

# Official Transcript of Proceedings

## NUCLEAR REGULATORY COMMISSION

Title: Briefing on 10 CFR Part 71 Rulemaking  
Public Meeting

Docket Number: (not applicable)

Location: Rockville, Maryland

Date: Monday, April 9, 2001

Work Order No.: NRC-151

Pages 1-110

**NEAL R. GROSS AND CO., INC.**  
Court Reporters and Transcribers  
1323 Rhode Island Avenue, N.W.  
Washington, D.C. 20005

(202) 234-4433

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

+ + + + +

BRIEFING ON 10 CFR PART 71 RULEMAKING

+ + + + +

PUBLIC MEETING

+ + + + +

NUCLEAR REGULATORY COMMISSION

ONE WHITE FLINT NORTH

ROCKVILLE, MARYLAND

+ + + + +

MONDAY

APRIL 9, 2001

+ + + + +

The Commission met in open session, pursuant to notice, at 1:30 p.m., the Honorable RICHARD A. MESERVE, Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:

RICHARD A. MESERVE, Chairman of the Commission

NILS J. DIAZ, Member of the Commission

GRETA J. DICUS, Member of the Commission

JEFFREY S. MERRIFIELD, Member of the Commission

EDWARD MCGAFFIGAN, JR., Member of the Commission

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:  
2 ANNETTE L. VIETTI-COOK, Secretary  
3 KAREN D. CYR, General Counsel  
4 DR. CARL PAPERIELLO, Deputy EDO  
5 MARTIN VIRGILIO, Director, NMSS  
6 WILLIAM BRACH, Director, Spent Fuel Project  
7 Office  
8 NAIEM TANIIOUS, Rulemaking & Guidance Branch,  
9 NMSS  
10 JOHN COOK, Licensing & Inspection Directorate,  
11 NMSS  
12 FELIX KILLAR, JR., Director, Material Licenses,  
13 NEI  
14 JAMES RICCIO, Public Citizen Critical Mass  
15 Energy Project  
16 MARK LEWIS, Regional Manager, Duratek, Inc.  
17  
18  
19  
20  
21  
22  
23  
24  
25

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

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

(1:30 p.m.)

CHAIRMAN MESERVE: Good afternoon. We are here to hear from the Office of Nuclear Materials Safety and Safeguard Spent Fuel Project Office on the status of its Proposed Rulemaking to revise the NRC's transportation regulations, which of course are Part 71 of our regulations.

The purpose of this effort is to try to consider the process of updating these regulations to accommodate the most recent version of the standards developed by the International Atomic Energy Agency. Of course, in the transportation of materials, particularly for international purposes, it is important, to the extent possible, that there be compatibility in our regulatory programs.

This is a briefing that is intended to inform the Commission as we consider the issuance of a proposed rule governing this matter. There was a Staff Paper that covers, I think, some 18 or 19 issues, which was submitted for public comment in the Federal Register, which has been used to illuminate the staff's efforts in this area. We very much look forward to the briefing.

Do any of my colleagues have any comments?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   COMMISSIONER MERRIFIELD: Mr. Chairman,  
2 when we talked about turning up the heat on our  
3 panelists, I didn't know we were going to take it so  
4 literally.

5                   COMMISSIONER MCGAFFIGAN: We could get the  
6 aim a little bit better.

7                   CHAIRMAN MESERVE: Dr. Paperiello, you may  
8 proceed.

9                   MR. PAPERIELLO: Thank you, Mr. Chairman.

10                   We appreciate the opportunity to brief the  
11 Commission today on the staff's Draft Proposed Rule to  
12 Review 10 CFR Part 71. By way of background, DOT and  
13 the NRC co-regulate transportation of radioactive  
14 material in the United States. Responsibility is  
15 divided generally by the level of radioactivity and  
16 the type of nuclear material transported. Basically,  
17 DOT develops the standards for lower-level radioactive  
18 packages, such as Type A and LSA, low-specific  
19 activity, and the NRC develops safety standards and  
20 issues certificate approvals for higher than Type A --  
21 in other words, Type B and fissile packages.

22                   Although with respect to IAEA, the DOT is  
23 the U.S. competent authority. The NRC serves as a  
24 technical advisor to DOT on IAEA matters and on  
25 international import/export reviews.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           The IAEA periodically revises its  
2 transportation standards based on requests from member  
3 States. This is often done to support advances in  
4 science and technology, greater transportation  
5 experience and/or the use of new models.

6           By international agreement, member States  
7 will, in turn, revise their respective regulations to  
8 maintain general compatibility with the newly revised  
9 IAEA standards.

10           The Department of Transportation has a  
11 legislative mandate to harmonize its regulations with  
12 IAEA standards. Harmonization of 10 CFR Part 71 with  
13 the IAEA standards is done to maintain transportation  
14 safety and consistency with the international  
15 regulations.

16           Harmonizing of Part 71 with the IAEA  
17 regulations will maintain safety, increase NRC  
18 regulatory efficiency and effectiveness, reduce  
19 unnecessary regulatory burden on licensees by  
20 eliminating different regulatory requirements for the  
21 packages shipped domestically or internationally and,  
22 finally, the staff believes public confidence will be  
23 enhanced by using internationally accepted standards  
24 as well as maintaining consistency with Commission  
25 policies and regulations.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   With me at the table today are Mr. Marty  
2 Virgilio, Director of NMSS; Mr. Bill Brach, Director  
3 of the Spent Fuel Program Office; Mr. Naiem Tanious,  
4 of the NMSS Rulemaking Branch, and Mr. John Cook, of  
5 the Spent Fuel Program Office. The presentation will  
6 be made by Mr. Tanious and Mr. Cook, who are primary  
7 contributors to the paper.

8                   At this point, I would like to turn the  
9 briefing over to Mr. Tanious.

10                   MR. TANIOUS: Thank you, Dr. Paperiello.

11                   Good afternoon, Mr. Chairman and  
12 Commissioners. May I have the first slide, please.

13                   (Slide)

14                   Background. The EDO forwarded to you  
15 Commission Paper SECY-01-0035 on March 2, 2001. This  
16 paper is based on several SRMs. The last one is SRM  
17 SECY-00-0117, June 28, 2000, giving us approval to use  
18 the enhanced public participation process, and to  
19 publish for public comment the Part 71 Issue Paper,  
20 also to proceed after the public meeting directly with  
21 the development of a Proposed Rule, and also to keep  
22 in formal communication with the Commissioners'  
23 technical assistants to provide feedback on the public  
24 meetings, on the progress of the Part 71 rule, also on  
25 the status of the DOT's rule. By SRMS in 1999 and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 2000, directed us to address in this rulemaking the  
2 unintended economic burden caused by the 1997  
3 Emergency Final Rule on Fissile Material Exemptions  
4 and General License Relations, also directed us to  
5 conduct a comparison between the IAEA transportation  
6 standards, TS-R-1, and Part 71.

7 We published the Issues Paper on July 17,  
8 2000, and began to enhanced-public participation  
9 process. We established a Web site for the Issues  
10 Paper, had our first meeting with the stakeholders  
11 here in the auditorium on August 10, 2000. We also  
12 had two subsequent meetings in Atlanta, Georgia on  
13 September 20th, and in Oakland, California on  
14 September 26th. Transcripts and summaries of these  
15 meetings were placed on the Web site and were also  
16 provided to the Technical TAs. We believe the  
17 enhanced-public participation process was very  
18 effective, with a good outcome. In that, we received  
19 a lot of comments, verbal and written comments, and we  
20 considered all these comments in the development of  
21 the proposed rule.

22 Throughout, we had good coordination with  
23 DOT. They participated in all the public meetings, and  
24 a DOT staff member was a member of our working group  
25 that drafted the proposed rule. Next slide, please.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 (Slide)

2 Summary of the Proposed Rule. The rule  
3 contains 11 IAEA compatibility changes. Of the 11, we  
4 are proposing to adopt nine changes. The two that we  
5 are not proposing to adopt are the use of SI units  
6 only, and the Type C package requirements. Adoption  
7 of SI units only would be against Commission  
8 mitigation policy, also may create a situation that  
9 would compromise safety. As for the Type C package,  
10 the IAEA will conduct a further evaluation of the  
11 requirements for the Type C package. Also, the staff  
12 believes that there will be very few shipments that  
13 will be affected by these Type C requirements.  
14 Moreover, we have in Part 71 specific requirements for  
15 air transport of plutonium which are based on  
16 statutory mandates. The DOT is in agreement with the  
17 NRC proposed position.

18 The rule also contains eight NRC-initiated  
19 changes. These include a proposed position on the  
20 petition for rulemaking, PRM 71-112, which requests  
21 the elimination of the double-containment requirements  
22 for plutonium shipments. It also contains a proposed  
23 position on the surface contamination standards, as  
24 applied to high-level waste and spent fuel packages,  
25 and the revision of the fissile material exemption and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 general license provisions to address the Emergency  
2 Rule unintended economic impact.

3 We prepared a draft regulatory analysis,  
4 or RA, to support the proposed rule. The draft RA  
5 indicates that there will be no significant cost  
6 because of the proposed changes. However, the changes  
7 would result in net benefit in terms of NRC regulatory  
8 efficiency as licensees and certificate holders will  
9 have one set of regulations to comply with.

10 We also prepared a draft environmental  
11 assessment, or EA, to support the proposed rule. The  
12 draft EA indicates that there will be no significant  
13 environmental impact resulting from the proposed  
14 changes. Next slide, please.

15 (Slide)

16 General Public Comments. The following  
17 four slides cover general public comments that are not  
18 specifically tied to the technical issues. John Cook  
19 will address comments on five specific technical  
20 issues. This slide deals with comments on the  
21 regulatory burden.

22 The issue of harmonization with TS-R-1  
23 versus the cost of implementation, and the result  
24 safety benefit were the subject of several comments.  
25 There was a general concern that little or no safety

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 benefits will come from several of the IAEA  
2 compatibility changes. The staff responded that it is  
3 important to stay compatible with international  
4 regulations while maintaining safety.

5 Another issue that some materials may come  
6 under NRC jurisdiction as a result of the changes.  
7 There was a concern about NRC seeking to regulate  
8 naturally occurring radioactive material, or NOR. The  
9 staff responded that this rulemaking would not expand  
10 NRC's jurisdiction over NOR, but this would be under  
11 DOT regulations. Next slide, please.

12 (Slide)

13 Continuing with general public comments --  
14 safety. Several interest groups expressed the view  
15 that NRC should consider its regulations to be the  
16 minimum, irrespective of the IAEA compatibility  
17 changes. The staff responded that the NRC considered  
18 the latest advances in science and in models. The  
19 IAEA has shifted to a dual-spaced approach in its  
20 models.

21 Several public interest groups expressed  
22 a view that the Part 71 rule changes should not result  
23 in reduction in safety. The staff responded that an  
24 NRC goal to ensure that any changes will maintain or  
25 enhance safety. Next slide, please.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 (Slide)

2 Continue with general public comments --  
3 public participation. Several commenters stated the  
4 NRC should increase the number of public meetings and  
5 hold them at different locations. The staff has  
6 proposed holding additional public meetings after the  
7 proposed rule is published.

8 We received several requests for extending  
9 the public comment period, which ended on September  
10 30, 2000. We responded that the current deadline  
11 would not be extended because of the need to provide  
12 input to the Commission in a timely manner. However,  
13 we encouraged everyone to submit their comments even  
14 long after the deadline had passed, and indicated  
15 there would be future opportunities for public  
16 comment.

17 Several groups commented on the lack of  
18 easy access to the IAEA documents. We responded by  
19 placing a direct link from our Web site to the IAEA  
20 publisher here in the United States, and by making the  
21 documents available for review at the Public Document  
22 Room.

23 In addition, there were concerns noted  
24 that the IAEA regulatory process to develop its TS-R-  
25 11 was not open to the public. However, staff

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 continues to engage the stakeholders in this  
2 rulemaking effort. Next slide, please.

3 (Slide)

4 Continue with General Public Comments --  
5 coordination with other regulators. There were  
6 comments that NRC and DOT should address all public  
7 comments. The staff responded that we are  
8 coordinating with DOT, that we will be addressing  
9 comments affecting both the NRC and DOT rules.  
10 Further, DOT committed in the public meetings to  
11 consider comments related to their rulemaking effort.  
12 Representative of the Agreement States stated that  
13 they feel that they play an important role in  
14 developing the proposed Part 71 rule.

15 John now will present five technical  
16 issues that received the most comments, and I will  
17 have one final slide somewhere at the end, after his  
18 presentation.

19 MR. COOK: Good afternoon. Next slide,  
20 please.

21 (Slide)

22 The purpose of this part of the  
23 presentation is to provide a summary of five issues  
24 that have generated public interest in this rulemaking  
25 activity to date.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           This slide is Issue 2, radionuclide  
2 exemption values. This is one of the first of the 11  
3 issues in this rulemaking that relate to the domestic  
4 adoption of IAEA's current transportation regulations  
5 in TS-R-1.

6           IAEA's previous regulations used a single  
7 activity concentration value of 70 Bq/g for all  
8 radionuclides in exempting materials from the  
9 transportation regulations. Although convenient, the  
10 70 Bq/g value was empirically based.

11           In its current regulations, IAEA adopted  
12 a dose-based approach for material exemptions. In  
13 this approach, the activity concentration exemption  
14 value for each radionuclide is set so that a dose of  
15 1 millirem per year is not likely for a worker or a  
16 member of the public.

17           Similarly, an exempt activity value was  
18 also set for each radionuclide. IAEA then applied  
19 this approach to transportation. For example, the  
20 exemption value for cobalt-60 changed from its  
21 previous 70 Bq/g to 10 Bq/g whereas the exempt  
22 activity concentration for Item 129 changed from its  
23 previous value of 70 Bq/g to its new value of 100  
24 Bq/g.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           In addition, natural materials and ores  
2 containing naturally occurring radionuclides that are  
3 not intended to be processed for the use of those  
4 radionuclides are exempt from the regulations provided  
5 the activity concentration does not exceed 10 times  
6 the value specified. Without this exemption,  
7 significant quantities of minimally radioactive  
8 material might be regulated only when transported.  
9 However, this provision results in different treatment  
10 for natural material and ores that are processed for  
11 the radionuclides. Staff intends to specifically  
12 request public comment on this provision of the  
13 proposed rule.

14           We have concluded the adoption of these  
15 provisions is warranted. It maintains compatibility  
16 with IAEA. Further, DOT regulates definition of  
17 radioactive material and transport, and DOT also  
18 intends to propose adoption of these provisions.

19           Some public commenters expressed concern  
20 over the numerical increase in exemption values for  
21 some radionuclides. However, the estimated doses for  
22 transporting common radionuclides using the new  
23 exemption values are generally the same as those using  
24 the 70 Bq/g exemption value previously used. Next  
25 slide, please.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 (Slide)

2 Issue 12, special package authorizations,  
3 is the first of the eight NRC-initiated issues that  
4 are part of this rulemaking, and it is based on a  
5 lesson learned from our review and approval of the  
6 Trojan Reactor Vessel package shipment in 1998. The  
7 basic situation with the Trojan Reactor Vessel was  
8 that its shipment was necessary for disposal, but it  
9 was too massive to satisfy all applicable  
10 transportation package standards. Since there was no  
11 Part 71 regulatory provision for dealing with packages  
12 like Trojan, staff used Part 71 exemption provisions,  
13 and that, in turn, led to additional application  
14 processing, including a Special Review Team and  
15 Commission review.

16 The indications from industry are that  
17 such requests will likely continue. A proposed  
18 special package authorization would preclude the use  
19 of exemptions for what appears will become recurring  
20 case work. This provision would also help integrate  
21 the review of unusual packages with other Part 71 case  
22 work, and help standardize the reviews as well. We  
23 therefore concluded that this provision is warranted.

24 Some commenters expressed concern that the  
25 regulatory provision for special packages might be

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 extended to other packages, and that the additional  
2 information associated with the exemption process  
3 would not be provided through the special package  
4 authorization process.

5 The proposed rule, we believe, makes clear  
6 that the threshold for acceptance for special package  
7 authorization is set high, in that the provision would  
8 typically apply to one-time disposal shipments, and in  
9 that special package authorizations would be subject  
10 to case-by-case review similar to that used for other  
11 packages.

12 Also, with regard to information concerns,  
13 any special operational procedures and administrative  
14 controls would be included in the public record of the  
15 decision on the special package authorization. Next  
16 slide, please.

17 (Slide)

18 Issue 15 concerns a change authority for  
19 dual-purpose certificate holders, concerns Commission  
20 direction to conform Part 71 to a recent change to  
21 Part 72, that being 72.48, regarding the authority for  
22 making minor package design changes.

23 The proposed provision would provide  
24 needed consistency in storage and transport change  
25 authorities. A factor here is that IAEA regulations

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 call for changes to Type B transport package designs  
2 to be reviewed by the competent authority, not  
3 certificate holders. Designs changed by certificate  
4 holders without NRC review might not be accepted  
5 internationally.

6 Another factor is that Part 71 and 72  
7 package approval processes differ, such that some Part  
8 72 change requirements have no counterpart in Part 71.  
9 For example, Part 72 calls for all changes to be  
10 updated in the final safety analysis report, but there  
11 is no final safety analysis report for Part 71  
12 packages because a different documentation system is  
13 used.

14 To respond to these issues, staff is  
15 proposing that two methods be provided for minor  
16 changes to Part 71 designs. First, continue the  
17 current Part 71 amendment process for minor design  
18 changes. These amendments require NRC staff review,  
19 and amended certificates are accepted internationally.  
20 This method maintains compatibility with IAEA.

21 Second, staff is proposing a new subpart  
22 (i) to Part 71, which would provide requirements for  
23 the new Type B DP packages that would permit  
24 certificate holders of dual purpose spent nuclear fuel  
25 casks intended for domestic use to make minor design

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 changes. Also, subpart (i) provides for 72.58 type  
2 changes in a manner that's consistent with Part 71.

3 Some public comments expressed concern  
4 that NRC should approve all changes, and that rather  
5 than conform Part 71 to Part 72, the change authority  
6 in Part 72 should be revoked. However, NRC's  
7 experience with change authority in Parts 50 and 72  
8 has shown that changes can be safely made. Further,  
9 the proposed change authority is limited to  
10 certificate holders of dual purpose spent nuclear fuel  
11 casks effectively limiting the authority to  
12 certificate holders with significant design expertise.  
13 Also, industry may continue the use of traditional  
14 Part 71 amendments to preserve international design  
15 acceptance. Next slide.

16 (Slide)

17 Issue 17, double containment of plutonium,  
18 concerns a petition to NRC to eliminate the current  
19 Part 71 requirement that plutonium in amounts  
20 exceeding 20 curies be shipped in a package with  
21 separate inner and outer containers, or double  
22 containment.

23 IAEA regulations have no double  
24 containment provisions. Staff has reviewed the  
25 petition and believes that NRC's Type B packaging

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 standards provide adequate containment for all  
2 radionuclides, including plutonium, without the need  
3 for double containment. Part 71 already excludes  
4 common solid forms of plutonium from the double  
5 containment provision, including spent nuclear fuel,  
6 plutonium metal, and glass logs. Staff has proposed  
7 granting the petition, noting that the solid form  
8 requirement for plutonium shipments would be retained.  
9 The proposed rule treats plutonium on the same  
10 transport risk basis as all other radionuclides. The  
11 reduction and the redundant packaging barriers might  
12 reduce shipper doses by simplifying loading operations  
13 and reduce shipper costs to a resultant increase in  
14 package payload.

15 Public comments opposed to granting the  
16 petition express the belief that plutonium warrants  
17 additional precautions. They also indicated that  
18 double container provisions are not overly burdensome.  
19 Other concerns were raised by stakeholders. However,  
20 the staff concludes that Type B package standards are  
21 adequate to protect public health and safety, and that  
22 double containment is not justified on a risk basis.  
23 Next slide, please.

24 (Slide)

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Issue 18, contamination limits for spent  
2 fuel packages, is related to spent fuel shipment  
3 contamination events in Europe a few years ago that  
4 focused attention on package surface non-fixed  
5 contamination levels. The current limit that applies  
6 to all packages is 4 becquerels per square centimeter.  
7 The U.S. Department of Transportation regulates U.S.  
8 package and conveyance contamination limits.

9 The Commission asked the staff to foster  
10 dialogue on the appropriateness on this limit for  
11 spent fuel packages as part of this rulemaking.  
12 Basically, the issue is whether the contamination  
13 limit for spent fuel packages should be more risk-  
14 informed. This might lead to an increased limit, and  
15 that could reduce shipper doses associated with  
16 decontaminating packages. However, an increase in the  
17 contamination limit might also result in an increase  
18 in transport worker and public doses.

19 The public appears to be concerned about  
20 shipper doses, but most view shippers as trained in  
21 how to deal with contamination. The public comments  
22 do not appear to support a change that could lead to  
23 increased public doses. Also, no IAEA member State  
24 proposed a change to the TS-R-1 contamination limit,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 and U.S. industry has not indicated a change is needed  
2 domestically.

3 Since there is no apparent basis for a  
4 change at this time, no domestic changes are being  
5 proposed. However, international interest in the  
6 package contamination issue remains high, and IAEA has  
7 initiated a coordinated research project on package  
8 contamination. Canada, France, Germany, India, Japan,  
9 the United Kingdom, the United States, and others,  
10 have expressed interest in participation. NRC will  
11 lead the U.S. participation, and the Department of  
12 Energy has indicated it will join the effort.

13 U.S. participation will focus on  
14 evaluating and comparing the shipper, transport  
15 worker, and public doses associated with current and  
16 alternative contamination limits. New contamination  
17 control techniques will also be investigated. IAEA  
18 has proposed a two-year schedule so that the  
19 coordinated research project results can be considered  
20 in a 2003 edition of TS-R-1.

21 This completes the presentation of issues.  
22 Naiem will now conclude the presentation.

23 MR. TANIIOUS: Thank you, John. May I have  
24 the last slide, please.

25 (Slide)

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Proposed rule schedule. Staff plans to  
2 have three public meetings. The normal comment period  
3 is 75 days. The staff has proposed 90 days because of  
4 the size and complexity of the rule. In addition,  
5 this will allow time for additional public meetings  
6 during the comment period.

7 We will continue coordination with the  
8 Department of Transportation to publish around the  
9 same time. Publication of the final rule is estimated  
10 one year after the end of the public comment period.  
11 This concludes our presentation. Thank you.

12 CHAIRMAN MESERVE: I'd like to thank you  
13 all for what has clearly been a massive and very  
14 impressive effort that the staff has undertaken and  
15 for a very helpful briefing you have provided this  
16 afternoon.

17 I have a few questions, and then we will  
18 go through the normal passage to my colleagues.

19 When you were talking about the  
20 coordination with the Department of Transportation,  
21 you indicated that the issues relating to the 11 IAEA-  
22 related changes had been coordinated with DOT and that  
23 they were comfortable with the position that you have  
24 advocated.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           When you mentioned the NRC-related  
2 changes, however, you did not mention coordination  
3 with the Department of Transportation, and it wasn't  
4 clear from the paper whether there has been some. Are  
5 any of those issues one in which there is --

6           MR. TANIOUS: There was coordination, Mr.  
7 Chairman. When we were drafting the proposed rule,  
8 Fred Ferrari, Dr. Ferrari is a member of our working  
9 group, and we discussed all issues -- NRC-initiated  
10 issues as well as IAEA.

11           They don't have the NRC-initiated issues  
12 in their rules. They had comments on it, but I made  
13 a point on the IAEA because of compatibility, that  
14 they agree with our position.

15           CHAIRMAN MESERVE: Will we be seeking them  
16 to make -- is there a need for them to make  
17 compatibility changes with their regulations in order  
18 to accommodate the NRC issues?

19           MR. TANIOUS: I don't believe so, but I  
20 stand corrected. I think all our changes have to do  
21 with spent fuel, Type B packages, that petition on the  
22 level of containment, all the issues. I stand  
23 corrected, however, I might not be --

24           MR. COOK: I would just add that the two  
25 agencies are making sure that where the regulations

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 overlap, that both sets of revisions are similar. For  
2 example, the A-1 and A-2 value changes will be the  
3 same both in NRC and DOT regulation, the exemption  
4 values will be the same in both sets of regulations,  
5 but where the responsibilities differ are where a  
6 proposed change pertains only to NRC regulation, we  
7 have coordinated those with DOT during the development  
8 of the rule, and they have no objection to our  
9 proposal, as we are advancing it in the proposed rule.

10 CHAIRMAN MESERVE: What about with  
11 Agreement States, how much interaction have you had  
12 with Agreement States, and how much are they impacted  
13 by this?

14 MR. COOK: We have not had any specific  
15 involvement with Agreement States individually to this  
16 point in the rulemaking process, but we would -- we  
17 provided an advance copy of the proposed rule to them  
18 and have not received significant comment on that,  
19 although there has been some comment from them.

20 MR. TANIOUS: May I make a comment on  
21 this, Mr. Chairman. We had two Agreement States  
22 invited here to the first meeting we had on August  
23 10th and, also, before we finalize this proposed rule,  
24 we had the package circulated to the Agreement States  
25 back on December 5th, to get their comments before we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 finalize it and send it to you. So we had these two  
2 interactions with Agreement States.

3 CHAIRMAN MESERVE: Did you get comments  
4 from them?

5 MR. TANIIOUS: Yes, we have received three  
6 comments, I think. They were considered, yes, in the  
7 rule.

8 CHAIRMAN MESERVE: The one particular  
9 issue that you've raised that I had some questions  
10 about was Issue 2, which is the exemption values  
11 issues. You indicated when you were describing this,  
12 that there was concern that by changing the exemption  
13 values, that it might be an expansion of NRC --  
14 require the regulation of materials during transport  
15 that would not otherwise be regulated. I can  
16 understand that for some materials, but the categories  
17 of materials that we regulate are, as you know, source  
18 materials, byproduct materials, special nuclear  
19 material and, if you don't fall in those categories,  
20 this rule, I believe, would have no effect, at least  
21 as to the NRC jurisdiction. It might with regard to  
22 Department of Transportation.

23 MR. TANIIOUS: It will have Department of  
24 Transportation, but in an indirect way it may have

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 because our regulations are adopted with Agreement  
2 States, which also regulate these materials.

3 CHAIRMAN MESERVE: I understand that the  
4 practicalities that you confront and that you are  
5 trying to put everything on a consistent risk basis,  
6 and that causes to adopt different concentration  
7 limits so that when you do that analysis you end up  
8 with a constant risk. Given that that is the  
9 philosophy that you are trying to follow, how can you  
10 justify the 10 times limit for norm?

11 MR. TANIOUS: I don't have a quick or  
12 ready answer for you, Mr. Chairman. I think that was  
13 the position taken by the IAEA and we adopted their  
14 position, including that 10 times the allowance for  
15 all the minerals and so forth.

16 MR. VIRGILIO: I would just say, Mr.  
17 Chairman, that we agree that it is somewhat  
18 problematic, and we are going to seek public comment  
19 on that issue specifically when we put the rule out  
20 for comment.

21 CHAIRMAN MESERVE: The papers that you  
22 have described to us suggest that if you had adopted  
23 the same concentration limit, then there would be a  
24 wide range of activities that would then material  
25 being shipped would be encompassed under rules

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 governing radioactive material shipments, and that  
2 this would expand into industries that now don't  
3 recognize perhaps that they are transporting materials  
4 with trace amounts of radioactivity.

5 Do you have any sense of the volume or the  
6 areas of transport that would be captured if you were  
7 to use the same exemption limits as opposed to 10  
8 times?

9 MR. VIRGILIO: Not specific in terms of  
10 quantity, but we believe it would be quite a bit.

11 CHAIRMAN MESERVE: For what types of  
12 materials?

13 MR. VIRGILIO: As we discussed in the  
14 paper, we talked about worse. I mean, you are talking  
15 about norm basically.

16 CHAIRMAN MESERVE: You mean phosphates and  
17 the kinds of ores that are not necessarily uranium or  
18 thorium ores, but all kinds of broader range of ores  
19 that have natural constituents in them, so parts of  
20 the mineral processing industry that otherwise aren't  
21 thought of as part of the nuclear world have to deal  
22 with materials that have trace amounts of materials in  
23 them because it's part of our environment.

24 MR. VIRGILIO: Yes, sir.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   CHAIRMAN MESERVE: If you go to the 10  
2 times limit, do you have any sense of the extent to  
3 which we would bring -- the Agreement States or DOT  
4 bring within regulatory control in industries that are  
5 currently exempted?

6                   MR. VIRGILIO: I don't. John, do you have  
7 a sense?

8                   MR. COOK: No, we don't have any specific  
9 assessment of what that might do, although the point  
10 behind using that factor 10 multiplier for the  
11 exemption value is to exclude bringing in transport of  
12 materials that would otherwise be subject to the  
13 regulations if the factor of 10 increase was not  
14 there.

15                   CHAIRMAN MESERVE: I understand that. I'm  
16 just wondering what things you are still capturing  
17 that maybe you don't intend to. I mean, I think we  
18 need to understand the scope of things that are  
19 enveloped in the rule that are different from where we  
20 are today, and that's the reason for the question.

21                   Is there an effort -- is there something  
22 that's underway that will enable us to have that  
23 information before us, if not by the time of the  
24 proposal, by the time of the final rule?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. PAPERIELLO: Mr. Chairman, we can do  
2 that.

3 CHAIRMAN MESERVE: Commissioner Dicus.

4 COMMISSIONER DICUS: Thank you. I'm going  
5 to follow right in behind or maybe echo the Chairman  
6 in what he said because one of my questions was, do  
7 you even have a rough idea about the amount of  
8 material or how much material would be encompassed by  
9 adoption of what you are recommending that might be  
10 adopted in the rule, and I think I'm hearing you are  
11 not sure right now what that would be. So, I have the  
12 same interest. And let me then take this a little bit  
13 further.

14 You've addressed the five issues that  
15 apparently of the 19 issues I understand I think we  
16 have, that had the greatest public comment in the  
17 preliminary aspects of this, but if we were to address  
18 all 19 of the issues, do you have a concept of what  
19 the impact is going to be on our licensees or on  
20 others who transport, and together, what the impact  
21 might be on this Agency in terms of its resources? Is  
22 this something we are going to have to learn?

23 MR. TANIOUS: The regulatory analysis we  
24 prepared lacks from hard cost data. However, still  
25 we, through the professional judgments of the staff

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 and various documents, it does indicate that most of  
2 the changes -- all the 19 changes will be no cost  
3 impact to the industry.

4 COMMISSIONER DICUS: I think that might be  
5 debatable, I'm not sure, but I think we may learn that  
6 in our rulemaking process. It addresses one of the  
7 issues that has been raised by the public, and I've  
8 heard this before, that the IAEA process and their  
9 recommendation generally does not have a public  
10 component, we're very much aware of that, and we've  
11 discussed this in the past, but where we bring the  
12 public into the decisionmaking is in the process that  
13 we go through, the administrative process to do our  
14 rules. I think this is something we might just take  
15 a good, hard look at because I think we need to go  
16 forward with the proposed rule. I do support that.  
17 I don't know where I'll stand when you come back the  
18 second time and say, "Well, here's the rule", because  
19 I'm not sure, based upon what I'm saying, where the  
20 increase in public health and safety is, or increase  
21 in protection of the environment, if we adopt or don't  
22 adopt these provisions. Does someone want to give me  
23 a little feedback on that at this point? Is there,  
24 for whatever cost might be incurred, a real advantage

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 to what we're going to be doing? This hits our  
2 effectiveness and efficiency thing, I think.

3 MR. BRACH: Let me, if I may -- Naiem had  
4 mentioned that this past late summer or early fall we  
5 had a series of public meetings and, as Naiem  
6 mentioned, here in Washington, Atlanta and Oakland, as  
7 well as we had a Web site, and also asking folks to  
8 provide us written input on the various issues,  
9 whether they be TS-R-1 derived issues or the other  
10 eight issues that the Commission through a series of  
11 SRMs had asked us to include.

12 The reason -- now coming back to your  
13 question -- the reason that John in his summary had  
14 identified the five issues for a little bit more in-  
15 depth discussion, in our public meetings -- and these  
16 are both public comments -- public comments from both  
17 industry, concerned public interest groups, and  
18 individual citizens. We focused on those that seemed  
19 to have the most interest from the standpoint of  
20 whether the impact or concern. If we look at the  
21 various issues, there are a number of changes in Part  
22 71 that this proposed rulemaking package includes from  
23 the standpoint, though, when you sit back and look at  
24 the cost on the industry, if you will, and the cost to  
25 NRC in the process, our regulatory analysis determined

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 that, overall -- and that draft regulatory analysis  
2 will be part of a proposed package for public review  
3 and comment as well -- it identified that there will  
4 be increased efficiencies for both the NRC and the  
5 regulated industry with regard to the proposed  
6 actions.

7 The reason, again, we focused not on all  
8 19, but on the five that John walked through is those  
9 are the ones that gathered the most in the way of  
10 public interest or industry comment as we were going  
11 through the open public participatory process this  
12 past late summer and early fall.

13 COMMISSIONER DICUS: So you're saying then  
14 that if we went with all 19, there is an efficiency.

15 MR. BRACH: Well, of the 19, there were a  
16 few that staff, based on our further review and based  
17 on input and comments we received, that we are not  
18 recommending that we go forward with. I believe Naiem  
19 had mentioned two of the IAEA TS-R-1.

20 COMMISSIONER DICUS: If we are selective  
21 in our adoption of the IAEA and together with what we  
22 choose to do with our own initiative which, from what  
23 your testimony, we are in sync with DOT on these, for  
24 the most part, if we are selective particularly with

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the IAEA recommendations, what is the impact on our  
2 international shippers?

3 MR. BRACH: Our international shippers  
4 being domestic U.S. companies?

5 COMMISSIONER DICUS: Domestic companies in  
6 international transportation.

7 MR. BRACH: That clearly was a fundamental  
8 element of our review and determination of the two TS-  
9 R-1 issues that we had identified that we are not  
10 recommending to the Commission to proceed with in the  
11 rulemaking. The SI units, which would have not  
12 allowed the continuation of existing NRC policy on  
13 maintaining dual units, both customary and SI units.  
14 The other is the Type C that, based on our review and  
15 comments received, they did not, from what we heard  
16 from both industry and the public, a need on NRC's  
17 part to revise our rules for either one of those two.  
18 So, from an international commerce perspective and as  
19 we understand the U.S. industry's involvement in  
20 international commerce, we did not see that our  
21 recommendation of nonadoption of those two would have  
22 a significant impact.

23 COMMISSIONER DICUS: The LDM will not be  
24 an issue as well. Okay. One final, if I could, Mr.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Chairman. It goes to Slide 9 which, really, I think,  
2 is addressing the Trojan Reactor Vessel disposal.

3 Given the fact that we are seeing some  
4 change in the reactor industry with regard to license  
5 renewals, is a rule change of the nature suggested  
6 really necessary? I mean, do we really -- how many of  
7 these do we anticipate being asked about to dispose of  
8 the entire vessel, and can this not be handled on a  
9 case-by-case basis rather than going into a rulemaking  
10 situation? I'd just like some feedback on that.

11 MR. COOK: We are trying to develop a  
12 standardized approach for these types of vessels  
13 because of the indication from industry that the use  
14 for these kinds of packages or requests to ship these  
15 kinds of packages is going to increase.

16 COMMISSIONER DICUS: That's part of my  
17 question.

18 MR. VIRGILIO: Commissioner, the Trojan  
19 Vessel type disposal, while you dispose of the vessel  
20 itself, is from both an economic and an ALARA  
21 perspective, a much better way to go.

22 COMMISSIONER DICUS: I agree, I'm not  
23 arguing that point.

24 MR. VIRGILIO: The issue is, where can you  
25 dispose of that vessel. And with Trojan, there was

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 access to a disposal site, and it worked out very  
2 well. Here on the East Coast, that may not be  
3 feasible because of what's happening in the low-level  
4 waste disposal area. So, I think it's preferred by  
5 the utilities. The utilities we've spoken to would  
6 like that option, and we would do it on a case-by-case  
7 basis.

8 COMMISSIONER DICUS: I'm not debating  
9 that, but my question has to do with whether you put  
10 it into a formal rulemaking.

11 MR. VIRGILIO: This is more efficient, we  
12 believe, an efficient approach, but you could still do  
13 it on a case-by-case basis. This lays out the rules  
14 for engagement very clearly, and I think it's a  
15 preferred option.

16 COMMISSIONER DICUS: Okay. Thank you, Mr.  
17 Chairman.

18 CHAIRMAN MESERVE: Commissioner Diaz.

19 COMMISSIONER DIAZ: Thank you, Mr.  
20 Chairman. Referring back to something that the  
21 Chairman and Commissioner Dicus said, on the bottom of  
22 page 4, that bullet on materials to come under the NRC  
23 jurisdiction, and there was a lot of talk about norm.  
24 However, the Commission is exploring whether we should  
25 go into norm. Were there any of the commenters or the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 staff that could see whether we would be looking at  
2 transportation of norm, something that might play into  
3 our role? Is anybody concerned about it? Is it an  
4 issue? Will it be an issue?

5 MR. TANIOUS: The comments were concerned  
6 that we, NRC, seeking to regulate normal, I mentioned  
7 earlier, and the staff at that meeting stated clearly  
8 that we are not seeking to regulate normal, at least  
9 not in this rulemaking.

10 Under the Memorandum of Understanding  
11 between DOT and NRC, they divided the responsibility  
12 by activity, like Dr. Paperiello mentioned, and so  
13 this is an area where slow activity would fall under  
14 DOT. But it still, I think, may cause some  
15 complication because it would be okay under the  
16 proposed rule for Part 71 to transmit these variable  
17 limits because of the constant dose model, but in  
18 disposal it would not match because they still use the  
19 70 Bq/g.

20 COMMISSIONER DIAZ: Nothing on norm.

21 MR. TANIOUS: No.

22 COMMISSIONER DIAZ: I noted on page 10,  
23 you know, and you covered it, that DOT has expressed  
24 concern about the NRC adoption of the change of dual  
25 purpose certificate holders. Could you elaborate a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 little bit on the concerns that the DOE and the other  
2 issues -- is there anything else that weighs on this  
3 from DOE?

4 MR. BRACH: I don't recall -- I apologize  
5 -- that the Department of Energy had concerns they'd  
6 expressed to us on the dual purpose cask designation.

7 MR. TANIOUS: But we will check.

8 COMMISSIONER DIAZ: And the last one which  
9 has already been touched on, but on the issue of the  
10 contamination limits, and because we are not going to  
11 deal with it at this time, because the coordinated  
12 research project is going to be dealing with it. Do  
13 you have an idea of the timetable? Will that be  
14 completed in time for this rulemaking, or not be  
15 completed in time for this rulemaking?

16 MR. COOK: The proposed schedule for the  
17 CRP which is actually being developed on an  
18 accelerated schedule is two years from the date of  
19 initiation, which will probably be in May this year.  
20 So, it's unlikely that its effort will be completed  
21 before this rulemaking is completed. However, it is  
22 intended to be completed before the next cycle for the  
23 revision of TS-R-1, so it should be available to be  
24 considered at that time by IAEA.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   COMMISSIONER DIAZ: And we will know about  
2 that early enough so that we can stick our fingers  
3 into it.

4                   MR. COOK: I believe so.

5                   COMMISSIONER DIAZ: Thank you.

6                   CHAIRMAN        MESERVE:           Commissioner  
7 McGaffigan.

8                   COMMISSIONER MCGAFFIGAN: Thank you, Mr.  
9 Chairman. I'm going to have some questions, and I  
10 think I'm going to have numerous other questions I'll  
11 just deal with the staff in private on because I  
12 regard this as a target-rich environment as the GAO  
13 regards our information technology programs.

14                   I'm going to stick on where Commissioner  
15 Diaz just finished. I've talked to European  
16 regulators about this 4 becquerels per centimeter  
17 limit, and no one will defend it in private. No one  
18 wants to be quoted in public for members of the  
19 public present. There really is no basis for it.

20                   The British did a paper several years ago,  
21 I think in the early '90s, that looked at removal data  
22 and gamma contamination, and they suggested that the  
23 limits could be moved up significantly. So, I would  
24 hope we could move relatively rapidly. This is one of  
25 the European regulators in public was quoted as

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 saying, "This is a cleanliness standard, not a health  
2 and safety standard". And the last time, as I said,  
3 at one of our previous meetings, our statutory mission  
4 is adequate protection of public health and safety, it  
5 is not adequate protection of public health and safety  
6 and cleanliness, whatever that means.

7 So, I hope we can get to it, and I  
8 personally -- I'm going to be around here, I got  
9 confirmed until 2005 -- I hope that if you make some  
10 progress in this, you can build on the British, that  
11 we could do it domestically next time around, which is  
12 about two years from now, rather than waiting until  
13 four years from now when it gets a little tenuous as  
14 to whether I'm going to still be around. Just so you  
15 know, I'm not going to go away, and the statement that  
16 we don't have the technical basis for making the  
17 change at the moment, I think that that's just because  
18 we haven't worked on it, and I think that it's there,  
19 and we should get on with it at some point.

20 I'd like to ask a couple of questions  
21 about the process. The public complained about these  
22 documents not being available. Are they now all  
23 available, all the IAEA documents? Are they publicly  
24 available as of this minute?

25 MR. TANIOUS: Yes, Chairman --

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   COMMISSIONER MCGAFFIGAN:       I'm not  
2 Chairman, don't intend to be either. That's the  
3 Chairman.

4                   MR. TANIOUS: Yes, they are. The IAEA  
5 published a less expensive version last summer, and we  
6 put that on the Web site.

7                   COMMISSIONER MCGAFFIGAN: Are all the  
8 backup documents available?

9                   MR. TANIOUS: And all the backup documents  
10 are available in the Public Document Room, like the  
11 ASME code and some of the other --

12                   COMMISSIONER MCGAFFIGAN: I thought there  
13 was an IAEA backup technical document that was going  
14 to be published --

15                   MR. TANIOUS: The SP-2, I believe, is  
16 still in draft -- John, is it not?

17                   MR. COOK: It's not yet published. It's  
18 not yet available. But the SP-2 is the intellectual  
19 framework for this rulemaking.

20                   MR. TANIOUS: Right.

21                   COMMISSIONER MCGAFFIGAN: Can we steal a  
22 copy and put it on our Web page or something, violate  
23 some copyright law? How do we help the public know  
24 what's going on, what the intellectual basis is?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   MR. COOK: Well, in this regard, at the  
2                   urging of the U.S. and others, the IAEA is  
3                   establishing a Web site to make their publications  
4                   available to the public. That has not quite happened  
5                   yet, but it is very close to being available. Once it  
6                   is, I would believe that this would be one of the  
7                   first publications that would be put up on that Web  
8                   site. But although we are also anxious for its  
9                   publication, it has not quite yet happened, and as  
10                  soon as it is we would make it available here, and  
11                  hopefully IAEA would already have made it available  
12                  there.

13                 COMMISSIONER MCGAFFIGAN: I think it's a  
14                 very unsatisfactory situation for that. I know we  
15                 have repeated probably parts of it here, and DOT's  
16                 going to repeat it in their statement of  
17                 considerations, but I think it's pretty unsatisfactory  
18                 that, what is it, three years now after these rules  
19                 were completed, we still don't have -- it would be  
20                 sort of like us trying to publish a rule without a  
21                 statement of considerations, and say the statement of  
22                 considerations will come three years later, that we  
23                 will explain the explanatory material as to what it is  
24                 we're doing here. I think we have to -- I know it's  
25                 not your fault, it's the IAEA's fault, but I think

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 it's terribly important that that document be  
2 available sometime soon so that people can see it.

3 An issue you didn't discuss, I think it's  
4 No. 3, we're making two exceptions. One is for  
5 californium-252 where you say essentially you think  
6 the IAEA is revisiting that in the current round, and  
7 the other is for molyb-99, and you say you are doing  
8 that because of the significant increase in shipments  
9 and occupational doses that might result from going  
10 from 16.2 curies to 20 curies, or going from 20 down  
11 --

12 MR. COOK: It's the other way, right.

13 COMMISSIONER MCGAFFIGAN: Can you -- is  
14 that second change also being considered by IAEA in  
15 the current round?

16 MR. COOK: It has been advanced to IAEA,  
17 so it is being considered. The U.S. has suggested  
18 that this value be changed in IAEA regulation so that  
19 we do not have to adopt the domestic difference for  
20 the molybdenum level.

21 COMMISSIONER MCGAFFIGAN: But is there a  
22 difference -- I'm trying to help the public understand  
23 the IAEA process here. Is there a difference in the  
24 current status of the likelihood of the californium-  
25 252 change compared to the molyb-99 change being made

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 in the current round of negotiations on the next  
2 update of TS-R-1?

3 MR. COOK: The californium-252 change will  
4 probably happen, that is, IAEA will revert to the  
5 value which is currently in our regulations now. This  
6 is pretty likely that that will happen. It is not as  
7 clear about the molybdenum value, that that would be  
8 changed in the next version.

9 COMMISSIONER MCGAFFIGAN: Just bear with  
10 me a second. I've got Mr. Taylor's May 31, 1996  
11 letter to Agnes Bishop in front of me, and I put it in  
12 my vote so that people would have it up there when we  
13 voted on it sometime ago.

14 What's changed? I mean, Mr. Taylor was  
15 pretty definitive with regard to the exemption values,  
16 Issue No. 2, and you have six provisions that we are  
17 unable to identify a public health or safety problem  
18 with the current provisions, the draft provisions  
19 would decrease harmony -- he basically says we're not  
20 going to adopt them -- since neither the UF nor  
21 exemption value provisions are needed for safety,  
22 their adoption in the United States will depend  
23 primarily on the provisions economic merit. It is our  
24 judgment that both provisions would fail the domestic  
25 cost-benefit screening because we are unable to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 identify and quantify sufficient benefit to compensate  
2 for their costs. I'm not reading the whole letter,  
3 but it was pretty explicit, and we'll stay on  
4 exemption values at the moment, that we thought that  
5 this was a bad provision, and we knew about the factor  
6 of 10 that you're now talking about and the Chairman  
7 asked you about when this went through. Didn't we?  
8 The factor of 10 was an accommodation --

9 MR. COOK: That came after the date of  
10 that letter.

11 COMMISSIONER McGAFFIGAN: So the factor of  
12 10 is the solution, the difference between May 31,  
13 1996 and later, was it that general conference that  
14 these were adopted?

15 MR. COOK: Yes, I believe it was shortly  
16 thereafter.

17 COMMISSIONER McGAFFIGAN: The factor of 10  
18 was added?

19 MR. COOK: Yes.

20 COMMISSIONER McGAFFIGAN: And you were  
21 making fairly definitive cost-benefit judgments back  
22 then, although we at least were being definite in our  
23 rhetoric, but you weren't able to give the Chairman  
24 much of a cost-benefit answer earlier, or Commissioner

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Dicus, about the cost-benefit of adopting these new  
2 exemption values.

3 MR. COOK: Well, the previous value, the  
4 70 Bq/g value, has not a lot wrong with it. I mean,  
5 it was consistent, it was uniform, and there were no  
6 excessive difficulties with it. We thought that the  
7 new exemption values would pose difficulties in that  
8 it's a more complicated system, as you can see by the  
9 changes that are made to the regulation in order to  
10 incorporate it. Instead of a single value, we now  
11 have tables with additional columns. There's training  
12 and other associated costs. And we thought that that  
13 would be somewhat difficult for U.S. industry to find  
14 palatable. But it turns out that our industry  
15 believes that they can support the new exemption  
16 value.

17 COMMISSIONER McGAFFIGAN: The guys who are  
18 going to get paid to transport it, or the guys who are  
19 going to have to get things transported that they  
20 didn't know was radioactive before? I mean, there's  
21 two different groups here.

22 Coal ash is an example. I don't know  
23 whether it's transported anywhere around the country,  
24 but it ain't an ore, so it isn't going to meet the  
25 factor of 10 exemption. And the last time I checked,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 coal ash can be reasonably hot. In fact, the Atomic  
2 Energy Commission once considered making coal ash  
3 source material according to, who was it, Mr. Rhodes  
4 in his paper -- I've not gone back and independently  
5 checked that -- but if coal ash was once considered  
6 source material, if it indeed has up to -- what are  
7 the numbers, 3- or 400 picocuries per gram -- I  
8 imagine you can get a pretty good dose out of coal  
9 ash, but maybe it's not moved. Maybe coal ash is just  
10 -- you know, the burn it and they dump it next to the  
11 plant and it's not radioactive because it never moves.  
12 But have you checked with the coal industry to find  
13 out whether they are worried about, you know, if they  
14 ever have to move any coal ash, whether it's --  
15 because it's not an ore unless we define it as an ore  
16 -- and this may be in the DOT part of the regulations.

17 I just think you're getting yourselves  
18 into a can of worms here, not that we necessarily  
19 shouldn't do it, but you may find out that in the  
20 course of this rulemaking you're going to have to make  
21 some bigger exemptions in the factor of 10 in order to  
22 accommodate folks who really don't normally pay much  
23 attention to either us or the Department of  
24 Transportation's radioactive material regulations

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 because they don't think they deal with radioactive  
2 material.

3 MR. BRACH: If I could add, John Cook, in  
4 his opening comments, when we were on Issue No. 2, had  
5 mentioned that during the proposed rule process --  
6 this would be a topic that we would be specifically  
7 looking to industry and the public for comment on with  
8 regard to the factor of 10, and equity as well as the  
9 risk and safety.

10 But one thing I do want to mention and  
11 come back to is that the letter in 1996 clearly was an  
12 NRC position with regard to the safety of  
13 transportation using what was in -- and is today --  
14 the exemption value of 70 Bq/g as radionuclide  
15 exemption value.

16 The proposal coming forward is picking up,  
17 I'll call it, a risk-informed approach to trying to  
18 establish a new radionuclide exemption value that has  
19 a dosimetric or a dose model basis behind the value  
20 that's assumed -- value that's calculated. And  
21 Chairman Meserve had mentioned the value does vary  
22 widely, based on each of the radionuclides, but  
23 looking at it from, I'll say, a risk-informed  
24 perspective, there is a common dose and modeling that

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 was used to derive what that activity level should be  
2 on each individual radionuclide exemption.

3 John has pointed out that from the  
4 standpoint of the difficulty in implementation may  
5 arise as individuals or licensees or entities need to  
6 look at the table and determine for each of the  
7 radionuclide values what the exemption value is for  
8 that radionuclide that they are reviewing. So, there  
9 are some implementation issues that may arise, but  
10 I'll mention again that we'll be looking for public  
11 comment very specifically with regard to the  
12 implementation and change.

13 COMMISSIONER McGAFFIGAN: Other folks  
14 besides the coal industry may want to pay attention to  
15 this rulemaking -- the RCRA folks -- I mean, because  
16 there's a bunch of stuff that's not radioactive,  
17 that's probably gone into a bunch of RCRA subtitle (c)  
18 sites under the 2000 picocurie/gram exempt norm limit  
19 which many of the States use -- I know Texas uses --  
20 that suddenly are going to have radioactive material  
21 at their sites once these exemption values change. And  
22 I know this 2000 picocurie/gram or 2 nanocurie/gram  
23 number has been used widely, not because people should  
24 have perhaps, but because it was there and it was  
25 something to use and if DOT and we change it, there

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 are these other consequences which we really have to  
2 understand.

3 I just want to understand the endgame from  
4 a process perspective. Our proposed rule and their  
5 proposed rule -- DOT's -- are going to go out about  
6 the same time, or exactly at the same time?

7 MR. TANIOUS: I think that is the intent,  
8 yes.

9 COMMISSIONER MCGAFFIGAN: Okay. Then you  
10 intend to come back to the Commission with your  
11 proposed rule. We're different from an Executive  
12 Branch agency. You're going to come back to the  
13 Commission. We have the possibility of deciding to put  
14 out -- I'm not saying we necessarily would -- but put  
15 out, while we're voting on it, your final rule, having  
16 another meeting like we did on Part 35, getting an SRM  
17 out of us, and in doing that we could well create  
18 incompatibilities with what DOT was planning and based  
19 on conversations with what you were recommending. How  
20 does this endgame work, because I've not been involved  
21 in one of these before where you're trying to bring  
22 two agencies to the same endpoint in a compatible way,  
23 but where you have a Commission structure and they  
24 have a single administrator structure. We sort of

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 have that in decommissioning, but that's not a good  
2 place to be.

3 MR. TANIIOUS: We've indicated to DOT that  
4 we will be publishing -- we expect to publish the  
5 proposed rule after we get the SRM approval from you  
6 around May or June of this year, and they indicated  
7 they are supporting that schedule. They are moving  
8 along with their proposed rule, and we -- last time,  
9 I think it was on the same day or within few days of  
10 each other, each agency published its own rule, exact  
11 same language, actually.

12 COMMISSIONER DIAZ: Excuse me.

13 CHAIRMAN MESERVE: Commissioner Diaz.

14 COMMISSIONER DIAZ: Just a comment on the  
15 very hot issue of coal ash, which should be called the  
16 Mygopian issue.

17 COMMISSIONER McGAFFIGAN: Is it in here?

18 COMMISSIONER DIAZ: No, but it is clear in  
19 here, I think, what the staff was saying is that the  
20 exemption is only for natural materials and ore  
21 containing natural occurring radioisotopes provided  
22 those ores or materials are not intended to be  
23 possessed for the use of the isotopes. So they can  
24 transport coal ash --

25 COMMISSIONER McGAFFIGAN: Is that an ore?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   COMMISSIONER DIAZ: That's in the wording.  
2                   As long as they are not intending to process it for  
3                   their isotopes. So there is a real wide gap in here.

4                   COMMISSIONER McGAFFIGAN: So, coal ash can  
5                   be transported -- because I haven't gone into the  
6                   words as much as Commissioner Diaz has -- coal ash can  
7                   be transported because it will be considered an ore or  
8                   other material.

9                   COMMISSIONER DIAZ: Natural material that  
10                  will not be processed --

11                  COMMISSIONER McGAFFIGAN: Natural material  
12                  -- okay.

13                  COMMISSIONER DIAZ: -- that will not be  
14                  processed for their isotopes.

15                  COMMISSIONER McGAFFIGAN: Okay. I defer  
16                  to Commissioner Diaz, maybe the coal ash problem has  
17                  been solved as well, by exemption.

18                  I have lots more questions. As I said, I  
19                  think it is a target-rich environment. I think we have  
20                  to go on with this. I think we have to have a  
21                  rulemaking. There is a statutory mandate to do so.  
22                  But I think we also have to think about some of the  
23                  issues I've raised, and others I'll raise privately.

24                  MR. BRACH: I was just going to add one  
25                  other aspect with regard to our coordination with DOT.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Representatives in Department of Transportation are  
2 here with us today in the audience, and Naiem had  
3 mentioned the activities up to this point in time have  
4 been very close working relationship between our  
5 Agency and DOT to have our activities coincide and,  
6 clearly, a goal we have is in the proposed rulemaking,  
7 moving to a final rulemaking, to have our two  
8 agencies' actions coincide at about the same time.

9 CHAIRMAN MESERVE: We very much urge you  
10 to do that. Commissioner Merrifield.

11 COMMISSIONER MERRIFIELD: Thank you, Mr.  
12 Chairman. I want to go to page 3 of the slides. In  
13 the second bullet, it says the draft RA has no  
14 significant cost. On page 4, the first bullet says  
15 that one of the comments received is that -- regarding  
16 the cost of implementation. That's in the first  
17 bullet. So we are saying it doesn't have a  
18 significant cost, but the commenters are saying it  
19 does have a significant cost. How do we reconcile our  
20 different views of whether this is costly or not?

21 MR. TANIIOUS: Our general statement about  
22 no significant cost is all the 19 changes -- we have  
23 19 changes -- and, overall, there would be no  
24 significant cost. But if we pick one of the issues,  
25 such as the Issue No. 2, for example, of the exemption

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 values, we have comments from oil and gas industry,  
2 and they say they will have significant cost because  
3 the shipment will become regulated. But that is  
4 exception, I think. Most we saw no significant cost.

5 COMMISSIONER MERRIFIELD: Well, I'm  
6 certain I'll have the same question for our next  
7 panel.

8 MR. BRACH: If I might add, there is one  
9 issue that the second panel may raise, but it was also  
10 raised to us in our public meetings, and that was the  
11 issue of grandfathering and, of course, concern being  
12 there that following the IAEA TS-R-1 there would be a  
13 structure with regard to the lifetime, if you will, of  
14 a package for its design and fabrication and for its  
15 use. And there are issues that have been identified  
16 there both in our public meetings as well -- that  
17 we've received, as we were pulling together our  
18 positions with regard to the proposed rule on  
19 grandfathering and the current provisions.

20 We've mentioned that this is an issue  
21 that's been recognized both domestically and  
22 internationally with regard to the proposed change in  
23 grandfathering in TS-R-1, the IAEA, International  
24 Atomic Energy Agency, this past fall convened an  
25 international technical consultants meeting to bring

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 folks together to look at grandfathering from the  
2 standpoint of the current change of allowing, if you  
3 will, two additions of the TS-R-1 be effective, and  
4 then having their rolling period, which may very well  
5 become compressed as revisions to TS-R-1 are brought  
6 more frequently. And that's na issue that clearly we  
7 identified in our proposed rule with regard to concern  
8 and its implementation, but also I'd mention that's  
9 recognized broadly internationally as well, as a need  
10 to look at the grandfathering provisions and if there  
11 are other more appropriate ways to consider  
12 grandfathering of packages -- allowing older packages  
13 to remain in use as long as the safety of those  
14 packages can be assured.

15 COMMISSIONER MERRIFIELD: All of the rest  
16 of the Commissioners have talked about exemption  
17 values, so I shouldn't be the lone exception to that.  
18 I was reviewing the comments made by Mr. Riccio, and  
19 he brings into question this issue of our previous  
20 exempt concentrations of 70 Bq/g going now up to the  
21 IAEA level of exempting concentrations against 100  
22 Bq/g limit. To quote his letter, he says, "This 30  
23 Bq/g increase was not addressed in the DOT's proposal  
24 nor was I able to locate it in NRC's trove of  
25 documents. This constitutes a substantial increase in

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the radioactivity associated with these exempt  
2 changes". And then he goes on to note -- or quotes DOT  
3 saying "this change is really not very significant".

4 Given his opinion on that, would you have  
5 any comments you'd like to make?

6 MR. BRACH: I would look to John for some  
7 technical support, but let me just -- if we step back  
8 and generally look at the Issue 2 and the radionuclide  
9 exemption value, the dose modeling for all the  
10 radionuclides was on a 1 millirem per annual dose per  
11 transportation worker or member of the public. So  
12 what we were trying to do, what the agency was doing  
13 in a TS-R-1 and what we are trying to do in our  
14 proposed rulemaking, is establish a standard dose  
15 modeling and dose of 1 millirem per year as the value,  
16 and rather than looking at whether that 70 Bq/g or  
17 100, we are looking at what the dose modeling -- and  
18 as mentioned earlier, the activity level of each  
19 radionuclide would be different based on the dose  
20 modeling. We are trying to use a consistent dose  
21 modeling approach to determine a consistent value  
22 across all radionuclides, but realizing the value of  
23 each radionuclide will vary.

24 COMMISSIONER MERRIFIELD: So the take-away  
25 I have from that is given the fact you went in that

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 particular direction and it's under 1 millirem, you  
2 would agree that that is not a significant change?

3 MR. BRACH: Yes, sir, I am focusing on the  
4 dose modeling and the calculation of an annual maximum  
5 dose to a transportation worker.

6 COMMISSIONER MERRIFIELD: There was an  
7 issue on the adoption of ASME standards for these  
8 casks, and the staff has made a recommendation that we  
9 not, at this time, adopt the ASME code. And I'm  
10 wondering -- well, I was looking at the comments. One  
11 of the reasons for not doing it is because that  
12 particular code is in transition and it's not final.  
13 That's an accusation, arguably, that we could say on  
14 most ASME codes that we deal with around here, yet we  
15 still manage to adopt all kinds of them.

16 Why the difference in this particular  
17 case?

18 MR. BRACH: Well, as you pointed out, the  
19 ASME code is still evolving. It is our understanding  
20 a major change is under consideration and review right  
21 now. It may very well be that our earlier initiative  
22 to adopt the ASME code was a little premature in that  
23 the code is not yet developed to the point where we  
24 feel it appropriate to incorporate -- or to consider  
25 for incorporation in the rulemaking.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   COMMISSIONER MERRIFIELD: I guess the  
2                   nexus of my question is, ASME codes generally are a  
3                   moving target. I mean, they are almost constantly in  
4                   revision. At some point, you've got to jump and say,  
5                   okay, I'm going to adopt it. When is that time? If  
6                   you're saying now is not the time to do that, when  
7                   would be the appropriate time to do that in this  
8                   circumstance?

9                   MR. BRACH: I believe we recommended that  
10                  in the next considered rulemaking change in Part 71,  
11                  we relook at the issue at that point in time, which  
12                  should be in the next two to three years, I would  
13                  imagine.

14                 COMMISSIONER MERRIFIELD: Okay. I guess  
15                 the final comment -- I appreciate that answer. I  
16                 guess the final comment I will make -- and it doesn't  
17                 require a response -- there's a number of points in  
18                 the package where the staff has stated that you need  
19                 to have specific inputs from industry. You need to  
20                 get some additional information so you can move  
21                 forward.

22                 Given the thickness of this package, and  
23                 the breadth of it, you know, I might suggest that we  
24                 consider trying to focus having a separate area within  
25                 the package where we outline the specific areas where

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 we need to have answers. Otherwise, the public is  
2 going to be trying to ferret through hundreds and  
3 hundreds of pages, and we may not get all the answers  
4 we want, and focusing where we have to have some  
5 specific information to move forward with a final rule  
6 may merit some attention by the staff. Thank you, Mr.  
7 Chairman.

8 CHAIRMAN MESERVE: I'd like to thank the  
9 staff for a very helpful presentation.

10 We have a second panel that is now going  
11 to appear before us. I'd ask that they approach the  
12 table.

13 We will hear from Mr. Felix Killar, Jr.,  
14 who is from the Nuclear Energy Institute; Mr. James  
15 Riccio, from Public Citizen, and Mr. Mark Lewis, from  
16 Duratek. Mr. Killar, why don't you proceed.

17 MR. KILLAR: Thank you, Mr. Chairman and  
18 Commissioners. I appreciate the opportunity to appear  
19 before you today to provide the perspective of the  
20 Nuclear Energy Institute and the major licensees who  
21 are involved in the shipments of nuclear fuel and  
22 nuclear materials in accordance to Part 71 and 49 CFR  
23 173. I am the Director of Material Licensees at NEI.

24 As you are probably aware, I have provided  
25 a written statement, and I am not going to read the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 statement especially as warm as it is in here and as  
2 hot as I am in this seat. We will move right along  
3 and just summarize it.

4 We've been working some time with the NRC  
5 staff as well as DOT, in fact, we were a little bit  
6 ahead of the NRC staff as we were involved with the  
7 IAEA regulations as they changed and, as you might  
8 point out, we don't necessarily endorse everything  
9 that's in the IAEA regs, but because of the  
10 international nature of our business, we have to go  
11 along with the international regulations in order to  
12 move materials and to do international commerce.

13 For the most part, we do endorse the  
14 recommendations of the staff in SECY-01-0035. I won't  
15 go through the list because it basically reiterates  
16 most of what's been said this morning as far as what's  
17 in there that we support. I will just focus primarily  
18 on the issues where we have some difference, and I  
19 think one of the first things that we were  
20 disappointed in is that when the SECY came out,  
21 nowhere do they talk about the risk-benefits of this.  
22 You're looking at quite a bit of changes in Part 71,  
23 and what type of benefits are we going to receive for  
24 the additional cost in the risk information that's  
25 available.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           There is considerable amount of materials  
2 available that's going on in Part 72, the multiply  
3 things going on in Part 71, there's an extensive  
4 database on transportation incidents that's maintained  
5 by DOT at Sandia National Labs. There's also the  
6 study that's ongoing right now being co-sponsored by  
7 NRC and DOT on transportation history as far as the  
8 amount of materials moved, the types of conveyances,  
9 and things on that line, yet there's no reference  
10 whatsoever to any risk information in this package,  
11 and we're disappointed in that aspect of it.

12           Moving on to the next one, dealing with  
13 the -- I might also point out that you are looking at  
14 risk initiatives in Part 72, and when you are looking  
15 at harmonizing Part 72 and Part 71 for spent fuel  
16 casks, the risk-benefits you get in Part 72 you lose  
17 in Part 71 by not having that incorporated in Part 71.

18           Moving on to some of the other issues, you  
19 did not adopt Type C or low dispensable material, DM.  
20 We recognize there is no present need for it, but we  
21 would like to see that you go ahead and consider that.  
22 We feel it's much better to have the rulemaking done  
23 rather than someone coming in and saying, "Hey, I want  
24 to have a Type C cask approved", and now you are  
25 developing the regulation at the same time you are

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 trying to approve that cask. That's what happens when  
2 you put an additional burden on that first applicant.  
3 And so to avoid that, if you go ahead and adopt the  
4 regulations, it would take that burden away.

5 As we mentioned earlier today, the  
6 grandfathering provision. We generally support the  
7 grandfathering provision, the doing away with the  
8 fabrication of older packages. At the same time, the  
9 existing fleet has a very good safety record, it has  
10 been demonstrated, and there's no reason just to phase  
11 out an existing package because of some new  
12 regulations. We have done this with a lot of other  
13 industries that have ruled out a lot of things that  
14 are very usable, serviceable and safely used on our  
15 roads that we will no longer be able to utilize. So  
16 we would like to see the grandfathering for the  
17 existing fleet of packages.

18 We would like the staff and the NRC to go  
19 ahead and look forward to trying to immediately take  
20 in the new review of packages going to the '96  
21 criteria. Right now, the industry is going through a  
22 transition. We are developing a number of new  
23 packages and submitting them -- Global Nuclear Fuel  
24 just had an oxide package approved. Most of these  
25 packages are being tested and verified to the '96

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 criteria. However, the NRC, since it hasn't adopted  
2 that criteria, cannot review these packages against it  
3 and cannot give a Certificate of Compliance with a '96  
4 designation. And what this results in is additional  
5 work because now, in a year or two, maybe three, that  
6 package will be back in. Nothing is changed, but now  
7 you are going through additional review cycle and  
8 review process. So, if there is some way you can  
9 expediently adopt the '96 criteria, we'd appreciate  
10 that.

11 On the testing criteria, we certainly  
12 appreciate that you're going to adopt a crush test and  
13 the other testing criteria. The only issue we have is  
14 that right now there is a difference in the sequence  
15 of tests that are done, and what this results in is  
16 additional cost for the industry because what we end  
17 up doing is testing the package two or three times  
18 because the sequences are different between the United  
19 States, France, and some other countries. We don't  
20 have any problems with meeting the tests, it's just an  
21 additional cost and burden the industry would rather  
22 not have to go through and if we could just have one  
23 agreed-upon sequence -- now, once again, this is  
24 something that will have to be addressed through IAEA.  
25 The NRC by itself will not be able to come up with

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 what is "the appropriate sequence", but we would like  
2 to see the NRC work with DOT and the competent  
3 authorities of the world to come up with a  
4 standardized sequence for testing of packages.

5 On the criticality safety index, we  
6 appreciate that the NRC is adopting the criticality  
7 safety index. We think that is a step forward. We  
8 felt that using the TI for criticality was an over-  
9 conservatism, so now putting in the separate TI and  
10 criticality safety index is a step forward. It is  
11 certainly more appropriate. The only thing we have an  
12 issue with is the staff has incorporated an additional  
13 requirement beyond the IAEA regulations for rounding  
14 when you are looking at the array size in packages,  
15 this puts an additional level of conservatism on an  
16 already conservative package, and reduces the number  
17 of shipments in some cases, and there's no  
18 justification for doing that. So, we would like to  
19 see that the proposed regulations come back to be  
20 consistent with the IAEA as far as the criticality  
21 safety index.

22 We also appreciate the idea of the change  
23 process being added to Part 71, particularly for the  
24 Type dual purpose packages, but we think that same  
25 criteria can be applied to other Type B packages and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 with the same criteria, that it should not be limited  
2 to just the dual purpose packages, that the  
3 certificate holders could periodically update a safety  
4 analysis of some form, and only certificate holders be  
5 allowed to make the changes in the packages, and we  
6 think that would be a way of controlling those  
7 changes.

8           There's been quite a bit of discussion on  
9 the radiation exemption values. We certainly agree  
10 with the radiation exemption values. As pointed out  
11 earlier, they are based on 1 millirem per year. We  
12 think that's a very good number. The basis for the 1  
13 millirem is the International Basic Safety Standard  
14 for Protection Against Ionizing Radiation and for the  
15 Safety of Radiation Sources, IAEA Safety Series No.  
16 115, which I believe is a 1995 document.

17           We think this is a very good document. We  
18 think it's something that goes to the dose basis we've  
19 talked about rather than just a specific number, and  
20 it makes sense. The only thing is that we'd like to  
21 see is maybe you adopt this in Part 20 rather than put  
22 it in Part 71. Granted, since you are looking at  
23 transportation, you would limit it at this point in  
24 time to transportation, but with the aspect that as we  
25 go forward and looking at other things such as

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 material clearance, disposal, recycle, what have you,  
2 that there may be some value in looking at this table  
3 for that purpose. So, it may be more appropriate put  
4 in Part 20 rather than Part 71.

5 We also look at the 10 times as far as  
6 norm, and we agree with the recommendations of using  
7 the 10 times as far as norm, as well. And as was  
8 pointed out earlier, this also needs to be coordinated  
9 with U.S. Environmental Protection Agency because of  
10 RCRA and what the concentration limits are in RCRA for  
11 consistency between agencies.

12 So, in conclusion, the industry supports  
13 the staff's recommendations for adoption of IAEA's TS-  
14 R-1 along with the balance of proposed changes in Part  
15 71. However, we encourage the Commission to take  
16 additional steps to adopt Type C packages along with  
17 the LDM, remove the only conservative array criteria  
18 for criticality safety index, establish an immediately  
19 effective review of packages against the 1996  
20 criteria, work towards a uniform testing sequence,  
21 extend the change authorizations to all packages under  
22 Part 71, and place the exemption provision in Part 20.  
23 And we strongly encourage the NRC to actively proceed  
24 towards risk-informing Part 71 consistent with the  
25 Commission's direction.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   With that, I'll be ready to answer any  
2 questions you may have.

3                   CHAIRMAN MESERVE: We'll go through our  
4 normal process and complete the panel, and then come  
5 back and ask questions for all. Thank you very much.  
6 Mr. Riccio.

7                   MR. RICCIO: Good afternoon, and it's a  
8 pleasure to present our views to the Commission.

9                   The Public Citizen seeks to ensure that  
10 harmonization lifts all boats, that it basically will  
11 lift all nations to higher levels of public health,  
12 consumer and worker safety, and toward that we need to  
13 establish several principles: The harmonization of  
14 NRC regulations with the IAEA standards should in no  
15 way reduce the level of protection currently afforded  
16 American citizens; that as a result of harmonization  
17 the best available technology should be used; that the  
18 IAEA should establish minimum acceptable standards and  
19 should not act to prohibit establishment of more  
20 conservative domestic standards; and also that the NRC  
21 should only recognize and be involved in harmonization  
22 activities that are negotiated in open, accountable  
23 and democratic forums.

24                   Unfortunately, the proposed rule before  
25 the Commission fails to meet even these most basic

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 principles. The proposed harmonization also  
2 contradicts NRC's own principles of good regulation  
3 and positions previously espoused by the Agency.

4 I would like to thank Commissioner  
5 McGaffigan for bringing the Taylor memo to our  
6 attention but, unfortunately, they didn't attach it to  
7 your comments. And I apologize to --

8 COMMISSIONER MCGAFFIGAN: It was in my  
9 vote as I voted it.

10 MR. RICCIO: It wasn't attached to your  
11 comments on the Web site. So, I took the liberty of  
12 copying them, and I apologize for the copy quality,  
13 but that's all that is available now that the paper  
14 has been removed from the Document Room.

15 You were right that we would question the  
16 seeming flip-flop in the Agency's position, from Mr.  
17 Taylor's memo to the current adoption of the IAEA  
18 standards. I don't want to read any nefarious motives  
19 into the staff's failure to provide this document, but  
20 we asked for it several times. We asked for it at the  
21 public meeting and it was not provided. I assumed  
22 that it would be addressed -- since you had addressed  
23 it in your comments, that it would be addressed in the  
24 trove of documents that was provided to me, and I  
25 couldn't find it in there.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           It is my hope that the NRC is still  
2 prepared to differ from the IAEA, which is what Mr.  
3 Taylor had stated. The proposed rule cannot meet the  
4 NRC's Backfit Rule in that there is no substantive  
5 increase in public health and safety, and apparently  
6 there's a lot of increasing costs.

7           In the staff's own regulatory analysis,  
8 they acknowledge that due to the lack of quantitative  
9 data, it is not possible to describe the net value or  
10 impact of each potential change in terms of costs.

11           While we don't believe that cost should  
12 necessarily be the driving force behind NRC  
13 regulation, you are all still subject to Executive  
14 Order 12866, and that forces you to do that.

15           Unfortunately, the proposal from IAEA  
16 fails to meet the requirements of the Executive Order.  
17 And my friends at NEI, nuclear lobbyists who have  
18 never met a regulatory burden reduction they didn't  
19 like, have also stated in their comments to the  
20 Department of Transportation that the new standard  
21 "does not provide a substantial increase in safety and  
22 that the costs of implementation will be significant".

23           I would recommend that the Commission take  
24 a look at the comments that have been submitted to  
25 DOT. Some other comments that haven't gotten an

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1        airing here, seemingly, are those of the  
2        radiopharmaceutical companies, which were adamant in  
3        their opposition to this in that it would drive up  
4        their costs substantially. I've got no interest in  
5        seeing that patients don't get their  
6        radiopharmaceuticals. I'm here to hopefully ensure  
7        that the public health and safety is protected.

8                    It is evident that neither the nuclear  
9        industry nor the public want to see the NRC's  
10       regulations harmonized, at least from the DOT  
11       comments, albeit for different reasons.

12                   The industry's comments are opposed to it  
13       because it would increase costs. The public comments  
14       that I've reviewed oppose it because it would  
15       seemingly increase our potential exposure.

16                   According to the information I gleaned  
17       from DOT, there will be approximately a 50-percent  
18       increase -- and this is getting into the 70-100  
19       becquerel limit. And I've only first heard the 1  
20       millirem discussed here, so I'm really not ready to  
21       address that. But if, as the note I received from DOT  
22       claims, that 70 is approximately equal to 100, why  
23       make the change? Why not just regulate to the more  
24       protective standard of 70 becquerel?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           Similarly, the proposal fails to address  
2 the fact that the adoption of the new IAEA standard  
3 would result in increasing the volume of radionuclides  
4 per conveyance for 44 percent of the radionuclides  
5 considered. This, again, was not addressed in DOT nor  
6 NRC's comments or presentations, and was only gleaned  
7 from the Department of Energy's comments. I think  
8 approximately 17 percent of the radionuclides went  
9 down in concentration, while 44 percent went up and  
10 the rest remained unchanged. Again, this seems to be  
11 a mixed-bag and needs to be addressed.

12           Quite honestly, I can't tell from my  
13 reading of all the documents whether or not the public  
14 will be better or worse off protected under the new  
15 standard than under the old. And, quite honestly,  
16 from what I'm reading in the regulatory analysis,  
17 neither can the staff.

18           I know for a fact that there is a  
19 differing professional view before the Commission now  
20 on uranium hexafluoride provisions. I would suggest  
21 that the Commission not act upon this until that V and  
22 potential DPO has been closed out. I don't intend for  
23 that to take ten years, but I hope that the Commission  
24 will move on so we will at least have an answer where

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 the staff is disagreeing with where the Agency is  
2 heading.

3 And, quite honestly, I don't -- as many of  
4 you know, I deal mostly on the reactor side of the  
5 house, so I feel a little out of sorts here, and I  
6 would appreciate -- there was one point that I didn't  
7 feel I could actually articulate, and my friend, Diane  
8 Duriggo, has been kind enough to come here, and I hope  
9 that she could actually try to articulate that before  
10 we're through this afternoon, and actually I hope that  
11 she could do it right after I speak.

12 The IAEA standard is similar to the  
13 requirements, in terms of the UF6, that seem to me at  
14 this point that you're going to be removing the UF6  
15 provisions without ample justification and, as I said,  
16 I just hope that your own internal processes can work  
17 fast enough to be incorporated into this rulemaking.

18 I would like to briefly address the  
19 proposed elimination of the double containment of  
20 plutonium. Actually, I came from a meeting this  
21 afternoon -- or this morning -- where Mr. Wolf,  
22 Bertram Wolf, one of the industry's most adamant  
23 proponents, said that even he is willing to accept MOX  
24 as a solution at this point for our troubles with  
25 plutonium. I find it unconscionable that the NRC

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 would remove the double containment provision just at  
2 a point in time where transportation may actually be  
3 increasing because of our potential use of MOX.

4 I thank the Commission for your time and  
5 consideration of these comments, and I would hope that  
6 Diane could address the exemption values, which I  
7 don't really feel --

8 CHAIRMAN MESERVE: Let me just say that we  
9 have a process, Mr. Riccio, that we go through in  
10 which we arrange for particular people to be here,  
11 providing us with comments ahead of time to the extent  
12 they can, so that we have a foundation for being able  
13 to proceed.

14 We did have an earlier meeting where there  
15 was an NEI representative that appeared before us and  
16 sought to have a licensee speak, and that was  
17 terminated. We did not allow the licensee to speak  
18 because it was not someone for which there had been  
19 arrangements that had been made before. So, I'm not  
20 inclined to allow the expansion of this panel to  
21 include additional comments at this juncture.

22 Let me say, though, we are talking about  
23 something that is a preliminary before a proposed rule  
24 is going to be undertaken, and there will be a whole  
25 public process that's going to be -- in which we are

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 all going to be engaged, and there the process of  
2 reaching forward to a final rule. This is hardly the  
3 last time in which we are going to have an opportunity  
4 for public comment.

5 Mr. Lewis.

6 MR. LEWIS: Thank you. On behalf of  
7 Duratek and the radioactive shipping industry, I thank  
8 you, Mr. Chairman, Commissioners, and staff, for the  
9 opportunity to speak before you today.

10 (Slide)

11 My name is Mark Lewis, and I have been  
12 shipping, safely shipping and assisting licensees in  
13 the safe transport of radioactive material now for  
14 over 20 years. I currently work for Duratek, and the  
15 former Chem-Nuclear Systems, which is a major  
16 designer, fabricator, package licensee, maintainer,  
17 shipper, and carrier of NRC licensed packages.  
18 Consequently, we are a major stakeholder in this  
19 process that can be significantly impacted by  
20 modifications to 10 CFR 71.

21 Duratek has historically communicated our  
22 issues and made recommendations to the U.S. DOT and  
23 the NRC staff. We have also participated in industry  
24 forums to effect modifications to the domestic  
25 regulations and international standards. Our goal, as

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1       yours is, is to enhance protection of the public  
2       health and safety, while at the same time, in our  
3       case, not over-burdening the industry.

4                       (Slide)

5                       Let me start off by endorsing the proposed  
6       rule.    In general, Duratek endorses the staff's  
7       recommendations contained in SECY-01-0035 for the  
8       modifications of Part 71 in order to achieve  
9       compatibility with the International Atomic Energy  
10      Agency's TS-R-1.

11                      We fully support -- and I want to make a  
12      differentiation between some of those things that we  
13      fully support versus some of those that we may be  
14      indifferent about versus some of those we have some  
15      issue with.

16                      We fully support not requiring the SI  
17      units, solely -- we've already had some discussion  
18      about those today; adoption of the radionuclide  
19      exemption values -- I know there's been a tremendous  
20      amount of discussion about that.    In my particular  
21      industry and a lot of the shippers, it does not have  
22      an impact.    I really am not in a position really to  
23      determine the impact it may have on those  
24      nonlicensees, as brought up earlier today.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 I also want to indicate our full support  
2 of compatibility with the A-1/A-2 values, while  
3 maintaining the domestic authorization for molyb-99  
4 and californium-252. Those, of course, are  
5 radionuclides that would have a significant economic  
6 impact, maybe even a health and safety impact, if  
7 there was not some domestic authorization for those.  
8 Also, criticality safety index separate from the  
9 transport index -- I could elaborate on that in great  
10 detail, on how that might certainly adopting that as  
11 compatible is going to help industry. A special  
12 package authorization provision, which I'm going to  
13 elaborate on a little bit further later on; not  
14 incorporating the ASME Code requirements; definition  
15 changes; elimination of the double containment  
16 requirements for plutonium, which I will also  
17 elaborate on a little bit more in a few minutes.

18 Some of the other recommendations we don't  
19 really have a strong opinion one way or the other, as  
20 I said, although there are some recommendations that  
21 we do have issues with we particularly want to note  
22 that I'll follow on with these further slides. Next  
23 slide.

24 (Slide)

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           In support of compatibility, most shippers  
2 and carriers are in basic support of compatibility,  
3 while Duratek is in strong support of compatibility  
4 with TS-R-1 because it promotes compliance and results  
5 in minimal confusion while shipping internationally.

6           We recognize the shortcomings of the IAEA  
7 standards revision process, some of those being  
8 special interest issues that come up, and certainly  
9 those numbers that are less informed and certainly  
10 have equal voting rights during those forums.  
11 Shipping internationally does become extremely  
12 burdensome without compatibility.

13           With that said, though, I do want to also  
14 note that in domestic only transportation, there is  
15 some room for deviation from compatible standards, and  
16 some of those have been brought up by the staff in  
17 their recommendations. A couple of them I will also  
18 point out as well. In staff's recommendations, there  
19 is a high level of compatibility with minimal  
20 deviation, and that is recognized and appreciated by  
21 the industry.

22           As previously stated, there is room for  
23 deviation from the TS-R-1, primarily domestically,  
24 particularly with packages that are not used  
25 internationally.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 (Slide)

2 Duratek is not in support of the staff's  
3 recommendations for grandfathering of previously  
4 approved packages. The philosophy of phasing out the  
5 use of packages solely based upon age, such as a two-  
6 year revision cycle, 20 years, which may equate right  
7 not to two revision cycles, in the future may only  
8 equate to four years, or even a 30 year revision  
9 cycle, or 30-year timeframe for phasing out packages,  
10 which has had some discussion, does not really offer  
11 any credence to packages having been maintained under  
12 a strict maintenance program, undergone considerable  
13 and continued scrutiny -- like some of the packages  
14 that Duratek has available for the industry; and has  
15 an unblemished safety record.

16 A couple of things to consider there:  
17 Consider the difference in the risk of package failure  
18 between an industrial radiography source that is  
19 continually being battered around during use versus a  
20 nuclear power plant shipping cask that undergoes high-  
21 level scrutiny every time it's used.

22 Also, I want to point out consideration  
23 that since the NRC is currently relicensing nuclear  
24 power plants for operation of greater than 20 years,  
25 a precedence has been established whereby the NRC

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 recognizes that equipment can be safely maintained for  
2 over a 20-year period of time.

3 We recommend the NRC consider a risk-  
4 informed or risk-based approach to phasing out  
5 packages whereby poorly maintained packages are phased  
6 out and the highly maintained packages can remain in  
7 service.

8 Phasing out packages solely based on age,  
9 even with a three-year phase-out period, will result  
10 in significant costs to the industry without a  
11 measurable benefit. There's been a number of  
12 questions about cost, let me throw out a couple of  
13 numbers for you.

14 Just specifically for Chem-Nuclear, where  
15 Chem-Nuclear has approximately eight different  
16 certificates for Type B packages, with a significant  
17 number of individual casks themselves, the cost to our  
18 business alone is somewhere in the neighborhood of \$12  
19 million to both incur the engineering and the  
20 licensing fees, and then to go ahead and replace all  
21 the packages that we have that might be affected by  
22 this rule. With a \$12 million price tag for our  
23 particular business, for Duratek's business, the total  
24 for the industry certainly must be greater than, say,  
25 maybe \$50 million, depending upon the number of

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 package designs which, at this point in time, I really  
2 don't have a good feel for how many other packages  
3 other than our own might be significantly impacted by  
4 this.

5 In either case, the NRC still has the  
6 ability to immediately discontinue the use of a single  
7 package or a family of packages if it poses a risk of  
8 failure by means of recalling that certificate. So,  
9 there is safety still built-in. Next slide, please.

10 (Slide)

11 Special package authorization. Duratek  
12 does endorse the special package authorization  
13 provisions for out-of-scope materials. We  
14 specifically point out that endorsement because of our  
15 experience with special package authorizations both  
16 through the DOT and the NRC.

17 As was pointed out in the staff's  
18 recommendations, as the nuclear power plants either  
19 decommission or undergo major extensions for power  
20 upgrades, many very large components will need to be  
21 shipped for disposal.

22 Duratek has personally conducted or been  
23 involved with over 30 such moves requiring either up  
24 to about 10 DOT or NRC exemption requests. We were not  
25 involved with the Trojan Reactor Vessel, that was the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 primary NRC application of an exemption. Most of the  
2 exemptions that we have been involved with have been  
3 under DOT's jurisdiction -- steam generators,  
4 pressurizers, for example. The same concept, I think,  
5 is being considered by DOT, and certainly has merit to  
6 be able to minimize the amount of resources necessary  
7 to be able to continue this process of shipping these  
8 very large components for one-time transport for  
9 disposition, whether or not it be disposal or  
10 dismantlement decontamination purposes at some remote  
11 location.

12 (Slide)

13 Duratek also specifically points out our  
14 endorsement to eliminate the double containment  
15 requirements for plutonium. We feel the historic  
16 basis for developing and maintaining this more  
17 restrictive and incompatible rule is a result of the  
18 bad connotation associated with plutonium which  
19 developed into a perception of risk greater than other  
20 radionuclides while in transportation.

21 When, in fact, shipping in accordance with  
22 Part 71 and Title 49 and in authorized quantities  
23 defined by its A-1 or A-2 value, the risk while in  
24 transportation is equivalent to any other  
25 radionuclide. The value of the Q-value system used to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 develop the A-1/A-2 values is to quantify the  
2 equivalent risk of one radionuclide compared to the  
3 others.

4 Double containment of plutonium results in  
5 high costs of transportation without a measurable  
6 safety benefit. And there I don't have a feel for  
7 what actually the additional cost is, but I will refer  
8 to the fact that DOE, through their processes toward  
9 shipping plutonium to WIPP certainly has spent a lot  
10 of our taxpayer money.

11 (Slide)

12 In conclusions, Duratek requests that the  
13 method of phasing out packages and grandfathering be  
14 revisited; compatibility be a prime goal with only  
15 moderate domestic deviations; and the NRC maintain its  
16 position on special packaging arrangements and double  
17 containment of plutonium.

18 We commend the staff for their  
19 thoroughness in developing all recommendations and  
20 their work toward compatibility. We also want to  
21 thank the Commission for applying the enhanced public  
22 participation process for this rulemaking. We believe  
23 it will result in a greater acceptance and  
24 understanding, fewer comments upon publication of the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 proposed rule, and a faster final rule cycle. Thank  
2 you very much.

3 CHAIRMAN MESERVE: I'd like to thank the  
4 panel for their presentations. Let me turn to my  
5 colleagues for questions. First, Commissioner Dicus.

6 COMMISSIONER DICUS: Thank you. This will  
7 go to Mr. Killar. I have one question for each of  
8 you, so nobody gets left out, and I do appreciate all  
9 three of you coming and testifying.

10 I guess maybe I want you to reconfirm  
11 something I think I heard you say, and it's  
12 elaborating on the fact that the technical merits of  
13 the changes that you agree with that may be made in  
14 this rule, if it goes forward, are, in fact, the  
15 technical merits are there to do this, in your  
16 opinion, things you agree with and, as well as,  
17 really, the potential public health and safety  
18 benefits associated with them.

19 MR. KILLAR: Well, I don't know, I can  
20 give you an honest answer, as I sit here. There are  
21 a lot of things in this rule that there is no real  
22 regulatory or technical basis for, but we're willing  
23 to go along with these changes because they stem from  
24 the IAEA regulations and we want the compatibility to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 IAEA regulations in order to stay in the international  
2 commerce market.

3 COMMISSIONER DICUS: Okay, that's fair  
4 enough, although that concerns me a little bit.

5 MR. KILLAR: It concerns us as well  
6 because it goes right to the cost issue. There is a  
7 lot of cost that we're going to be bearing as a result  
8 of these regulations that, from a safety standpoint,  
9 aren't justified, but from the commercial standpoint  
10 of doing international commerce, we feel we have to go  
11 along with them. And we think that it's not beyond  
12 the NRC control because it's dictated by the IAEA.  
13 And, granted, NRC with DOT do participate in the IAEA  
14 discussions and the industry, as a result of this, I  
15 must admit, has gotten a lot more interested in the  
16 IAEA discussions and have been trying to be more  
17 active and proactive at the IAEA meetings.

18 COMMISSIONER DICUS: Okay. Now, the  
19 staff, if I heard them right, I think made the comment  
20 that probably there aren't too many costs associated  
21 with these changes. I think I heard that's what you  
22 were saying, although that was sort of averaged over,  
23 I think, all of the changes, but some individual ones  
24 might carry significant costs. I don't know if we can  
25 average cost out that way, but that's one of the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 things I guess we'll be debating when we get down the  
2 road with the rule, but we do have something here of  
3 a little bit of a difference.

4 MR. KILLAR: There are several costs. And  
5 example is the exemption values in that what we will  
6 have to do in order to cover the shipping and to  
7 prepare the shipping papers, we're going to have to  
8 adopt basically computer programs that will go through  
9 and analyze all the various isotopes in there to  
10 determine what's on the exemption and what's not, in  
11 order to properly prepare the shipping papers. So,  
12 these are significant costs from the standpoint of  
13 putting software in place, training people to operate  
14 the software, and making sure that the shipping papers  
15 are properly filled out. So, these are the type  
16 things -- a lot of them are one-time costs.

17 Another one is the proper shipping names  
18 have changed. A lot of this, I might have mentioned,  
19 is over on the DOT side, it's not of the NRC side, but  
20 the proper shipping names are changing which required  
21 us to go out and relabel and repaint the containers,  
22 the shipping containers, to put the proper shipping  
23 names on. It's an extensive cost. Whether there is  
24 benefit and improved safety, we don't think so, but  
25 there is cost. But once again, because of the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 international nature, we need to do these in order to  
2 make sure we do international commerce.

3 COMMISSIONER DICUS: Thank you, Mr.  
4 Riccio.

5 The question addresses public outreach on  
6 the part of this agency. Clearly, we have some road  
7 to cover yet, but I think we've come a very long way.  
8 I think perhaps the more important thing is, there is  
9 an intent of this Commission and the staff to have a  
10 very effective public outreach program.

11 Commissioner McGaffigan has mentioned a  
12 couple of things really maybe partially outside our  
13 control, with the IAEA document, a very basic document  
14 that we all need, and the fact that the Taylor letter  
15 was not included on the Web site. So, one of those  
16 things we could control, one of them we couldn't  
17 control, but my question to you, clearly we have a  
18 rulemaking here that is going to invoke a lot of  
19 comments of all of our stakeholders' input on this.  
20 Do you have any suggestions to us in going forward  
21 from here -- and let's just say specifically with this  
22 rulemaking, although if you want to be a little more  
23 general, if you can do it briefly -- what do we do  
24 differently, or what should we be doing with Part 71?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           MR. RICCIO: In certain instances, you're  
2 not going to be able to accomplish much. I mean, our  
3 access to IAEA is nil. It makes me even more  
4 concerned when I here that Mr. Killar here has access  
5 to the IAEA while I don't.

6           What you can be doing is placing -- and I  
7 don't mean to say go trample all over copyright law --  
8 but I didn't go out and spend \$80 that I didn't have,  
9 for the original document. I know the IAEA would like  
10 to, I'm sure, make some money off the publication of  
11 their documents, but if they want to play in the  
12 American forum, they should play by American rules.  
13 And so, those documents should be publicly available,  
14 open to everyone, at no cost. I think you guys can  
15 probably do that from your Web site.

16           COMMISSIONER DICUS: Once we get it.  
17 Okay. Thank you.

18           Mr. Lewis, how long ago did the double  
19 containment of the plutonium -- and my question has to  
20 go -- well, let me get into the question. You can  
21 answer or back away from it.

22           If there is a sound technical basis for  
23 removing the double containment for plutonium, would  
24 and/or should the same technical basis apply to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 removing the 20 curie per container solid material  
2 requirement for plutonium?

3 MR. LEWIS: I don't know that I can answer  
4 your question specifically. I will say, though, that  
5 I would reverse the question and say I'm not so sure  
6 there was ever a technical basis for double  
7 containment, to begin with, that, in fact, the  
8 regulations were developed to fully encompass the  
9 safety to transport a radionuclide up to its  
10 limitations, and why treat that one any different than  
11 any of the radionuclides. So, I would have to turn it  
12 around that way and make that comment.

13 Specifically, your question was the solid  
14 part of it, and I really don't have an answer for  
15 that.

16 COMMISSIONER DICUS: Thank you. Thank  
17 each of you.

18 MR. RICCIO: Can I just add something?  
19 Your own regulatory analysis acknowledges that it is  
20 anticipated therefore -- and this is talking about the  
21 double containment of plutonium -- is anticipated  
22 therefore that an increasing exposure could result  
23 during an accident if you were to remove the double  
24 containment.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   So, it's not just the public that's  
2 concerned about this, obviously folks on staff also  
3 have concerns.

4                   COMMISSIONER DICUS: Thank you. Thank  
5 you, Mr. Chairman.

6                   CHAIRMAN MESERVE: Commissioner Diaz.

7                   COMMISSIONER DIAZ: Thank you, Mr.  
8 Chairman. Mr. Killar, you noted in your remarks that  
9 it is important for the NRC to immediately adopt the  
10 1996 package criteria because it would save the NRC  
11 and industry resources by avoiding a need to so many  
12 packages following adoption of TS-R-1.

13                   How hard an impact do you think that will  
14 have, and we are talking about a two-year and seven-  
15 year period. Have you analyzed whether the adoption,  
16 the immediate adoption of the '96 is a significant  
17 economic impact with no safety benefits?

18                   MR. KILLAR: We have not done an analysis  
19 per se. We actually had requested this about a year  
20 or so ago of the staff to consider trying to move  
21 forward with this, as it was obvious that they were  
22 going to move into adoption of the '96 prior to a  
23 number of packages that had been submitted for the  
24 specific purpose. And we continue to advocate that  
25 position.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           As far as looking at a specific analysis,  
2 no, we don't have a specific analysis. One of the  
3 things we do see, though, with the IAEA regulations,  
4 that you are going to see a number of new packages  
5 being introduced as well as a number of packages being  
6 introduced to be recertified under the '96 criteria  
7 because of the grandfather provisions that are in  
8 IAEA. The sooner we get that process ongoing through  
9 the NRC, the better and least cost there will be for  
10 the industry, as well as the NRC's resources.

11           COMMISSIONER DIAZ: Thank you. Mr.  
12 Riccio, you have a series of each -- you know, related  
13 to this entire potential rulemaking, and the agreement  
14 with adopting some things from IAEA and, you know, you  
15 stressed the issue of public health and safety, which  
16 supports what we deal with.

17           If you would look at all your  
18 recommendations and you would zero in on one specific  
19 recommendation that you think will impact more on  
20 public health and safety, which one would you select?

21           MR. RICCIO: Quite honestly, I look at  
22 what's on the table, and it's really a mixed bag. You  
23 have certain radionuclide values that go up, certain  
24 radionuclide values that go down, and I'm not an  
25 epidemiologist, I can't tell you whether or not that's

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 going to actually increase or decrease public  
2 exposure. All I can tell you is that this doesn't  
3 pass regulatory muster, this being your regulatory  
4 analysis.

5 If you can't address your cost/benefit  
6 concerns -- and mine aren't on the cost side, mine are  
7 on the public health and safety side of the equation  
8 -- we're seeing potentially increased cost with what  
9 we see as a reduction in public health and safety.

10 So, if this were a normal rulemaking, it  
11 wouldn't pass regulatory muster.

12 COMMISSIONER DIAZ: So you think from a  
13 regulatory standpoint, it is not a wholesome document  
14 that fully answers the issues of safety benefits and  
15 costs?

16 MR. RICCIO: By its own admission, it  
17 doesn't and, from our perspective, that -- if this is  
18 the way NRC and DOT intend to harmonize with IAEA  
19 standards, it points out some major problems. If we  
20 don't have access to the decisionmaking body, we at  
21 least have access here, but you guys are in a position  
22 where you may have to adopt certain standards by law.  
23 That doesn't give us much access.

24 COMMISSIONER DIAZ: All right. Thank you  
25 so very much.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1           Mr. Lewis, you noted that Duratek is not  
2 in support of the NRC proposed grandfathering  
3 provisions, and that any phase-out should be based on  
4 a risk-informed approach.

5           Given the assumption that any packages  
6 that will be looked at in the coming years would  
7 probably have some benefits of improved technology and  
8 sometimes technology works in favor of reduced costs.

9           How do you think that risk-informed is  
10 going to impact the phasing out or not phasing out of  
11 your transportation of casks?

12           MR. LEWIS: Well, as I alluded to in the  
13 presentation, if a package is strictly maintained  
14 over its lifetime, that doesn't make it unsafe for  
15 use. In addition, because of its use, you have  
16 significant history to show that it has maintained the  
17 goal behind the regulations, to provide public health  
18 and safety.

19           So, technology may, in fact, decrease the  
20 cost of a licensing process, and may even decrease the  
21 cost of fabrication of a new package, but that doesn't  
22 preclude the continued use of an old package. I mean,  
23 the analogy -- I gave you a couple of things to  
24 consider, but the analogy may be as new technologies  
25 are developed for cars, that doesn't mean you can't

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 drive the old one. And so we want to continue to be  
2 able to use those until there is some safety basis by  
3 which it needs to be phased out.

4 COMMISSIONER DIAZ: Thank you, Mr. Lewis.

5 MR. LEWIS: I also want to add, if you  
6 don't mind giving me one more second here, that I  
7 don't want to appear as though phasing out old  
8 packages is only going to be a cost impact to my  
9 business because the casks that Chem-Nuclear provides  
10 or Duratek Chem-Nuclear provides to the industry are  
11 primarily nuclear power plant casks. I don't think  
12 there's a single one of them that we have that isn't  
13 used by the nuclear power plants on a routine, regular  
14 basis. And we also supply probably 75 percent of  
15 those casks for the transport of radioactive waste  
16 material.

17 So, it's not just impacting our business,  
18 as well it is impacting every one of the nuclear power  
19 plants and their ability to be able to move their  
20 waste safely to a disposal site.

21 COMMISSIONER DIAZ: Thank you, Mr.  
22 Chairman.

23 CHAIRMAN MESERVE: Commissioner  
24 McGaffigan.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   COMMISSIONER McGAFFIGAN: Mr. Killar, I  
2 hear you giving us two messages which I hear right at  
3 the outset -- I took down some notes -- but you say  
4 that you are disappointed the package doesn't talk  
5 about risks and benefits, but almost in the next  
6 breath you say "we don't care about risks and benefits  
7 because we have to do this to get along in  
8 international commerce". Which message am I supposed  
9 to hear with the larger megaphone? I fear that if we  
10 went through risk/benefit of each provision in here,  
11 we'd find some that -- I mean, the grandfathering  
12 provisions, you are saying, could be vastly costly if  
13 we don't make a domestic exception. We are making an  
14 exception for molyb-99 based on the concerns of the  
15 pharmaceutical industry, and californium-252, so we  
16 are making some. But I fear that if we went through  
17 this, we'd find more cost than benefits for several of  
18 these provisions, perhaps for the package as a whole,  
19 yet -- and so we could document that. But then you  
20 are saying it doesn't matter because we recognize --  
21 we, the shippers in the United States, recognize we  
22 have to go along in order to participate in  
23 international commerce, and the downside of not being  
24 able to participate in international commerce is worse  
25 than the costs that we may incur as a result of what

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 we don't think is a particularly well justified  
2 rulemaking.

3 MR. KILLAR: I guess the answer to your  
4 question is that from the international commerce  
5 aspect, we would certainly appreciate the rulemaking  
6 going forward, but what we are trying to do is instill  
7 the philosophy and hopefully the NRC and DOT will take  
8 this forward to IAEA to look at the risk/benefit  
9 analysis as they look at changes to the regulations,  
10 and that's what we've been working with the DOT and  
11 the NRC representatives who go to the IAEA meetings to  
12 help promote this concept. This is basically a  
13 foreign concept to a number of the regulators that  
14 participate in the IAEA discussions and stuff, and so  
15 they don't have any comprehension of how this impacts  
16 industry and what benefits are really there for the  
17 additional risk or reduction of risk and the cost this  
18 involves. And so I think, yes, I am sending a dual  
19 message, but at the same time we do have to deal with  
20 international commerce, so that right now if the  
21 higher impact from us, but we would like to work on  
22 really more the risk aspect in there.

23 COMMISSIONER McGAFFIGAN: One of your  
24 comments, which I don't think we are likely to pick up  
25 on, but it was intriguing, was the suggestion that we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 think about Part 20 for some of what we are doing  
2 here, but I could turn that on you. We essentially,  
3 if we were doing that, would be adopting ICRP 60 and  
4 Part 20 -- part of it, part of it -- the exemption  
5 values. Can you speak for NEI as to whether you also  
6 could accept the occupational dose limit reducing from  
7 5 to 2 rem -- or 10 rem over 5 years?

8 MR. KILLAR: I can't speak on behalf of  
9 NEI on that issue today.

10 COMMISSIONER McGAFFIGAN: It bothers me  
11 that we are essentially -- I mean, even with this  
12 rulemaking, we are essentially adopting parts of ICRP  
13 60 for purposes of this rulemaking, but we don't --  
14 and we've been urged by our international partners  
15 and, for instance, the Convention on Nuclear Safety,  
16 to adopt ICRP 60, but we are not really adopting it in  
17 its totality. As a coming attraction, I'll tell the  
18 audience, we are expecting a paper from the staff on  
19 this issue in May, and we are looking forward to that  
20 paper so that we can grapple with some of the  
21 recommendations that have been made to us.

22 Mr. Riccio, I know it's tough to sort this  
23 stuff out, but there are parts -- I mean, the part of  
24 your testimony that I resonate with is the difficulty  
25 of getting your hands around all this, but the one-way

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 ratcheting part -- I mean, there is, they say, in  
2 adopting these values, we're going from 70 to 10  
3 becquerels for cobalt-60, and that presumably will  
4 provide some additional benefit. And I don't know how  
5 many of the 70-to-10s offset the 70-to-100s, but the  
6 rationale which we may have to adopt, at least for  
7 international purposes no matter what, is that we go  
8 to a fairly uniform risk basis with these new A-1 and  
9 A-2 values, with exception for molyb-99 and exception  
10 for californium-252 because the pharmaceutical  
11 industry yelled loud enough -- but are you more  
12 comfortable with uniform risk regime, where we are  
13 fixing some things that may be a factor of 7 too  
14 large, like cobalt-60, that the risk of some things  
15 going in the other direction, or are you saying that  
16 you want only a one-way ratchet, that if 70 should go  
17 to 10, we should go to 10, and if 70 should go to 100,  
18 we should stay at 70?

19 MR. RICCIO: Is that your question?

20 COMMISSIONER McGAFFIGAN: I interpret your  
21 answer to be that you want the one-way ratchet. I  
22 mean, I interpret --

23 MR. RICCIO: I don't believe that we  
24 should have the ability by the industry to come in and  
25 say what they want exempted away whereas the public

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 obviously doesn't have the same access to you or to  
2 really the IAEA, and if by instilling a one-way  
3 ratchet into the regulations, we can preclude that,  
4 then I would be for it.

5 Like I said, from reviewing these  
6 documents, it's difficult to tell whether the public  
7 will be better or worse off after the adoption of  
8 these regulations, and I challenge each of you to try  
9 to address that as well. I'm not sure you can. I'm  
10 not sure the staff did in their regulatory analysis,  
11 which is what I was relying upon to give me background  
12 enough to be able to present my opinions here today.

13 For some radionuclides, that 30 becquerel  
14 difference may be significant. You were concerned  
15 about a 4 becquerel difference. So, I mean, if 4  
16 becquerels --

17 COMMISSIONER McGAFFIGAN: That's surface  
18 contamination --

19 MR. RICCIO: I understand, but if 4  
20 becquerels is substantive in your mind --

21 COMMISSIONER McGAFFIGAN: It isn't, that's  
22 my point. My point is that the 4 becquerel per  
23 centimeter limit probably makes no technical sense,  
24 and it should be much higher.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. RICCIO: But a 30-becquerel increase  
2 in the current standard is significant. It's almost  
3 a 50-fold increase. And I know it's not for every  
4 single radionuclide, but I don't have the ability or  
5 the expertise to go through and determine which is  
6 going to benefit the public and which is not. And,  
7 unfortunately, I think that's the role of the Agency,  
8 is to determine whether or not this going to actually  
9 increase or decrease the public health and safety.

10 COMMISSIONER MCGAFFIGAN: Let me get a  
11 couple quick questions in to Mr. Killar to finish up.  
12 One, your proposal that somehow we start by direct  
13 final rule, start evaluating casks according to these  
14 standards, even though we haven't adopted the  
15 standards yet. How does that work? I mean, everybody  
16 would be -- even though we haven't adopted them yet,  
17 do you think there would be enough interest in the  
18 industry where -- this would be a pretty funny rule --  
19 for people to come in and submit applications so they  
20 could get pre-certified to the '96 rule so that when  
21 the '96 rule is finally adopted on the staff schedule  
22 in 2002 sometime, everybody would be pre-certified and  
23 ready to go, and people would actually spend money to  
24 do that?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 MR. KILLAR: That could be a way to do it.  
2 I'm not sure what the mechanism the NRC would have to  
3 go through in order to do that. You have done things  
4 that has made immediate effective rules in times past,  
5 particularly now.

6 COMMISSIONER McGAFFIGAN: But they are  
7 noncontroversial. Anytime we get -- we might get  
8 substantial comment from both -- I'm not sure from  
9 whom, if we were to -- as I understood your proposal,  
10 we would go by direct final rule to have the staff  
11 evaluating against the '96 standard and -- and all the  
12 details weren't there -- presumably they would not be  
13 able to complete the certification until our rule was  
14 final, but -- I mean, it's a chicken and egg problem  
15 is what I'm pointing out. I don't quite understand  
16 how it would work, in fact.

17 MR. KILLAR: I think maybe I need to  
18 clarify it. Right now, the staff is reviewing as to  
19 -85. What we pose or what we recommend is that they  
20 go to review against the -96.

21 COMMISSIONER McGAFFIGAN: But that's what  
22 we're adopting by rule here, if we do it.

23 MR. KILLAR: But as was discussed earlier,  
24 you're not going to have this rule in place until  
25 probably June or maybe later of next year. So,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 basically, certified a number of packages or  
2 recertified an existing fleet of packages to the '85  
3 where they could have been certified to the -96.

4 COMMISSIONER McGAFFIGAN: A final -- it's  
5 more a comment than -- Mr. Riccio reminded me about my  
6 famous fetish with 4 becquerels per square centimeter  
7 service contamination. NEI testified at the public  
8 meetings -- I read your comments, Mr. Killar -- that  
9 you didn't think we needed to make this change. You  
10 also talked to us about being risk-informed. How can  
11 a cleanliness standard -- which, I repeat, I have not  
12 found a European regulator who will actually defend it  
13 as a rational regulation, and I certainly wouldn't  
14 want to -- how can you guys be in favor of it, and  
15 also lecture us about risk-informing --

16 MR. KILLAR: The reason we're in favor of  
17 it is because it looked like the way it was proposed  
18 is was as an exception specifically for spent fuel  
19 packages. If you are looking to change 4 becquerels  
20 per square centimeter for all packages, we would  
21 certainly consider it. But if you're going to do it  
22 strictly for spent fuel packages, we would oppose it.

23 COMMISSIONER McGAFFIGAN: But the problem  
24 is largely in spent fuel packages which are -- that  
25 the rule was developed for people handling large

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 quantities of pharmaceuticals every day, you know, at  
2 Merlin Heights and at the Merlin facility, or somebody  
3 who might -- UPS have to handle a large number of  
4 packages today. People don't handle large numbers of  
5 spent fuel casks per day, they are very special  
6 containers, and that's where the problem arose in  
7 Europe. I mean, when people discovered in Europe that  
8 the 4 becquerel per centimeter limit was being broken  
9 -- and people actually did calculations as to what the  
10 worker dose exposure would be the rail yard or  
11 whatever -- I think I remember the units being  
12 picorem, and we don't generally regulate to picorem  
13 around here, or microrem, or whatever -- they were  
14 well below millirem. And so that's my -- whereas I  
15 think you can get a pretty good dose if somebody is  
16 messing up packages and you are handling 1,000 of them  
17 a day. So, it might make sense -- I mean, there is  
18 direct contact, people actually handle some of these  
19 other packages but, whatever -- we'll have a chance  
20 obviously to work on this one in the coming years,  
21 I've told people that by 2005, one of the things I  
22 hope to accomplish is a small move to rationality in  
23 this area.

24 MR. RICCIO: Commissioner, I'm told that  
25 an answer to your question is actually in the comments

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 from NIRS, which I would like to submit to the  
2 Commission.

3 COMMISSIONER MCGAFFIGAN: On the --

4 MR. RICCIO: On the ratcheting --

5 COMMISSIONER MCGAFFIGAN: The one-way  
6 ratcheting?

7 MR. RICCIO: What it says here, at any  
8 rate, is that it would be inconsistent with your ALARA  
9 principles to allow for an increase in exemptions  
10 whereas we don't have any problem with your ratcheting  
11 it down.

12 COMMISSIONER MCGAFFIGAN: I think you are  
13 misinterpreting ALARA, but I'll leave that to another  
14 day.

15 CHAIRMAN MESERVE: Commissioner  
16 Merrifield.

17 COMMISSIONER MERRIFIELD: In view of the  
18 time and heat, I have but one question. I had asked  
19 our staff about our decision not to go with adopting  
20 the ASME Code requirements, and I raise that because  
21 of my -- again, the concern I raised was, gee, we seem  
22 to adopt the ASME on virtually everything else, why  
23 make this an exception. Do the three of you have any  
24 comments to that?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   MR. KILLAR: I'll speak on behalf of NEI.  
2 We have no problem with ASME codes or any codes being  
3 in REG Guides, what we have issue with is being in  
4 regulations, and for the specific reason you alluded  
5 to earlier in the earlier discussion with the staff --  
6 these things are constantly in a state of flux. In  
7 the time it takes to go through a regulatory change,  
8 you are constantly playing catch-up with the newest  
9 version of the ASME Code that's out. So, by putting  
10 them in the REG Guides, you then have a very flexible  
11 way of putting that into effect, but not the rigor or  
12 requirements that you do in the regulations. And so  
13 that's basically our position as far as we don't want  
14 codes in the regulations.

15                   MR. RICCIO: My concern would be basically  
16 more based upon Mr. Killar's comments. Placing them  
17 in REG Guides means they are nonenforceable. If  
18 you're going to have a standard, it should be  
19 enforceable.

20                   MR. LEWIS: My only comment is as a past  
21 licensee fabricator -- I mean, we are already  
22 following the codes anyway, and I'll just reiterate  
23 what Mr. Killar said. Since we are already complying  
24 with those codes as they are, it makes it very

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 difficult to comply with the most up-to-date code if,  
2 in fact, we've got to wait for a rulemaking change.

3 COMMISSIONER MERRIFIELD: Thank you, Mr.  
4 Chairman.

5 CHAIRMAN MESERVE: Mr. Lewis, I have a  
6 question on this grandfathering issue that you've  
7 raised. You make a point that these older packages  
8 are ones that are maintained and have a good safety  
9 record.

10 My understanding of the staff's interest  
11 in dealing with the phasing out of the oldest of these  
12 casks is that the requirements have changed over  
13 years. And, although the casks that were from the --  
14 I guess compatible with the 1960s era, IAEA standards  
15 are ones that are still allowed to use. The idea was  
16 that in each of the successive generations of changes  
17 there have been, as a result presumably of the  
18 rulemaking process that we've gone through, there have  
19 been increased requirements, and we've allowed the  
20 continued use of these older casks, but at some point  
21 it does seem to me, if we are serious about the  
22 regulatory changes being necessary, you would have to  
23 envision that these older casks are going to disappear  
24 from use. And I think the proposal is for a three-  
25 year timeframe for just the oldest era of casks, it

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 would still be the '70s and '80s era casks could  
2 continue to be used.

3 I'm wondering, how many of these '60s era  
4 casks that were constructed in conformance with the  
5 '60s era IAEA standards are really still in use, and  
6 does this -- I'm a little puzzled that this is such a  
7 big issue.

8 MR. LEWIS: In our case, we have about 18  
9 of them that are still in use, that are back from the  
10 '67 standard. I have no idea what the rest of the  
11 industry is. That's the reason it's hard for me to  
12 put a dollar figure on what it might take to replace  
13 those particular packages for reuse.

14 As far as technical improvements, I'm all  
15 for technical improvements. You already heard me say  
16 that compatibility, I think, is important for a number  
17 of reasons, one of which is to facilitate easy  
18 transportation, but by the same token, from a  
19 deviation standpoint, the package has been in service  
20 and has proved itself to meet the goals of safe  
21 transport in commerce. And so I would have to say  
22 that with the fact that it's proven itself and it has  
23 been highly maintained, that there ought to be some  
24 provisions to allow for continued use of it until  
25 there is some question of its risk.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1                   MR. KILLAR:  If I could add to that, the  
2 proposed rule and what we don't object to is that you  
3 cannot fabricate any new packages to that standard,  
4 and so you will eventually have them phased out as the  
5 package loses its economic value, as newer and  
6 improved versions come along.  But just because a  
7 package now is 20 years old doesn't necessarily mean  
8 it is not safe.  And, additionally, the NRC does have  
9 the provision in this regulation that if they have a  
10 package that is not meeting the performance  
11 requirements or there's question about its safety,  
12 they can immediately pull a Certificate of Compliance  
13 and make that package go out-of-service.

14                   CHAIRMAN MESERVE:  I take the point, but  
15 it does seem to me that, number one, you had the  
16 change in the regulatory requirements over time and,  
17 secondly, they are old, they have been used, and at  
18 some point, even though they have been maintained, you  
19 start to have concerns that develop as to whether you  
20 could go out and take specific action cask-by-cask to  
21 have them withdrawn.  And it does seem to me that  
22 there were some regulatory benefits for both of us if  
23 there is basically a termination date.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 I'm not prejudging this now, but it does  
2 seem to me this is a more difficult question than your  
3 argument has presented.

4 I have a question for you, Mr. Killar,  
5 that I think you have answered. The first point that  
6 you have raised in your comments was that there has  
7 not been a fair evaluation of risks and benefits. You  
8 don't give us very much concrete about what we would  
9 change in this proposal if we were to have evaluated  
10 them.

11 I understood your comments in response to  
12 Commissioner McGaffigan to be that you really just  
13 want to have us encourage through the IAEA process  
14 that risks and benefits be part of the overall  
15 international activity that is part of their process  
16 when they develop the standards. Have I got -- do I  
17 understand the thrust of your comments?

18 MR. KILLAR: Probably the other area that  
19 is probably the most pronounced right now is work  
20 that's being done on Part 72. We start looking at  
21 line-of-credit and criticality analysis and what have  
22 you in Part 72 for storage. Once you move over to  
23 Part 71, you basically lose all those benefits because  
24 there is no risk analysis for that same type credits  
25 being applied in Part 71. And so there is where you

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 may look at some of the risks. And, granted, you have  
2 a different set of scenarios as far as risk of  
3 someone sitting on a storage cask versus something  
4 going down a highway. But there is some work being  
5 done in that area, and so there should be some  
6 benefits done in Part 71 in that area.

7 CHAIRMAN MESERVE: Let me just make a  
8 comment to Mr. Riccio -- and I recognize you have not  
9 had an opportunity to go through all of the materials  
10 for reasons you explained.

11 I think that the 70 Bq/g issue is one that  
12 reflects that that's sort of a number -- I'm not sure  
13 what the origins were, but it is one that was to be  
14 applied uniformly across all radionuclides. And the  
15 point of the IAEA effort here, as I understand it at  
16 least, was to put everything on a common risk-dose  
17 basis, so that they select some through some analysis,  
18 some dose that they would view as sufficiently small,  
19 that you would then use that and derive concentration  
20 limits because the risk per curie for the various  
21 radionuclides varies, you're going to have numbers  
22 that are going to change, there are no necessary  
23 connection to the 70 Bq/g limit.

24 It does mean I have looked through the  
25 rule and things for radium-226 that goes from 70 to 10

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 Bq/g, for natural uranium it goes from 70 to 1 Bq/g.  
2 No doubt, for others there are many that go from 70 to  
3 100 and what have you. They have obviously done some  
4 sort of rounding to get to these round numbers, but  
5 they are sort of all over the lot, as I think you'd  
6 expect, and that basis by which they derive these  
7 numbers is now at least of a common principle that is  
8 related to what the objective is, namely, that your  
9 purpose of the regulatory requirements is to ensure  
10 protection of the public health. So you have a  
11 methodology for setting the limits that's intended to  
12 reflect that purpose.

13 So, as an intellectual matter, I think  
14 that it does at least establish a level of consistency  
15 in the regulatory requirements that does make, I  
16 think, some sense from a regulatory perspective.

17 MR. RICCIO: We don't have access to those  
18 panels that are making the decisions as to how  
19 dangerous a specific radionuclide is. We are familiar  
20 with the fact that the panels in this country either  
21 are being stacked with people who are claiming that  
22 radiation is less and less and less dangerous when a  
23 review of, for instance, the BEER panels over the  
24 previous years, have come to the opposite conclusion.  
25 As I said, I don't have the expertise to go through

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 every single radionuclide and say whether or not  
2 there's been a substantive increase in the public  
3 health and safety. I would hope that the IAEA would  
4 only do things that would increase the public health  
5 and safety, but I find it very instructive that the  
6 industry wants -- they wanted adoption so long as it  
7 decreases their costs or, in some cases, actually  
8 increases their costs, as long as commerce can be  
9 exacerbated or maintained.

10 It would seem to me that if you had a 70  
11 becquerel limit, why not regulate to that. If there  
12 is no difference between 70 and 31, regulate to that.  
13 If you can tell me that there is an increase to the  
14 public health and safety and you can show me that  
15 there's an increase to the public health and safety by  
16 accepting the change in values, then we'd be open to  
17 it, I would think. But until you can show that rather  
18 than make a broad claim that in general these would  
19 improve public health and safety, I guess we're not  
20 really going to be ready or willing to accept it.

21 CHAIRMAN MESERVE: I think that you ought  
22 to expect, given the different methodology, that some  
23 numbers may be different, and I think probably most of  
24 them are different. The idea, I think, is to have  
25 some consistency so that you are treating radium and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1 uranium and iodine and various other radioisotopes on  
2 a basis that they have a common framework from a risk  
3 perspective.

4 Well, I'd like to thank you all for your  
5 presentations. This rulemaking package is a very  
6 substantial one. We all will very much benefit from  
7 public comments on the proposed rule when it is  
8 eventually published. This is really the -- we are at  
9 mid-course on what is going to be a saga or extensive  
10 journey as we go through the evaluation of this issue,  
11 and I think that the insights provided by the staff  
12 and by the panel this afternoon have been very helpful  
13 to us.

14 Thank you all and, with that, we are  
15 adjourned.

16 (Whereupon, at 3:45 p.m., the Commission  
17 meeting was adjourned.)

18

19

20

21

22

23

24

25

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

1  
2  
3  
4  
5  
6