11 inspector or however we end up doing the inspect -- I
12 think our concern is, on the one hand, we support dual
13 purpose casks. We've been supporters of dual purpose
14 casks for a long time because of the flexibility that
15 that puts into the system, and it takes some of the
16 pressure off to do something which may be foolish,
17 which is moving forward on licensing of a defective
18 repository site or question.

19 There are many reasons why dual purpose
20 casks deserve everybody's support. So I'm not trying
21 to be stupid about this. I guess what I'm trying to
22 say is we just want to make sure that before a cask
23 would be moved off site, that there would be an NRC --
24 there would be something in the documents where the
25 NRC would be able to say probably through the resident

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1 inspector that that was an acceptable minor change
2 that didn't affect safety.

3 So we support dual purpose casks.

4 MR. CAMERON: We're going to go to Diane,
5 but I wanted to Diane, but I wanted to hear Eric.
6 Earl, you were nodding your head on that. Do you want
7 to --

8 MR. HALSTEAD: Does that make sense, Earl?

9 MR. EASTAN: Before licensees or
10 certificate holders make change, they've got to do an
11 analysis to prove to themselves and the world that
12 this is a minor change, and it doesn't really
13 undermine the safety basis, and that's always
14 available to NRC inspectors at any time to come
15 inspect and verify that.

16 MR. HALSTEAD: I just didn't feel that was
17 adequately spelled out in the rule, and that's what my
18 comment is going to be. It will probably be six pages
19 long when it gets written out, but that will be the
20 essence of it.

21 MR. CAMERON: Okay. Thank you.

22 Diane.

23 MS. D'ARRIGO: I don't know whether it was
24 my organization or one of the groups that we worked
25 with, but we had concerns about this kind of change in

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1 the Part 72 in the first place, and I personally don't
2 know what the track record has been on that, but I
3 know that there was concern about that when that
4 passed.

5 And my understanding was that that has
6 passed relatively recently. It's not something that
7 has been on the books for many years.

8 We believe from reading this that it
9 appears that the NRC would not be notified or have to
10 give approval for the changes. I guess what you're
11 saying is that an inspector could come and look at the
12 books and find it out, but there would be no
13 notification.

14 I don't see that just because it's been
15 approved for one purpose that it's necessarily the
16 same for transportation conditions. Transportation
17 conditions could be different. So we are at this
18 point, based on the understanding that we have of
19 this, opposed to this change.

20 MR. CAMERON: Okay. So I think that the
21 message for the NRC, at least the minimum message, is
22 really try to spell out more what this process
23 involves so that people can understand that.

24 Anybody out here? Yes, sir. Do you have
25 comment on change authority? Do you want to come up?

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1 All right.

2 MR. GUTHERMAN: My name is Brian
3 Gutherman. I'm with Holtech International. I'm a
4 licensing manager there. We hold dual purpose
5 certification for our High Star system of both Part 71
6 and 72.

7 We support the change authority for both
8 COC holders, and we would suggest for licensees as
9 well. Right now the Part 71 language doesn't include
10 licensee changes, but the licensees can make changes
11 to these dual purpose casks under Part 72, and since
12 it's a common piece of hardware, the change doesn't
13 get unchanged for Part 71.

14 So we strongly suggest you include
15 licensee authority there as well.

16 What I would say is that the change
17 process is very well understood as is the
18 documentation for the changes and the reporting
19 requirements for the changes. There is a periodic
20 reporting requirement in Part 71 as proposed and in
21 Part 72 that on I believe it's a biennial basis we
22 tell the NRC all of the changes we've made under this
23 change process.

24 In addition to that, it's available for
25 inspection at any time.

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1 By not having a change process whereby
2 licensees and COC holders can make minor changes of
3 their own volition and through their own approval
4 process, that dilutes the NRC's resources in really
5 focusing on the safety significant changes that do
6 arise and are required to review and approve.

7 So this is a very important change for
8 safety that must be made. What I will add though is
9 that the eight criteria that are used to determine
10 whether prior NRC review and approval are required for
11 a given change have been extracted verbatim from Part
12 72 and Part 50 for that matter into Part 71.

13 Now, Part 71 may be unique enough that
14 there should be some consideration. Maybe those eight
15 criteria need to be customized for Part 71 and we'll
16 look into that as our owners group puts together a
17 comment package on this rulemaking.

18 As an example, consequences in Part 72 are
19 based on site boundary doses. Part 71, that really
20 doesn't have any meaning. So we'll try to articulate
21 some comments in that regard.

22 And that's all I have.

23 MR. CAMERON: Okay. Thank you very much,
24 and that first piece of information may be the type
25 of information that we would be well served putting in

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1 the supplementary information so that people could
2 understand that better.

3 Anybody else on change authority before we
4 go to the next issue?

5 Diane, did you have a comment or is that
6 up from before?

7 MS. D'ARRIGO: Oh.

8 MR. CAMERON: All right. Let's go to
9 fissile material exemptions and general license
10 provisions.

11 MR. EASTAN: Okay. This is Issue 16,
12 fissile material exemption and general license
13 provisions.

14 Around 1997, the commission found itself
15 having to approve an emergency final rule to amend the
16 fissile material exemption in Part 71. This was in
17 relationship to weapons material being returned from
18 the Soviet Union that had a high concentration of
19 beryllium, beryllium being a moderator.

20 So we modified our rule, and within about
21 a two-month period, which is fast for us, emergency
22 rule to put different provisions into effect.

23 At the same time, we tried to be
24 compatible with what we saw coming up with the IAEA
25 for their fissile material exemption.

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1 In the process we received a lot of
2 comments. The rule went out as an emergency final
3 rule, with the opportunity to comment once it went
4 out. We did receive a lot of comments. Most of the
5 comments were claiming that we went a little bit too
6 far. Our rule was a little bit too restrictive.

7 At the same time, we realized that our
8 general licenses for shipping fissile material went
9 back in many instances to 1960s and the 1970s, were
10 not consistent among themselves. I think we had four
11 general licenses, each of which developed around
12 particular shipments that were being made in the '60s
13 and '70s.

14 One general license would control
15 parameter A, one B, one C. We realized that these
16 weren't very consistent among themselves. So we tried
17 to simplify that by first doing a study which we
18 sponsored at Oak Ridge National Laboratory, and the
19 author of that study, Cecil Parks, is in the front row
20 here if you have any tough questions.

21 What we did come up with, some
22 suggestions on how these general licenses might be
23 simplified and consolidated into one single license.
24 We believe that this is roughly a risk approach tact
25 to fissile material exemptions. There's a level below

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1 which we exempt material from your having to consider
2 it fissile at all.

3 There's another step where you have a
4 general license which the provisions are a little more
5 stringent. Beyond that you step into Type A fissile
6 and beyond that into Type B fissile.

7 So this is one of many steps of how we
8 deal with fissile material.

9 MR. CAMERON: Okay. Thanks, Earl.

10 Is it clear what the NRC is proposing at
11 this point?

12 Diane.

13 MS. D'ARRIGO: Do you have NUREG CR5342
14 around? I notice that in the summary of it there's
15 quite a bit on exemption that I think I'd like to know
16 more about.

17 MR. EASTAN: Cecil has a copy of it right
18 there, I think.

19 MR. CAMERON: All right. Is this what you
20 were looking for?

21 MS. D'ARRIGO: Yes.

22 MR. CAMERON: All right. Okay, all right.
23 Melissa.

24 MS. MANN: I'd actually like to ask some
25 questions to the NRC as well because this is a rather

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1 significant deviation from the TS-R-1 requirement,
2 which now has not only the 15 gram U-235 limit, but
3 what they call a mass consignment.

4 The NRC has gone a different direction
5 with its three tiered system and introduced a masked
6 ratio requirement which dramatically increases the
7 complications associated with shipping fissile
8 materials.

9 My company ships thousands of packages
10 every year of fissile material, and getting into these
11 calculations, I think you're going to find that the
12 facilities are presented with a lot of difficult
13 decisions to make to figure out where they fall, and
14 for international you're going to have to attempt to
15 mesh together the sort of strange NRC system with what
16 the rest of the world is doing.

17 And, again, I think simple is easier when
18 it comes to compliance.

19 With regard to your initial cut, your Tier
20 1 or fissile exempt quantities, it would also be
21 useful to have clarification regarding what is meant
22 by iron. Do you mean Fe or do you mean steel?

23 Secondly, I think I understand the history
24 here in the NUREG document going back to the beryllium
25 oxide, but I don't think what's been carefully looked

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1 at is what might happen to the rest of the nuclear
2 fuel cycle because there could potentially be very
3 significant difficulties in shipping front end
4 material such as uranium hexafluoride because as
5 drafted, the NRC and DOT rulemakings together don't
6 mesh for UF-6.

7 MR. CAMERON: And that not meshing is in
8 terms of uranium hexafluoride specifically and
9 other --

10 MS. MANN: There is a specific problem
11 potentially, yes, with UF-6. So a lot more
12 clarification, I think, on why there would be such a
13 significant deviation from the international, some
14 clarification on exactly what is meant and how you
15 figure out which of the three NRC tiers you're
16 classified into.

17 And then additionally what I would regard
18 as a tremendously significant change would relate to
19 the section in terms of calculating the total
20 criticality safety index per consignment. The NRC is
21 proposing a change to the total shipment CSI in cases
22 where you have storage incident to transport,
23 effectively doing away with an exclusive use
24 condition, and that is absolutely not explained in the
25 rulemaking.

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1 I would certainly urge the staff to
2 clarify what they were getting at there, particularly
3 as you would still be maintaining segregation and
4 storage requirements.

5 MR. CAMERON: Okay. Again, the need for
6 additional clarification, and I guess I would ask
7 Earl. You heard Melissa's comment about this is a
8 significant departure, and would you agree and have we
9 offered any rationale for that in the proposed rule?

10 MR. EASTAN: Yeah, our proposal goes to a
11 system of an exemption and general license provisions,
12 and then on into the Type A, Type B fissile.

13 IAEA doesn't have general license
14 provisions for fissile.

15 In earlier revisions they did have general
16 license, I believe, and did have a similar system, but
17 in time they moved away. This at one point was a
18 proposal that we had intended to take to IAEA and, you
19 know, do our thing at IAEA and get the benefit of
20 their discussion prior to adopting it.

21 In a way, we got on a different tact,
22 different timetable because of the emergency rule that
23 we had to do. But maybe some of the details -- I
24 don't know -- we might want to have Cecil talk to.
25 He's the author of our study.

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1 But when we first got into that, we
2 realized that our general licenses were very old,
3 outdated, geared towards people shipping different
4 things years and years ago, and being regulators we
5 were put off by the inconsistency between those, and
6 this was our attempt to come up with one simple
7 general license. That was our intent in doing this,
8 at the same time trying to recognize some sort of risk
9 informing where the package requirement rose as the
10 hazard rose.

11 MR. CAMERON: Okay. I just would repeat,
12 I guess, just what Melissa said in that regard.
13 Simpler is better.

14 And, Cecil, do you want to add something
15 to this since you're the expert?

16 MR. PARKS: The history on this is that it
17 mostly hit on several different issues. I think Earl
18 has covered the general licenses fairly well. They
19 are historically or were initially in the IAEA
20 regulations, were pulled out, be it maintained in the
21 U.S. regulations to basically enable material that
22 would be under the NRC authority because it is fissile
23 to not have to come to the NRC for approval if it's
24 below certain subcritical conditions. And those are
25 pretty well laid out in the four paragraphs.

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1 In reviewing those paragraphs it was
2 obvious that they were rather complex in historically
3 how they were put together; tried to simplify the
4 paragraphs and consolidate them into something that's
5 a little simpler.

6 There were some obvious things that had
7 not been taken into consideration in previous
8 revisions when it went from fissile classes to remove
9 the fissile classes that had not really been
10 appropriately considered in the general licensing. So
11 that was correct.

12 Then over to the fissile exemptions. The
13 fissile exemptions, there are not easy answers. There
14 was much consternation and discussion at the IAEA over
15 the course of the last decade relative to concerns
16 with fissile exemptions with no real easy solution
17 provided.

18 The concern is relative to accumulation of
19 the fissile material. You can say 15 grams is fine
20 per package, but if you accumulate significant enough
21 packages, there's a potential, be it however low
22 probability, for a concern in our accident conditions.

23 The current fissile exemptions are sort of
24 concentration based. In other words, how much fissile
25 materials in a certain volume, and the volumes are

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1 very difficult to control.

2 MR. CAMERON: I think we have another
3 question.

4 MS. MANN: I don't know if Cecil is done.

5 MR. PARKS. Well, let me try to finish and
6 then I'll get back to Melissa for further questions.

7 So the fissile exemptions were sort of a
8 matter of accumulation. What was provided the IAEA
9 was to go with a consignment limit, indicating that
10 would be sort of an ad hoc control of mass
11 accumulation.

12 However, in the U.S., as Earl mentioned
13 with these, in sort of looking at the emergency rule
14 issue, it became obvious that many shippers were not
15 with any malice but simply as a matter of course,
16 would see the regulations say you can only put so many
17 grams in a consignment, and they'd say, "Well, fine.
18 We'll separate our" -- one consignment was previously
19 on a truck and two consignments, and so it really was
20 not a very de facto method of accumulation, to control
21 accumulation.

22 So that's why we basically came up with
23 the gram per gram approach, to try to have more of a
24 mass controlled approach which would provide inherent
25 material in conjunction with the fissile mass to help

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1 control potential safety issues.

2 MR. CAMERON: Okay. Thank you, Cecil.

3 Let's go to Melissa and then Felix.

4 MS. MANN: Well, actually I'm a little
5 hesitant to get into criticality issues with you since
6 you're the real expert, but essentially I don't
7 understand the difference. Under your general license
8 I could just put enough metal around the package and
9 ship unlimited quantities of fissile material,
10 depending on the size of my package.

11 So that's doesn't seem to get to a real
12 criticality control concern. But when I look at the
13 types of materials that we ship and the volumes, what
14 you're going to do in many cases is force larger
15 volumes of shipment, which I'm not sure is really the
16 appropriate way to manage this issue.

17 MR. CAMERON: Do you understand that?

18 MR. PARKS: Well, I think sort of. Not
19 the general license, but the fissile exceptions.
20 Exemptions is more what you're talking about, right,
21 Melissa?

22 MS. MANN: I was, no, actually the general
23 license. I mean when we look at what we could put in
24 a Type A container, assuming that your mass ration met
25 the requirement.

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1 MR. PARKS: No, the mass ratio does not
2 apply to the general license.

3 MS. MANN: Okay.

4 MR. PARKS: The mass ratios are limited --
5 I mean, the general licenses are limited by a certain
6 amount of there's a TI control based on a total mass.
7 So you're limited to basically half of a subcritical
8 limit.

9 So, again, we try to look at equivalence
10 of safety with what has to be certified under 10 CFR
11 59 -- excuse me -- 7159 in terms of having the two end
12 packages that are actually conditions, subcritical, or
13 five under our normal conditions.

14 And so with that, the general licenses
15 have a maximum mass limit which you cannot exceed, and
16 the TI is based on not exceeding that mass limit. The
17 ratio only comes up under the fissile exemptions, the
18 15 grams, for example.

19 MS. MANN: The 15 grams. Well, also,
20 since we're on that topic, can you give clarification
21 on the definition of iron?

22 MR. PARKS: Basically from a technical
23 viewpoint that can be extended to be any
24 noncombustible, insoluble material.

25 MS. MANN: Then why the distinct --

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1 MR. PARKS: It would not have to be
2 restricted to iron. It could be steel.

3 MS. MANN: Then why the distinction
4 between the two categories, the iron and the
5 nonsoluble, noncombustible?

6 MR. PARKS: As you see, that is not in
7 5342. I would have to go back to the NRC to look at
8 the history on that.

9 MS. MANN: Let me just say from a
10 practical standpoint I think that the clarification on
11 the exemptions in terms of the iron definition is
12 helpful, and that might help to mitigate some of the
13 impact in terms of the CSI calculations that's
14 outlined in the 7122 draft language.

15 What you would effectively be doing is
16 increasing the number of shipments, not just double or
17 triple, but maybe even tenfold and the costs that go
18 along with that.

19 MR. PARKS: I'm not sure I understand why,
20 but maybe I could see the comment in writing. I mean,
21 I believe what you're saying. I just don't know if I
22 understand why.

23 MS. MANN: Right. I guess the difficulty
24 we're having is understanding why storage incident at
25 transport would somehow prevent something different

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1 control-wise than you would have on a vessel versus on
2 a truck.

3 MR. PARKS: The storage incident to the
4 transport, which particular paragraph are you talking
5 about?

6 MS. MANN: It's in several places, the
7 first of which is in the proposed 7122(d)(3). That's
8 on page 21450, and it's also repeated subsequently in
9 the proposed modified 7159.

10 MR. PARKS: Okay. Melissa, 7122 what?
11 (d)?

12 MS. MANN: (d)(3). It would be the top of
13 the right-hand, for shipment of multiple packages
14 containing fissile material, the sum of the CSIs must
15 less than or equal to 50 per shipment under
16 nonexclusive use or being stored incident to
17 transport.

18 MR. CAMERON: Okay. This looks like it's
19 something that needs to be studied a little bit. I
20 think that the point is made, and let's go to Felix
21 and then see if there's any other comments here.

22 I want to give Diane a chance to just make
23 her statement on the A1 issue so that we have it for
24 the record, and then take a break.

25 MR. KILLAR: Yeah, my questions actually

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1 lead a little along the same lines as Melissa's does,
2 is that we support the exemption values and stuff.
3 The only thing is we're not sure we understand how
4 they got to where they got to if you look at what's in
5 the NUREG versus what's in the rule. You know, we've
6 always supported a concentration limit, and so that
7 way you wouldn't have to worry whether it was 15 grams
8 or 350 grams of fissile material as long as you're
9 within that concentration limit, as concentration
10 limits have gone away.

11 Additionally, the 15 grams and the
12 combustible or noncombustible material stuff, we're
13 concerned about that because things that we routinely
14 have been shipping now have not had any problems any
15 potentially thoughts of criticality and stuff. Now we
16 have to go back and reevaluate for a potential
17 criticality. Things like resigns from power plants
18 and things like that we have to look at.

19 So the way that this thing has been
20 written up and revised, recreating a burden in the
21 paper work where there's no justification for the
22 criticality assumptions that have been made.

23 MR. CAMERON: Thank you very much, Cecil.

24 Any other comments out here on this
25 particular issue?

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1 Diane, can you just summarize what the
2 results of your conversation with Fred were?

3 MS. D'ARRIGO: Yeah, it's that in the
4 proposed NRC and DOT A1-A2 value section, there's a
5 table. It's A3 in the NRC proposal. I'm not sure
6 what it is in the DOT proposal, but just to point out
7 that there are exempt concentrations and exempt
8 quantities or consignments that are incorporated into
9 the A1 and the A2 value section. The values are
10 different.

11 Well, there's a lot of different values in
12 the exemption section, and these are fall-back values
13 that would be used for isotopes not listed among the
14 382, as I understand it, and the 16 that I alerted my
15 attention to it in the first place.

16 So I'm just pointing out that there's
17 another area where exemption of radionuclides is
18 embodied in the proposals.

19 MR. CAMERON: Okay. Thank you.

20 The next issue after the break is going to
21 be the double containment issue. How about being back
22 at 3:45? That gives you enough time to get up there
23 and get some coffee.

24 (Whereupon, the foregoing matter went off
25 the record at 3:29 p.m. and went back on

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1 the record at 3:53 p.m.)

2 We're here to discuss double containment
3 next, but first of all, I wanted to just tell you a
4 little bit about where we are in the agenda.

5 We're going to talk about double
6 containment of plutonium. After we're done with that
7 discussion, I'm going to ask Charlie Miller to tell us
8 a little bit about the meetings that are going to take
9 place in Nevada and in Washington, D.C. in August on
10 the package performance issues, specifically test
11 protocols, and Charlie will tell us a little bit about
12 that.

13 And then we're going to go to this other
14 issues category. Again, they're listed here only for
15 convenience. We're not going to go through them one
16 by one, but if anybody wants to say something about
17 any of them, then we certainly want to hear that.

18 And I don't want to forget about the
19 parking lot issues. We've got some issues in there
20 that we have to deal with, some corrections for the
21 record.

22 So we want to do that and see if we can
23 get out by five o'clock. And I'm going to ask Earl to
24 tell us about double containment.

25 MR. EASTAN: Thank you.

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1 This is Issue 17, double containment of
2 plutonium. In this proposal the NRC is responding to
3 a petition from a member of the public who requested
4 that the NRC reevaluate the double containment
5 requirement for plutonium and to eliminate that
6 requirement.

7 Currently the requirement is that if you
8 are shipping over 20 Curies of plutonium, it has to be
9 in a solid form, and it has to be in a package that
10 has two levels of containment.

11 There are some exceptions to that rule:
12 plutonium in solid form; plutonium in the form of fuel
13 elements, and there's a more recent requirement where
14 we exempted vitrified glass waste containing plutonium
15 under certain provisions.

16 Staff has reviewed the petition and
17 believes that the NRC's Type B packaging standards
18 provide adequate containment for all radionuclides,
19 including plutonium without the need for double
20 containment. Staff has also proposed granting the
21 petition with the provision that the solid form
22 requirement be retained.

23 This proposed rule, if adopted, would put
24 plutonium on the same risk basis as other radio
25 nuclides under the IAEA's Q system. One of the

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1 benefits in eliminating the double containment
2 requirement would be the possibility that the number
3 of plutonium shipments could be reduced due to the
4 fact that greater payloads could be shipped within an
5 individual package.

6 MR. CAMERON: And, Earl, just one
7 clarification perhaps that you could give us. By
8 issuing the proposed rule, and tell me if this is
9 incorrect; by issuing the proposed rule, we
10 essentially granted the petition.

11 MR. EASTAN: Yes.

12 MR. CAMERON: But granting the petition
13 does not necessarily mean that we agree with what the
14 petitioner suggested. It only means that we will
15 examine the issue in this proposed rulemaking?

16 MR. EASTAN: Right. In issuing the
17 proposed rule, we're granting the petition in part.
18 I believe the original petition was to eliminate the
19 whole provision of double containment. The part that
20 we're not granting is the requirement that we're
21 retaining that plutonium in excess of 20 Curies, be it
22 in a solid form, but we are eliminating the
23 requirement for double containment.

24 MR. CAMERON: Okay. Let's go to Diane,
25 and then we'll go to Bob also.

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1 MS. D'ARRIGO: Power is a solid form,
2 isn't it?

3 MR. EASTAN: Yes.

4 MS. D'ARRIGO: I just wanted to clarify
5 that.

6 I have a brief statement from another
7 organization. In August 1973, the Atomic Energy
8 Commission issued a notice of proposed rulemaking
9 including shipping containers for greater than 20
10 Curies for plutonium. Ten CFR 71.42 was issued in
11 June '74 and required such double containment.

12 While DOE has requested exemptions at
13 various times, the double containment requirement has
14 been in place for hearing 30 years. The original
15 proposed shipping container, TRUPAK I was rejected in
16 the mid-1980s in significant part because it provided
17 only single containment.

18 The WIPP shipping containers, TRUPAK II,
19 which are in use, and Half Pack, under construction,
20 do provide double containment. A lot of public
21 discussion about the safety of WIPP shipments has been
22 predicated on the fact that the shipping containers do
23 provide double containment, and that even in a severe
24 accident, the are unlikely to allow releases of
25 radioactivity.

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1 Changing the regulations to allow for
2 plutonium shipments in single containment would roll
3 back nearly 30 years of regulatory practice without
4 demonstrating improved safety to the public. In fact,
5 the opposite is true.

6 Single containment increases the
7 likelihood that plutonium will be released from
8 shipments, especially in accidents.

9 In a July 1986 report, EEG-33, the
10 Environmental Evaluation Group estimated for WIPP
11 shipments double containment dramatically reduced the
12 latent cancer fatalities in case of a serious accident
13 from 20 latent cancer fatalities for a single
14 containment.

15 Moreover, the Environmental Evaluation
16 Group also calculated that a single containment
17 package in a serious accident would result in
18 radiation releases 12 times during WIPP's lifetime,
19 while a double containment container would result in
20 releases .02 times.

21 You don't have to agree with these
22 calculations, but the point is that DOE and NRC
23 approved risk models, and double containment is
24 significantly safer than single containment.

25 So it's not just the public, but NRC and

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1 DOE's own data that shows that double containers are
2 safer than single shelled ones.

3 That's from Southwest Research Information
4 Center.

5 MR. CAMERON: And, Diane, could we attach
6 that to the transcript or perhaps have the sources
7 that are cited as data sources, too?

8 MS. D'ARRIGO: Okay.

9 MR. CAMERON: Bob, do you want to speak
10 no?

11 MR. HALSTEAD: Yes. Some of the points I
12 want to make are similar to the ones that Diane has
13 made, and I'll try not to be overly redundant.
14 Regarding the risk issues as they relate to accidents
15 and the use of single containment versus double
16 containment, I do not find that anything in the rule,
17 anything in the draft regulatory analysis, or anything
18 in the draft EIA has negated the same conclusions that
19 Diane referred to from the EEG report, and I think
20 it's worth stating again.

21 The principal advantage to double
22 containment is in drastically reducing the latent
23 cancer fatalities that would occur if a severity
24 Category 7 or 8 accident were to occur. For example,
25 an average Savannah River plant shipment involved in

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1 a Category 8 accident would result in about 20 latent
2 cancer fatalities with the current design, and only --
3 this is now referring to the original TRUPAC I, which
4 was single containment -- and only about eight LCFs
5 with double containment.

6 And another issue is the advantage in the
7 double containment is a drastic decrease from 12 to
8 less than one in the expected number of radionuclide
9 release accidents.

10 Again, without belaboring the point
11 because it's late in the afternoon, I've read all of
12 the material that was submitted in response to the
13 proposals in 2000, and I don't find that they have
14 been responded to or refuted either on the risk issues
15 or on the economic impact issue.

16 Beyond this, let me make a larger issue
17 that doesn't have to do with specific risk or cost
18 calculations, and it has to do with an assumption, I
19 think a very dangerous assumption, to see imbedded in
20 a proposed rule, and it is on page 21,424.

21 "The NRC believes that the proposed rule
22 would not invalidate the existing TRUPAC II design,
23 and thus, DOE could continue to use the TRUPAC II to
24 ship transuranic waste to and from WIPP or the DOE
25 could consider an alternate Type B package."

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1 I believe that the NRC has not fully
2 evaluated the regulatory impact of this proposed
3 change, which is somewhat difficult to explain because
4 it involves a large program that has evolved to my
5 knowledge from my participation in it over more than
6 12 years.

7 The current WIPP transportation program is
8 probably the only truly successful transportation
9 program that the Department of energy has developed in
10 cooperation with the affected states. The program is
11 supported by all of the Western governors through a
12 memorandum of understanding that has been signed both
13 by the Secretary of Energy and all of the governors.

14 And the acceptance of the transportation
15 program for WIPP involves (a) the specific use of the
16 TRUPAC containers shipped by truck. (b) It reflects
17 the fact that the TRUPAC II containers were subjected
18 to extensive full scale testing, very unusual for a
19 Type B package.

20 And so beyond the technical risk issues,
21 the risk perception issues that are so important in
22 public confidence are very much tied up with a
23 specific piece of hardware being deployed in a
24 specific mode.

25 And finally, there is a whole body of

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1 extra regulatory safety enhancements that involve
2 inspections, periodic stops and walk-arounds, and
3 basically the types of extra regulatory measures that
4 we believe show the type of program that the
5 Department of Energy will have to develop for truck
6 shipments to a repository or to any other type of
7 large shipment number, multi-year shipping campaign.

8 Now, the problem with this proposed rule
9 is not just as it affects whether or not DOE will have
10 to use the TRUPAC II in the configuration for which it
11 has been approved within inner containment. I think
12 there is a larger issue here which is difficult to
13 document, but given the current interest in the
14 Department of Energy in cutting the cost of the
15 current WIPP program because of budget constraints,
16 we're already beginning to see disagreements between
17 the states and DOE over previously agreed upon issues,
18 like exactly what type of mechanical safety inspection
19 should be carried out under the CVSA accords and so
20 forth.

21 And we know that there is further budget
22 pressure driving the consideration of moving part or
23 all of the WIPP shipments from truck to rail and
24 moving all or part of the WIPP shipments away from the
25 TRUPAC container to a number of single containment

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1 containers, some of which are rail cars, total package
2 rail cars, and some of which would involve shipping
3 the TRUPACs without the inner containment on flatbed
4 cars.

5 The long and the short of it is that we
6 feel that there is an enormous risk in this particular
7 proposed rule in that it will, in fact, encourage the
8 Department of Energy to make such significant changes
9 in its transportation program that this fragile, but
10 workable cooperation that has been achieved for about
11 700 shipments so far out of a projected total of
12 perhaps 25,000 to 30,000 shipments, there are still
13 some issues to be resolved over waste characterization
14 and quantities.

15 So the argument I would make here is that
16 I believe very little benefit has been demonstrated to
17 accrue from this proposed rule, and it's certainly
18 possible for us to debate the risk issues, which I
19 don't want to do in detail today, but the larger issue
20 that seems to have been missed at the NRC is that this
21 particular rule change at this particular point in
22 time is likely to trigger a cataclysmic change in
23 institutional relationships between DOE and the
24 Western states, and this, in turn, is likely to affect
25 the way that those Western states view the role of the

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1 NRC as a protector of the public health and safety in
2 the entire realm of radioactive materials
3 transportation.

4 And I can virtually assure you that
5 whatever we are unable to achieve in rulemaking
6 because of the limits here, I mean, basically I have
7 found once a proposed rule like this has been
8 published in the Federal Register, it's awfully hard
9 to turn it around.

10 We're very unhappy with this. You will
11 likely see litigation. You will likely see
12 legislation, and you will likely see immediate adverse
13 impacts if this rule goes forward.

14 MR. CAMERON: Okay. Sort of a summary of
15 what Diane read to us from Southwest and what Bob
16 said is that there's no evidence in the rulemaking
17 record about why this should be changed. The existing
18 data show that double containments significantly
19 reduce hazards.

20 Bob's point on risk perception is that
21 this change might exacerbate a change to the DOE
22 program which right now, at least in terms of WIPP, is
23 viewed positively from the public from a risk
24 perception standpoint.

25 Let's go to Bill and then we'll go to Bob.

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1 Bill. Bill Lake.

2 MR. LAKE: Thank you, Chip.

3 I'd like to stay away from specific
4 programs, but just point out that there are some real
5 benefits to removing this double containment
6 requirement, and that pertains to health impacts on
7 radiation workers.

8 One of the problems with having a double
9 containment is you've got to demonstrate that the
10 containment is there, and what that means is
11 increasing worker exposure to doing tests that require
12 the workers to be in close proximity to the radiation
13 source.

14 Packaged as it may be, there are different
15 conditions before the package is fully assembled, and
16 so you do run increased risk of exposure to the
17 workers. And that's something I think that needs to
18 be factored into this decision, and I think what
19 you've done is good in that respect.

20 MR. CAMERON: Okay. Thank you.

21 Let's go to Bob.

22 MR. OWEN: I'll have to put on yet another
23 hat.

24 As the gubernatorial appointee to the
25 Midwestern Radioactive Material Transportation

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1 Committee, which used to be the High Level Reactor
2 Waste Committee, it's a consortium of 12 Midwestern
3 states, and we look at issues relative to the DOE
4 transportation analogous to what the Western Governors
5 Association does.

6 And I'd have to, I guess, recognize that
7 what Bob Halstead has just said, being a truism from
8 a perception standpoint. Certainly as a health
9 physicist, I recognize the benefit of going from
10 double containment to single relative to radiation
11 worker exposure. I certainly understand that the
12 transportation record lends itself to substantiating
13 the move in that direction.

14 But, however, I also recognize the fact
15 that there would be an awful lot of explaining that
16 would have to be done by us and others, whether NRC
17 does so or not or whether they deal directly with the
18 public on that issue or not.

19 The states and these consortiums are where
20 the rubber meets the road, and we are the ones that
21 have to deal with the public. We're the ones who have
22 to insure public health and safety for the citizens
23 directly, and this is something that we just can't
24 walk away from.

25 And although I recognize that this may be

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1 certainly acceptable from a purely technical propriety
2 standpoint, I think there is a balance here that needs
3 to be recognized.

4 MR. CAMERON: Okay. Thank you, Bob.

5 Do we have anyone who wants to take on the
6 risk perception issue that Bob Halstead and Bob Owen
7 have talked about?

8 Bill gave us an example of a benefit that
9 should be factored into the equation. Anybody else on
10 the risk perception point that's being made?

11 Anybody in the audience? Yes, Eileen.

12 MS. SUPKO: Eileen Supko, Energy Resources
13 International.

14 While I believe that risk perception is
15 very important, we shouldn't base our regulations on
16 perceived risk. We should base them on real and
17 actual risk. If there's a problem with risk
18 perception where the public deems there to be a
19 greater risk than the actual risk is, that should tell
20 us that we need to do a better job of communicating
21 risk and putting the risk into perspective such that
22 people understand what the true risks is, and I think
23 that's one area where we as an industry fail very
24 frequently.

25 I don't know what the right answer is. I

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1 think forums like this help, but you're really not
2 getting out to all of the people, and there has to be
3 a better way to explain some of the risks with all of
4 the issues that we've been talking about today.

5 But imposing regulations strictly to deal
6 with risk perception is not the right thing to do.

7 MR. CAMERON: And, Eileen, I had a
8 question for you, but it's more for the NRC staff
9 also, is that both Bob and Diane talked about the data
10 shows that there's a substantial reduction in actual
11 risk from using double containments. And this is the
12 part for the NRC.

13 Are we disputing that data at this point?
14 Are you saying that, well, you really don't need that
15 much protection?

16 And I guess I would want to go to Earl
17 after I ask Eileen. What do you think about these
18 statements on the actual risk?

19 MS. SUPKA: Well, I think the numbers that
20 Diane quoted were a reduction from 20 latent cancer
21 fatalities to eight latent cancer fatalities. The
22 thing that people need to keep in mind is that those
23 are calculated values, and there's a lot of
24 conservatism built into both the dose response models
25 and the calculations that are done, you know, subject

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1 to transportation, risk assessments, et cetera.

2 And while I don't mean to sound cavalier
3 when I say this, but a reduction of 28 latent cancer
4 fatalities to eight latent cancer fatalities in the
5 real world wouldn't be measurable. If you were
6 talking about and if you look at any of the
7 epidemiological studies that are done, that level of
8 reduction is something that's simply not measurable in
9 the population at large.

10 It's important when you're trying to look
11 at risk as it applies to one decision over another,
12 but it really doesn't seem to me to be a large
13 decrease, you know, based on the very low risk
14 associated with shipping hazardous materials on the
15 radioactive materials.

16 MR. CAMERON: Okay. Thanks, Eileen.

17 Earl, do you have any comment on this?

18 MR. EASTAN: Well, it's always difficult
19 when you deal with different sets of data, different
20 studies. There's been no historical experience with
21 plutonium shipment accidents, and we don't want any.
22 I'm not saying that.

23 But there has been a lot of experience,
24 many millions of shipments of Type B packages, and
25 they go along very safely.

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1 But what are we talking about here, some
2 sort of catastrophic accident which is probably a low
3 probability, but strong enough to breach one
4 containment and not strong enough to breach a second
5 containment?

6 That's probably, indeed, a very, very low
7 probability event.

8 The other thing, you know, I just wanted
9 to mention is I know part of what was said her eis
10 TRUPAC I was rejected by the NRC. Actually we never
11 got a chance to. It was never before the NRC for any
12 sort of review. So I just wanted to make sure, you
13 know, that people knew that the only TRUPAC package
14 that we had actually for review was TRUPAC II.

15 And there we were very meticulous in
16 making sure it met Type B standards. I happen to have
17 been the original project manager for TRUPAC II, and
18 it was a new design. So I thought the most important
19 thing with that package was being a new design, was
20 analysis sufficient to analyze it or did you need a
21 full scale drop test.

22 We dropped it in that case, as we do when
23 there's any doubt at all, to actually make it undergo
24 full scale 30 foot drop test, fire test. We chilled
25 it down to minus 20 and did a leak test.

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1 So I think when packages meet those
2 conditions, they provide a high level of safety.

3 Also, you know, there are other things,
4 other radionuclides with A2s as bad as plutonium that
5 we ship routinely, too, and to make double containment
6 for lutonium has singled it out as maybe more
7 dangerous than it is, certainly if you measure it by
8 A2 quantities. That's another probably misconception.

9 MR. CAMERON: Okay. Bob, you've heard
10 these comments.

11 MR. HALSTEAD: Well, I'm sorry that my
12 effort to get us out of here early failed, and I am
13 sad that my comments, when I said I would not belabor
14 the issue of measurable risk versus perceived risk led
15 people to jump in and say that we're only talking
16 about perceived risk.

17 This is nonsense. Now, the same people
18 who are here telling me how concerned they are about
19 worker exposures are the same people who are quite
20 comfortable with those five REM per year regulatory
21 limits and two REM per year. Pardon me for not
22 putting this in sieverts, but I'm going to continue to
23 be old fashioned.

24 So, you know, I'm sorry. I just don't
25 believe that this comes down to a tradeoff between

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1 worker exposures and public risk, and it's precisely
2 because of this.

3 Most of what is being shipped to WIPP that
4 we're talking about here is contact handled,
5 transuranic waste, and there are a few places like Los
6 Alamos where there's a lot of Americium 241 mixed in
7 there, and you do have to worry about a gamma dose.

8 For the most part, I believe this issue of
9 advantages in worker exposure is a theoretical
10 argument that has not been presented backed up by data
11 from the actual workers involved in the waste
12 characterization and the loading operations.

13 Remember we are only 700 shipments into
14 something that may well go for 30 or 35,000 shipments.
15 So, on the one hand, while I would be the first to
16 admit that there probably are some significant
17 additional worker exposures, I believe that they're
18 concentrated at a few sites, and they are determined
19 by the specific waste characteristics at those sites,
20 and I believe that it is incorrect to argue on a
21 system-wide basis that there is a significant problem
22 with worker exposures loading contact handled
23 transuranic waste.

24 On the other hand, I want to read to you
25 from pages 21,424 on to 21,425 from the Federal

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1 Register notice of April 30th and look at what basis
2 the NRC is using for this rule. Now, here's what the
3 NRC says.

4 "NRC also agrees that the use of a double
5 containment does provide defense in depth and does
6 decrease the absolute risk of the respirable plutonium
7 to the environment during a transportation accident.
8 Consequently, while defense in depth afforded by a
9 double containment does reduce risk, the NRC believes
10 the question that should be focused on is whether the
11 double containment requirement is risk informed.

12 "The NRC is unaware of any risk statements
13 which would provide either a qualitative or
14 quantitative indication of the risk reduction
15 associated with the use of double containment in the
16 transportation of plutonium. Rather, NRC would look
17 to the demonstrated performance record of existing
18 Type B package standards to conclude that double
19 containment is not necessary."

20 What hypocrisy. We've got a whole
21 proposed rule here for which the NRC has not looked at
22 a database on shipments and Curies updated since 1982.
23 So I've got a whole rule here proposed, a whole
24 package on qualitative analysis. Now, when we get to
25 one portion of it, which really doesn't have much to

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1 do with IAEA standards as I understand the history of
2 this; now all of a sudden the NRC believes that some
3 slight alleged quantitative advantage based on reduced
4 worker exposures and based on a low showing of
5 quantitative risk of severe accidents is a sufficient
6 reason to pass this rule and set in motion what I
7 assure you will be the biggest dog fight in nuclear
8 materials transportation in certainly the last ten
9 years.

10 Proceed with this if you care to, but I
11 think (a) there is no basis here from a regulatory
12 standpoint to say that this decision is risk informed
13 compared to the overall lack of quantitative data for
14 the entire package of rules, and (b) using a common
15 sense approach to what are likely to be the impacts
16 here.

17 And remember the argument I made. It's
18 not just that DOE will use TRUPACs without inner
19 containments. DOE is talking about loading up rail
20 cars with barrels and shipping them through the North
21 Denver yards to save money, and I hate to tell you
22 that that idea apparently originated with someone who
23 works in the State of New Mexico and not for DOE
24 itself.

25 And, in fact, there may be many other

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1 quantifiable issues here, but we'll probably have to
2 resolve them in a court of law or in the Congress of
3 the United States instead of in a friendly rulemaking
4 forum.

5 Thank you.

6 MR. CAMERON: Okay. Thanks, Bob.

7 Diane, did you have anything that you
8 wanted to add on that? I saw your card up earlier.

9 MS. D'ARRIGO: Well, are we going to talk
10 at a different point about the tests that are required
11 for fissile materials, the crush and drop tests?

12 MR. CAMERON: Yes.

13 MS. D'ARRIGO: Is that on here?

14 MR. CAMERON: Yeah, it is. It's one of
15 the issues that's in the next section, and if it's an
16 issue that's of importance to you, then we're going to
17 talk about that. Okay?

18 MS. D'ARRIGO: Okay. It was just related
19 to this.

20 MR. CAMERON: All right. Okay. Anybody
21 else on double containment?

22 MS. D'ARRIGO: Oh, and the other thing, I
23 think that one of the many things that Bob said is
24 that we're looking at an enormous increase in the
25 number of plutonium shipments in the country right

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1 now. So the history only tells us so much.

2 We're looking at MOX shipments. We're
3 looking at DOE shipments, and so -- and the WIPP
4 shipments, thousands of those.

5 MR. CAMERON: Okay. Thank you.

6 Anyone else on double containment before
7 we go to our sort of open issues category?

8 Yes. And, Judy, we need to get you on
9 this microphone. All right?

10 DR. JOHNSRUD: At page 21,423 and on to
11 the following page, 424, I note that NRC has stated,
12 "Furthermore, the NRC has reviewed the legislative
13 history associated with the act and has not identified
14 any discussions on the use of double containment for
15 the shipment of transuranic waste."

16 And another sentence, "Therefore, the NRC
17 believes the absence of specific language in Section
18 16(a) of the act requiring double containment should
19 be interpreted as requiring that the NRC apply its
20 independent technical judgment."

21 In strong support of Bob Halstead's quite
22 eloquent statements. I find myself wondering in what
23 other regulatory circumstances should the argument
24 that I've just quoted from your document be applied to
25 allow or encourage the NRC to relax additional

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1 regulations.

2 It's a tortured argument and one that
3 really is not worthy of the agency.

4 MR. CAMERON: Okay, and thank you, Judy.

5 And I don't know if anybody from the NRC
6 wants to say anything, but usually you only see
7 arguments like that if someone has made the counter
8 argument that such-and-such a thing is required
9 because of the legislation.

10 But we'll let that go and let's go to the
11 other issues, and let's pick up on the one that Diane
12 raised, which is crush test for fissile material
13 package design, right? Diane, Issue 10?

14 Okay. We'll let you -- do you want to?
15 I guess we do have some material on that.

16 Earl, do you want to just keep going here
17 or do we want to get David back up? And, David, you
18 can sit over on the other side, too. You guys don't
19 have to shift around if we're going to be doing a tag
20 team here.

21 So I take it that's yours; is that right,
22 Dave?

23 MR. PSTRAK: Earl.

24 MR. CAMERON: That's Earl. Okay.

25 Earl, do you want to give us a little

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1 summary on this before we go to discussion?

2 MR. EASTAN: Okay. This is Issue No. 10,
3 crush test for fissile material package design.

4 Both Safety Series 6 and the current 10
5 CFR 7173 require the crush test for packages having a
6 mass not greater than 1,100 kg -- I think that's kg --
7 an overall density of 62.4 pounds per cubic foot or
8 density of water and radioactive content greater than
9 1,000 A2.

10 Under IAEA regulations, the criteria for
11 radioactive content greater than 1,000 A2 has been
12 eliminated for packages containing fissile material.
13 The 1,000 A2 criterion continues to apply to all Type
14 B non-fissile and newly created Type B package
15 designs.

16 The broadened application was created in
17 recognition that the crush test environment was a
18 potential accident force that could be protected
19 against for both radiological safety purposes and
20 criticality safety purposes.

21 Current test requirements in 10 CFR 7173
22 differ for those in IAEA Safety Series 6 and TS-R-1.
23 Specifically TS-R-1 and Safety Series 6 both require
24 performance of a nine meter free drop test or crush
25 test, but not both as presently required in 7173.

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1 When given the option during the last time
2 we revised Part 71 to adopt the crush test, we chose
3 not to exercise it and require both the crush test and
4 the drop test, whereas IAEA lets you do one or the
5 other.

6 MR. CAMERON: So basically we still
7 require crush and drop, and we are not going to
8 harmonize in this regard with the IAEA.

9 MR. EASTAN: We require both, yes.

10 MR. CAMERON: Okay. Great. Diane.

11 MS. D'ARRIGO: I thought you were going to
12 harmonize on this.

13 MR. CAMERON: It seems clear, Earl, that
14 we're not adopting the IAEA standard.

15 MS. D'ARRIGO: It says, "NRC proposes to
16 adopt the requirement for a crush test for fissile
17 materials and eliminate the 1,000 A2 criteria for
18 fissile packages."

19 MR. CAMERON: Do we go to Rick for some
20 clarification on this?

21 This is Rick Raw. Rick.

22 MR. RAWL: Thanks, Chip.

23 Now, I think it's just a miscommunication.
24 They are harmonizing with respect to adopting the
25 crush test for fissile material packages. They are

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1 not harmonizing because they are going to continue to
2 require the drop test in addition to the crush test.

3 So they're taking the approach that was
4 used for the radiologically required crush test,
5 meaning both drop and crush, and extending that in
6 their adoption of a fissile crush test.

7 MR. CAMERON: Okay. Diane, is that --

8 MS. D'ARRIGO: Nope.

9 MR. CAMERON: How else can we explain
10 this?

11 MR. EASTAN: I think we're requiring a
12 crush test for everything the IAEA requires a crush
13 test for. In addition, we're requiring a drop test
14 where IAEA does not require a drop test.

15 MS. D'ARRIGO: So then this rule would not
16 allow the DP-22 containers to be approved?

17 Well, it doesn't meet the crush and the
18 drop, and it was my understanding, perhaps
19 misunderstanding, that if this rule passed, the DP-22
20 could be licensed or could be approved.

21 MR. EASTAN: If it meets both tests.

22 MS. D'ARRIGO: It does not. So then it
23 couldn't?

24 MR. CAMERON: It's just to not use a -- to
25 use a hypothetical example --

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1 MR. EASTAN: If a package would not meet
2 the test that it is required to meet, we wouldn't
3 approve it.

4 MR. CAMERON: Which are crush and drop.

5 MR. EASTAN: Crush and drop.

6 MR. CAMERON: I think Diane's concern is
7 that somehow the requirements are being relaxed, and
8 what I hear you saying, Earl, is that the requirements
9 are not being relaxed; is that correct?

10 MR. EASTAN: No, they are not.

11 MR. CAMERON: Okay.

12 MS. D'ARRIGO: Okay, and then I have
13 another question, which I've actually called a few
14 people at NRC about and not gotten an answer yet. So
15 I wanted to know A2 times ten to the fifth, is that
16 definitely going to be -- I mean, the previous rule
17 was for a million Curies. And so if we take ten to
18 the fifth times A2, is that going to always be a
19 million Curies or more, or is it possibly going to be
20 raising the radioactivity amount for the containers?

21 MR. CAMERON: Are we still on the crush
22 test?

23 MS. D'ARRIGO: Yes. Yes, we are.

24 MR. CAMERON: Okay.

25 MS. D'ARRIGO: The first part was for less

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1 than 1,100 pounds, and this is for more than 1,100
2 pounds fissile.

3 MR. CAMERON: Okay, Right.

4 MS. D'ARRIGO: And it's Type B irradiated.
5 It's 21407, I think, or somewhere about there.

6 MR. EASTAN: You're talking about the deep
7 emersion test?

8 MS. D'ARRIGO: Yes.

9 MR. EASTAN: And that's Issue 7?

10 MS. D'ARRIGO: Well, I'm under Issue 10.
11 I may be mixing the issues, but immersion is listed
12 under Issue 10.

13 MR. EASTAN: I think Issue 7 reads "for
14 expanding the applicability of the deep immersion test
15 to all Type E packages containing greater than ten E
16 to the fifth A2," or it was for spent fuel packages of
17 ten E to the sixth Curies.

18 MS. D'ARRIGO: Okay.

19 MR. EASTAN: Is that --

20 MS. D'ARRIGO: Well, okay. I see. That's
21 Issue 7. I also saw the immersion test listed for the
22 crush test, but let's go ahead if we could jump to
23 seven and answer that. I don't know if that's okay.

24 MR. CAMERON: Diane, let me just make sure
25 that we're straight with everybody out here on the

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1 crush test, and apparently there was a
2 misunderstanding there.

3 Okay. Diane, why don't you raise an
4 issue, and then we're going to go and see if there's
5 other issues from other people. You want to talk about
6 the immersion test now, right?

7 MS. D'ARRIGO: Well, yeah.

8 MR. CAMERON: Okay. Go ahead. Is that
9 you? That's Earl. Okay.

10 MR. EASTAN: Issue No. 7. I was immersed.

11 Deep immersion test. Previously the IAEA
12 regulations required additional emersion testing
13 packages for spent fuel containing greater than a
14 million Curies, ten E to the six Curies.

15 IAEA expanded the applicability of this
16 test to any Type B package or Type C package with
17 contents greater than ten E to the fifth A2. The
18 expansion in scope of the deep emersion test was due
19 to the fact that radioactive material, such as
20 plutonium and high level waste are increasingly being
21 transported by sea in large quantities.

22 NRC proposes to adopt this provision.

23 MR. CAMERON: So, Diane, your question on
24 this is?

25 MS. D'ARRIGO: What is -- how does ten to

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1 the fifth A2 compare to the previous one million
2 Curies.

3 MR. CAMERON: Earl?

4 MR. EASTAN: Well, every individual
5 radionuclide has a different A2 value. So if this
6 were equivalent to ten Curies A2, they'd be exactly
7 the same, which is the example for Cobalt 60.

8 MS. D'ARRIGO: What do you mean if it was
9 equivalent to ten Curies A2? Oh, because ten to the
10 fifth. Right. So anybody with an A2 value.

11 But it's all the isotopes. I mean the A2
12 is -- if you've got irradiated fuel, you've got all of
13 the -- you've got a lot of radionuclides listed.

14 MR. EASTAN: For example, if you had an A2
15 of one, it would be ten to the fifth curies. If you
16 had an A2 of a half, it would be half that.

17 MS. D'ARRIGO: But you're going to have a
18 lot of A2s. I guess you're going to do a sum of the
19 fractions or something like that?

20 MR. CAMERON: Okay. Let's see if we --

21 MS. D'ARRIGO: I just want to know if it's
22 more or less than a million. I mean if there's a --
23 if there are containers that are going to hold less
24 than a million Curies that are going to get licensed
25 that don't have to meet certain criteria.

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1 MR. EASTAN: Right. The value was
2 actually chosen to try and be equivalent. So the ten
3 Curies per A2 -- sorry -- the ten Curies per A2 was
4 chosen as a value to approximate the same activity
5 level that would be in a spent fuel cask.

6 MR. CAMERON: Okay. Let's see if there is
7 another issue. Bob, you have your card up from before
8 or for now?

9 MR. HALSTEAD: Yeah. I'm going to try to
10 just quickly clear the decks on the issues starting
11 with this one. On the deep immersion test proposed
12 rule as it would apply to spent fuel packages, we
13 think the proposed language is advantageous in terms
14 of enhancing cask safety.

15 However, we think there are two problems.
16 One, we believe that the -- boy, at this point I can't
17 remember if it's in the regulatory analysis or the EA,
18 but I really believe that the estimate of the cost of
19 compliance and the burden that will fall upon licensed
20 holders to demonstrate cask integrity at the 200 meter
21 equivalent level, I believe that that dollar cost is
22 grossly underestimated.

23 And while the State of Nevada has never
24 been shy about proposing regulations that we thought
25 were necessary to protect public health and safety and

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1 the environment, we also think there's some value in
2 trying to figure out accurately what it's going to
3 cost to do those things.

4 A second problem with that proposal is we
5 have the standard for an undamaged cask maintaining
6 its integrity at 200 meters, and we have a standard in
7 the sequential test for a damaged cask after the fire
8 immersion or after the fire puncture and impact test
9 to survive emersion at a shallow depth. A real
10 problem here, we believe is a gap in the regulations,
11 which, frankly, hasn't been that important in the past
12 because we really haven't had many spent fuel
13 shipments in the United States by water. Most of
14 those have been smaller Curie packages coming in from
15 the Atoms for Peace Program, and as logistically
16 impressive as the Shorham shipments to Limerick may
17 be, let's face it. That was very slightly irradiated
18 fuel and is not in any way equivalent to shipping
19 large rail casks that would contain two to three
20 million Curies per shipment, which is what the
21 Department of Energy has proposed to do in its Yucca
22 Mountain EIS, literally proposing 1,575 shipments over
23 24 years from 17 reactor sites into 15 receiving
24 ports, and that includes ocean coastal shipments,
25 river shipments and Great Lake shipments.

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1 So there's a whole new set of potential
2 shipments that need to be addressed, and the bottom
3 line is these would involve the performance of a
4 damaged cask in water depths that would more
5 realistically reflect what would be available near
6 those shipping channels. And we haven't figured out
7 exactly what that standard should be. It's probably
8 in the neighborhood of a 50 to 75 meter depth.

9 At any rate, I'm not sure how we will
10 pursue this, but for the record, we want to say that
11 we think there's a regulatory gap there.

12 I would like to say on another issue that
13 we appreciate the NRC's willingness to maintain both
14 the international and the familiar system of
15 becquerels and Curies and sieverts and REM that we are
16 most comfortable with, and it's nice that we can all
17 probably say one good thing, although there may be
18 some people that don't want to say anything good about
19 the NRC today.

20 I think there are good things -- I'm
21 sorry. Did you want me to cover my list so I'm done
22 or how did you want to do this as individuals?

23 MR. CAMERON: I just want to make sure.
24 I want to check in with the audience to make sure that
25 if there's anybody here that wanted to make a comment,

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1 that they get an opportunity to do that.

2 And I see Earl has his business card up
3 over there.

4 MR. HALSTEAD: Okay, all right.

5 MR. CAMERON: So we're getting the message
6 because I think he wants to respond to something you
7 said.

8 MR. HALSTEAD: Sure, sure.

9 MR. CAMERON: But let's go to ear and then
10 I want to make sure that we have cleared the decks
11 here with the audience because we are going to be
12 quitting at 5:15 at the latest, which is 15 minutes
13 after our allotted time.

14 Earl.

15 MR. EASTAN: Yeah, I just wanted to put in
16 context the deep immersion test. There is a reason
17 why it's not in 7173 hypothetical accident conditions.
18 Because primarily when this was set up, it wasn't
19 really a safety standard. It was a standard that was
20 aimed at facilitating recovery. If you sunk a ship
21 and a spent fuel cask went down on the continental
22 shelf, that's where they got the 200 meters.

23 So it was really to allow divers to go
24 down and recover it. The reports at the time, the
25 studies at the time indicate that if you lost it in

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1 deeper water, you probably wouldn't get dire effects
2 on shore, but if you lost it in the coastal zone,
3 you'd want to recovery it.

4 So our standard is actually a little bit
5 more restrictive than IAEA. I think IAEA says without
6 gross rupture. Okay? In other words, when IAEA
7 allows this standard to come into effect, it can in-
8 leak water, but it just can't grossly fall apart
9 because the presumption is divers are going to be
10 working around it and recovering it.

11 So this is purposely not an accident
12 standard. It's a recovery standard.

13 MR. CAMERON: Okay. Thanks, Earl.

14 And unfortunately we're at the time where
15 we're speeding up to get things in, and there's just
16 a couple of parking lot issues that were raised that
17 I think we need to respond to, but I want to go to the
18 audience at this point and make sure that we get
19 everybody.

20 Marvin.

21 MR. TURKANIS: I've got a two-part
22 question on Issue 19. Sorry. I had to put my glasses
23 on to read it.

24 As I read it, this requires a jointly
25 written report by the certificate holder and the

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1 shipper, and how is this going to work? How do you
2 perceive it is going to work when the certificate
3 holder is in Russia or U.K. or South Africa or
4 Australia?

5 MR. CAMERON: Is this Dave? All right.
6 Dave is going to answer this one for us.

7 Dave.

8 MR. PSTRAK: I don't know that I'm
9 necessarily going to answer it. I was ready to tee it
10 up.

11 MR. CAMERON: Well, okay.

12 MR. PSTRAK: Just for the sake of
13 everybody here and Marvin, obviously you're a little
14 bit ahead of the game. Let me go ahead and go through
15 this event reporting.

16 This is Issue 19, modifications of event
17 reporting requirements. In a staff requirements
18 memorandum, the commission directed staff to consider
19 whether conforming changes to the event notification
20 requirements of Part 72 and 73 should be made
21 subsequent to revision to the Part 50 event reporting
22 requirements.

23 During review of the Part 72 event
24 reporting requirements, staff concluded that similar
25 changes should be made to the Part 71 event reporting

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1 requirements.

2 NRC proposes to extend the schedule for
3 submission for written event reports from 30 days to
4 60 days, which is similar to the recent changes in 10
5 CFR 50.73.

6 Also, because some reportable events may
7 involve questions on the adequacy of a package's
8 design, the NRC proposes that licensees submitting
9 such reports obtain input from the cognizant
10 certificate holder.

11 So that's the issue. I don't know that we
12 necessarily addressed the origin of a letter coming in
13 from a foreign country or a foreign licensee. This
14 modification here was to reduce some of the burden
15 associated with current regulation, and that's really
16 what we're looking to do there.

17 I don't know if any other folks from NRC
18 want to add anything else.

19 MR. TURKANIS: I'm sorry. I wasn't clear.
20 I'm not concerned about the letter coming in from a
21 foreign certificate holder. What I'm concerned is the
22 60 days goes by and there's no letter from the foreign
23 certificate holder. We can't get them to respond.

24 MR. CAMERON: If we haven't contemplated
25 that yet, that's fine, but if we treat this as a

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1 comment where the rule has to be clarified, the
2 proposed rule has to be clarified in that regard.

3 All right. Thanks, Marvin.

4 Bob, do you have another one?

5 MR. HALSTEAD: Yeah, I had a comment on
6 Issue 19, and it goes to something Bob Owen raised,
7 that business of the 30 versus 60 days. And I have to
8 admit I wasn't thinking about foreign reports coming
9 in in the international dimension and, you know, 60
10 days might be seen as not an unreasonable period of
11 time.

12 On the other hand, I think there's an
13 issue if there's a serious safety problem in allowing
14 an extra 30 days for it to be reported. Again, I
15 don't have strong feelings about it.

16 I generally think that the Issue 19
17 proposal is a good idea and will enhance safety, and
18 likewise, I feel that Issue 113, as I've evaluated it
19 for the State of Nevada, that I think we can support
20 that expansion of QA requirements.

21 And I will say that we thought there were
22 some intriguing benefits associated with what I
23 guessed the NRC saw as the parallel proposal. I can't
24 remember its issue number now and my eyes won't read
25 anymore at this point, but the proposal to adopt the

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1 ASME code is something that at some other time perhaps
2 is worth discussion.

3 I don't know at what point it was dropped
4 in the rulemaking, and I don't know if the NRC saw it
5 as an alternative to the QA or whether they, indeed,
6 thought of the possibility of both adopting the ASME
7 code and expanding the QA requirements.

8 And since we may not have another time to
9 say this, I just want to say that for all of the
10 complications that I see in the way that the NRC has
11 had difficulty communicating through its documents, I
12 really think that this type of proceeding has been
13 very useful. Frankly, I was looking forward to today
14 as a wasted day, and it has actually turned out, I
15 think, to be extremely useful, and for this type of
16 rulemaking I think that this extent of public
17 participation is probably something that is one of the
18 things that you've done right.

19 Thank you.

20 MR. CAMERON: Okay. Thank you, Bob.

21 Do we have other issues that we need to
22 address around the table before we go to the parking
23 lot?

24 Melissa.

25 MS. MANN: To reiterate again, if I could

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1 go to the issue regarding CSI, criticality safety
2 index, we support the addition of the CSI and think it
3 goes a long way towards more accurately communicating
4 what you have in a shipment.

5 So, again, I would like to express concern
6 about the change that's outlined in the proposed 7159
7 with regard to storage incident to transport and what
8 it does to the exclusive use conditions.

9 MR. CAMERON: And this would be the point
10 you made earlier about increasing the number and the
11 volume.

12 MS. MANN: Correct.

13 MR. CAMERON: Okay. Before we go to
14 parking lot issues, Charlie Miller is going to just
15 tell you about some public meetings that the NRC is
16 going to do in Nevada and Washington, D. C. --
17 Rockville, rather, to get public input on a package
18 performance issue.

19 Charlie, do you want to tell us a little
20 bit about that?

21 MR. MILLER: Sure. As many of you know,
22 NRC is going to be performing a package performance
23 study, and one of the things that we wanted to do
24 before we begin the study in its earnest and testing
25 is give public input to the test plan in a similar

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1 manner and forums as we're having today here.

2 And in that light we're going to hold
3 three meetings. One is going to be August 21st in
4 Perrault, Nevada, at the Mountainview Casino from 7:00
5 to 9:00 p.m., and that will be the type of meeting
6 where we receive general public comment.

7 The second meeting is going to be on
8 August 22nd in Las Vegas at the Russell Cameron
9 Office, which is located on 4701 West Russell Road,
10 and there will be two meetings. The first will be a
11 round table discussion of experts from 9:30 to 3:30,
12 and that will be followed by a 4:00 to 6:00 p.m
13 .meeting to receive general public comments.

14 The third meeting will be August 27th in
15 Bethesda at the Hyatt Hotel from 9:30 to 3:30, and
16 that will be, again, a round table discussion of
17 experts.

18 And if anyone here is interested in
19 possibly sitting on one of those panels, I'd invite
20 you to contact Chip in that regard.

21 MR. CAMERON: And, again, there will be an
22 agenda for these meetings. It will be noticed on the
23 NRC Web site in plenty of time before the meeting.

24 MR. MILLER: It's our intent to try to get
25 the testing plan out in early July so that people have

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1 an opportunity to come to the meetings prepared to
2 comment

3 MR. CAMERON: So we are going to have the
4 draft test plan available.

5 MR. MILLER: Draft test plan and issues
6 report will be out, and the Office of Research, of
7 course, has the lead on that.

8 MR. CAMERON: Oh, great. Thank you.

9 MR. MILLER: And so you should be looking
10 for that on the Web site. That should be forthcoming.

11 MR. CAMERON: Thank you, Charlie.

12 Just to go back through the parking lot in
13 reverse order, Rick Rawl made a statement on micro
14 sieverts earlier, and I think he wants to amend the
15 use of that term.

16 Okay, Rick, and give us a context.

17 MR. RAWL: Back on the exemption values,
18 just to illustrate the dangers of converting back and
19 forth between the SI and the conventional, I had
20 stated that it was average dose based on the BSS
21 exemption values, was 23 micro sieverts. That's
22 incorrect. It's 23 millirem as is stated in the two
23 Federal Register notices.

24 The same for the dose from the 70
25 becquerels per gram. That should be 50 millirems, not

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1 50 micro sieverts.

2 MR. CAMERON: Thank you very much, Rick.

3 The next issue was Bob Halstead was
4 talking about state, agreement state and other state
5 comments, and we noted that the draft proposed rule --
6 and correct me if I'm wrong, Allen -- but something
7 before the proposed rule was sent to the agreement
8 states for comment, and the question was: are those
9 comments publicly available.

10 Allen.

11 MR. HOWE: Okay. Let me just provide an
12 update on that. It was about 18 months ago that we
13 contacted the agreement states and requested their
14 comments, and during the course of this meeting, we
15 have not been able to determine the status of the
16 comments.

17 We understand there were three comments
18 that were received, and as a follow-up to this
19 meeting, we will work with the Office of State and
20 Tribal Programs and figure out some means to make
21 those comments publicly available if they're not
22 already publicly available.

23 MR. CAMERON: Okay. So that's the
24 commitment we're making, is make the agreement state
25 comments available. Okay.

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1 MR. HOWE: Well, the commitment is that
2 we'll look at the possibility of making them
3 available. We have to check with both the Office of
4 State and Tribal Programs and possibly with the
5 commenters since the forum at that time was a
6 communication directly with the agreement states.

7 I can't speak for what their preferences
8 are in terms of releasing those comments.

9 MR. CAMERON: All right. Good. Thanks
10 for that clarification. I was ahead of you on that
11 one.

12 The next issue is the issues that Bob
13 Halstead raised on the scope of the rule. He cited
14 the May 10th, 2002 letter from the Chairman about the
15 application of Part 71, the existing Part 71, I take
16 it, and that there are some implications there for
17 what the scope of the proposed rule is.

18 And I don't know, Allen, if you had time
19 to take a look at that.

20 MR. HOWE: No.

21 MR. CAMERON: Okay. So that at some point
22 I think we need to take Bob's statement as a comment
23 on the proposed rule. In other words, what is the
24 scope of the proposed rule in light of the May 10th
25 letter from the Chairman?

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1 Is that fair, Bob?

2 MR. HALSTEAD: Yeah, that will do it.

3 MR. CAMERON: All right. Okay. Let's
4 see. Okay. I think we have discussed the lack of
5 quantitative data and the fact that the rule is not
6 risk informed. We talked a lot about that.

7 Again, the scope of the rule was mentioned
8 early in the comments. We talked about implications
9 for the Western governors' agreement with DOE in light
10 of the double containment issue.

11 Recycling implications. David brought
12 this up early in the day. We've sort of danced
13 around, I guess, a little bit in the exemption
14 discussion of landfills, et cetera, et cetera, et
15 cetera.

16 David, I'm going to ask you what else do
17 we need to do on this recycling implications issue.
18 Do you have anything more to say on that?

19 And I'll ask anybody else if they have
20 anything to say on it.

21 MR. RITTER: Well, I still have concerns,
22 and I think that some of that's been discussed as far
23 as the exempted levels could still potentially be
24 basically a way to get some recycling and release done
25 through the back door.

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1 I need to read more about what's in this
2 document, frankly, in all of these documents in order
3 to really discuss it. I mean, yeah, I still think
4 that there is definitely a lot of issues surrounding
5 that and still have significant concerns.

6 MR. CAMERON: All right. Thanks, David.

7 The NRC should note this comment.

8 The last issue is the need for
9 environmental assessment. I think that this is a
10 Halstead comment, but I sort of lost the thread, Bob,
11 on --

12 MR. HALSTEAD: This is on the special
13 package exceptions and particularly as it relates to
14 retired or decommissioned reactor vessels.

15 MR. CAMERON: Okay, which you went into in
16 more detail when we discussed that issue.

17 I think we've had a good discussion, and
18 I would thank you again for being here and for the
19 discussion, and I guess what I'd do is ask if there's
20 any final comments from around the table.

21 Melissa, do you have any final
22 observations you want to give us?

23 Okay. Thank you.

24 Bill, anything? Thanks.

25 Felix?

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1 Bob?

2 MR. HALSTEAD: Just again thank you for
3 having this meeting.

4 MR. CAMERON: All right. David?

5 Mark?

6 Allen? Yeah.

7 MR. HOWE: I just want to thank everybody
8 for coming here today and providing the very
9 insightful and detailed comments, and we also want to
10 invite you to augment, amplify your comments in terms
11 of any written comments that you may want to provide
12 to the NRC or to the Department of Transportation.

13 MR. CAMERON: Okay. Thank you.

14 And Fred.

15 MR. FERATE: In the same vein, I would ask
16 anyone who's interested in commenting on the DOT
17 notice to, if possible, utilize the mechanisms that I
18 pointed out in my hand out by either E-mail or --
19 excuse me -- by regular mail, sending in two copies to
20 our docket section, or there is a mechanism on the
21 Internet.

22 And finally, when I'm in the office, I
23 would be quite willing to try to facilitate getting
24 your comments to the docket section on the DOT notice.

25 MR. CAMERON: Is that for a little

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1 overworked fax machine?

2 MR. FERATE: It can handle it.

3 MR. CAMERON: Okay. Diane.

4 MS. D'ARRIGO: I'll reiterate that the
5 exemption value should not be adopted and that any of
6 the weakening provisions should not be adopted and
7 that I do appreciate the opportunity to get questions
8 answered. It's a complex issue.

9 I would also support the extension of the
10 comment period that was requested earlier by a couple
11 of different people that commented.

12 MR. CAMERON: Okay. Thank you.

13 Beth?

14 Bob?

15 Charlie?

16 MR. SIMMONS: I just want to underscore
17 the comments that were expressed by the others on the
18 panel that this is a fine example of an open forum for
19 the regulatory authorities' consideration of all
20 different points of view.

21 And in light of some of the comments that
22 were also expressed on the International Atomic Energy
23 Agency's deliberative process that it goes through,
24 it's been mentioned that we do have national
25 representatives that attend those meetings. The IAEA

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1 does post fairly well on its Web site its agenda of
2 meetings, many of which are not open to the public,
3 and there are workshops and other discussion fora that
4 take place at IAEA that ultimately, given what we've
5 seen here today, will work their way through to our
6 own national rulemaking process.

7 It would be a very positive thing going
8 forward if our own regulatory authorities from NRC or
9 who the competent liaison to IAEA were would allow for
10 or enable a more participatory or user informed type
11 of process so that the regulated or potentially
12 regulated folks can participate in the process as it
13 takes place at IAEA.

14 MR. CAMERON: Okay. Thank you, Charlie,
15 for that suggestion.

16 And, Dave, I didn't mean to skip you. You
17 and Earl were resource people for us, but, Earl, do
18 you want to say anything at this point?

19 MR. EASTAN: Charlie just said most of
20 what I wanted to say, but you know, the rules of
21 tomorrow are being debated today. This is an ongoing
22 process.

23 The next revision comes out in two years
24 or so, and I guess member states have already
25 submitted some proposals they wanted for change.

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1 So I think don't go away now and think
2 this is it for a while. I think interested folks need
3 to keep involved and involvement at an early stage is
4 always to everyone's benefit.

5 MR. CAMERON: And, Dave, did you want to
6 add anything?

7 All right, and before we go to Charlie,
8 Diane, did you have a comment in response to --

9 MS. D'ARRIGO: I just wanted to know is it
10 Richard Boyle that's the -- who is the person and
11 could we get the Web site for the meetings and know
12 who the person is because obviously we weren't doing
13 this in '96, and we're pretty mad about it now?

14 MR. CAMERON: Who is the contact?

15 MS. D'ARRIGO: Who? Where?

16 MR. CAMERON: Let's go to Fred. Fred.

17 MR. FERATE: Yes, I think Rick Boyle would
18 be your primary contact. I've occasionally attended
19 those meetings, but I tend to go to the ones where,
20 you know, you have to get into a working group and so
21 on. I think Rick has a much better overview of the
22 process.

23 And he has been involved and will be
24 involved in the so-called two year cycles of accepting
25 and evaluating new proposals from the member countries

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1 for future changes in TS-R-1.

2 MS. D'ARRIGO: And when is the next
3 meeting?

4 MR. FERATE: I believe it's this
5 September.

6 MS. MANN: The first week of September.

7 MR. CAMERON: All right. Thank you.

8 And, Charlie, do you want to close off for
9 me?

10 MR. MILLER: Yeah, thanks, Chip.

11 I guess on behalf of Spent Fuel Project
12 Office I'd like to thank everyone for their
13 participation today. I wanted to spend most of the
14 day listening today to try to absorb the various
15 viewpoints and the comments that we've received.

16 And the interesting thing to me was that
17 we received what I consider to be a large number of
18 very good comments, and it was interesting that we
19 have a variety of stakeholders here with a variety of
20 different perspectives and interests and views.
21 However, there were certain common themes that came
22 out regardless of who you were representing, and I
23 think it gives us a lot to chew on with regard to how
24 we want to move forward in evaluating what needs to be
25 done before any rule is finalized.

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1 So, again, thank you.

2 MR. CAMERON: Okay. Thank you, Charlie.

3 And with that, we're adjourned and thank

4 you again.

5 (Whereupon, at 5:08 p.m., the meeting was

6 concluded.)

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