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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON 10 CFR PART 71 RULEMAKING

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PUBLIC MEETING

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NUCLEAR REGULATORY COMMISSION
ONE WHITE FLINT NORTH
ROCKVILLE, MARYLAND

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MONDAY
APRIL 9, 2001

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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

STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:
ANNETTE L. VIETTI-COOK, Secretary
KAREN D. CYR, General Counsel
DR. CARL PAPERIELLO, Deputy EDO
MARTIN VIRGILIO, Director, NMSS
WILLIAM BRACH, Director, Spent Fuel Project Office
NAIEM TANIOUS, Rulemaking & Guidance Branch, NMSS
JOHN COOK, Licensing & Inspection Directorate, NMSS
FELIX KILLAR, JR., Director, Material Licenses, NEI
JAMES RICCIO, Public Citizen Critical Mass Energy Project
MARK LEWIS, Regional Manager, Duratek, Inc.

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?

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

COMMISSIONER McGAFFIGAN: We could get the aim a little bit better.

CHAIRMAN MESERVE: Dr. Paperiello, you may proceed.

MR. PAPERIELLO: Thank you, Mr. Chairman.

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

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

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

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

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

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

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

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

MR. TANIOUS: Thank you, Dr. Paperiello.

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

(Slide)

Background. The EDO forwarded to you Commission Paper SECY-01-0035 on March 2, 2001. This paper is based on several SRMs. The last one is SRM SECY-00-0117, June 28, 2000, giving us approval to use the enhanced public participation process, and to publish for public comment the Part 71 Issue Paper, also to proceed after the public meeting directly with the development of a Proposed Rule, and also to keep in formal communication with the Commissioners' technical assistants to provide feedback on the public meetings, on the progress of the Part 71 rule, also on the status of the DOT's rule. By SRMS in 1999 and 2000, directed us to address in this rulemaking the unintended economic burden caused by the 1997 Emergency Final Rule on Fissile Material Exemptions and General License Relations, also directed us to conduct a comparison between the IAEA transportation standards, TS-R-1, and Part 71.

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

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

(Slide)

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

The rule also contains eight NRC-initiated changes. These include a proposed position on the petition for rulemaking, PRM 71-112, which requests the elimination of the double-containment requirements for plutonium shipments. It also contains a proposed position on the surface contamination standards, as applied to high-level waste and spent fuel packages, and the revision of the fissile material exemption and general license provisions to address the Emergency Rule unintended economic impact.

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

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

(Slide)

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

The issue of harmonization with TS-R-1 versus the cost of implementation, and the result safety benefit were the subject of several comments. There was a general concern that little or no safety benefits will come from several of the IAEA compatibility changes. The staff responded that it is important to stay compatible with international regulations while maintaining safety.

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

(Slide)

Continuing with general public comments -- safety. Several interest groups expressed the

view that NRC should consider its regulations to be the minimum, irrespective of the IAEA compatibility changes. The staff responded that the NRC considered the latest advances in science and in models. The IAEA has shifted to a dual-spaced approach in its models.

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

(Slide)

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

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

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

In addition, there were concerns noted that the IAEA regulatory process to develop its TS-R-11 was not open to the public. However, staff continues to engage the stakeholders in this rulemaking effort. Next slide, please.

(Slide)

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

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

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

(Slide)

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

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

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

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

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

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

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

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

(Slide)

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

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

Some commenters expressed concern that the regulatory provision for special packages might be extended to other packages, and that the additional information associated with the exemption process would not be provided through the special package authorization process.

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

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

(Slide)

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

The proposed provision would provide needed consistency in storage and transport change authorities. A factor here is that IAEA regulations call for changes to Type B transport package designs to be reviewed by the competent authority, not certificate holders. Designs changed by certificate holders without NRC review might not be accepted internationally.

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

To respond to these issues, staff is proposing that two methods be provided for minor changes to Part 71 designs. First, continue the current Part 71 amendment process for minor design

changes. These amendments require NRC staff review, and amended certificates are accepted internationally. This method maintains compatibility with IAEA.

Second, staff is proposing a new subpart (i) to Part 71, which would provide requirements for the new Type B DP packages that would permit certificate holders of dual purpose spent nuclear fuel casks intended for domestic use to make minor design changes. Also, subpart (i) provides for 72.58 type changes in a manner that's consistent with Part 71.

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

(Slide)

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

IAEA regulations have no double containment provisions. Staff has reviewed the petition and believes that NRC's Type B packaging standards provide adequate containment for all radionuclides, including plutonium, without the need for double containment. Part 71 already excludes common solid forms of plutonium from the double containment provision, including spent nuclear fuel, plutonium metal, and glass logs. Staff has proposed granting the petition, noting that the solid form requirement for plutonium shipments would be retained. The proposed rule treats plutonium on the same transport risk basis as all other radionuclides. The reduction and the redundant packaging barriers might reduce shipper doses by simplifying loading operations and reduce shipper costs to a resultant increase in package payload.

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

(Slide)

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

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

The public appears to be concerned about shipper doses, but most view shippers as trained in how to deal with contamination. The public comments do not appear to support a change that could lead to increased public doses. Also, no IAEA member State proposed a change to the TS-R-1 contamination limit, and U.S. industry has not indicated a change is needed domestically.

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

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

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

MR. TANIOUS: Thank you, John. May I have the last slide, please.

(Slide)

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

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

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

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

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

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

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

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

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

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

MR. COOK: I would just add that the two agencies are making sure that where the regulations overlap, that both sets of revisions are similar. For example, the A-1 and A-2 value changes will be the same both in NRC and DOT regulation, the exemption values will be the same in both sets of regulations, but where the responsibilities differ are where a proposed change pertains only to NRC regulation, we have coordinated those with DOT during the development of the rule, and they have no objection to our proposal, as we are advancing it in the proposed rule.

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

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

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

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

CHAIRMAN MESERVE: Did you get comments from them?

MR. TANIOUS: Yes, we have received three comments, I think. They were considered, yes, in the rule.

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

MR. TANIOUS: It will have Department of Transportation, but in an indirect way it may have because our regulations are adopted with Agreement States, which also regulate these materials.

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

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

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

CHAIRMAN MESERVE: The papers that you have described to us suggest that if you had adopted the same concentration limit, then there would be a wide range of activities that would then material being shipped would be encompassed under rules governing radioactive material shipments, and that this would expand into industries that now don't recognize perhaps that they are transporting materials with trace amounts of radioactivity.

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

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

CHAIRMAN MESERVE: For what types of materials?

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

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

MR. VIRGILIO: Yes, sir.

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

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

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

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

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

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

CHAIRMAN MESERVE: Commissioner Dicus.

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

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

MR. TANIOUS: The regulatory analysis we prepared lacks from hard cost data. However, still we, through the professional judgments of the staff and various documents, it does indicate that most of the changes -- all the 19 changes will be no cost impact to the industry.

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

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

The reason -- now coming back to your question -- the reason that John in his summary had identified the five issues for a little bit more in-depth discussion, in our public meetings -- and these are both public comments -- public comments from both industry, concerned public interest groups, and individual citizens. We focused on those that seemed to have the most interest from the standpoint of whether the impact or concern. If we look at the various issues, there are a number of changes in Part 71 that this proposed rulemaking package includes from the standpoint, though, when you sit back and look at the cost on the industry, if you will, and the cost to NRC in the process, our regulatory analysis determined that, overall -- and that draft regulatory analysis will be part of a proposed package for public review and comment as well -- it identified that there will be increased efficiencies for both the NRC and the regulated industry with regard to the proposed actions.

The reason, again, we focused not on all 19, but on the five that John walked through is those are the ones that gathered the most in the way of public interest or industry comment as we were

going through the open public participatory process this past late summer and early fall.
COMMISSIONER DICUS: So you're saying then that if we went with all 19, there is an efficiency.
MR. BRACH: Well, of the 19, there were a few that staff, based on our further review and based on input and comments we received, that we are not recommending that we go forward with. I believe Naiem had mentioned two of the IAEA TS-R-1.
COMMISSIONER DICUS: If we are selective in our adoption of the IAEA and together with what we choose to do with our own initiative which, from what your testimony, we are in sync with DOT on these, for the most part, if we are selective particularly with the IAEA recommendations, what is the impact on our international shippers?
MR. BRACH: Our international shippers being domestic U.S. companies?
COMMISSIONER DICUS: Domestic companies in international transportation.
MR. BRACH: That clearly was a fundamental element of our review and determination of the two TS-R-1 issues that we had identified that we are not recommending to the Commission to proceed with in the rulemaking. The SI units, which would have not allowed the continuation of existing NRC policy on maintaining dual units, both customary and SI units. The other is the Type C that, based on our review and comments received, they did not, from what we heard from both industry and the public, a need on NRC's part to revise our rules for either one of those two. So, from an international commerce perspective and as we understand the U.S. industry's involvement in international commerce, we did not see that our recommendation of nonadoption of those two would have a significant impact.
COMMISSIONER DICUS: The LDM will not be an issue as well. Okay. One final, if I could, Mr. Chairman. It goes to Slide 9 which, really, I think, is addressing the Trojan Reactor Vessel disposal.
Given the fact that we are seeing some change in the reactor industry with regard to license renewals, is a rule change of the nature suggested really necessary? I mean, do we really -- how many of these do we anticipate being asked about to dispose of the entire vessel, and can this not be handled on a case-by-case basis rather than going into a rulemaking situation? I'd just like some feedback on that.
MR. COOK: We are trying to develop a standardized approach for these types of vessels because of the indication from industry that the use for these kinds of packages or requests to ship these kinds of packages is going to increase.
COMMISSIONER DICUS: That's part of my question.
MR. VIRGILIO: Commissioner, the Trojan Vessel type disposal, while you dispose of the vessel itself, is from both an economic and an ALARA perspective, a much better way to go.
COMMISSIONER DICUS: I agree, I'm not arguing that point.
MR. VIRGILIO: The issue is, where can you dispose of that vessel. And with Trojan, there was access to a disposal site, and it worked out very well. Here on the East Coast, that may not be feasible because of what's happening in the low-level waste disposal area. So, I think it's preferred by the utilities. The utilities we've spoken to would like that option, and we would do it on a case-by-case basis.
COMMISSIONER DICUS: I'm not debating that, but my question has to do with whether you put it into a formal rulemaking.
MR. VIRGILIO: This is more efficient, we believe, an efficient approach, but you could still do it on a case-by-case basis. This lays out the rules for engagement very clearly, and I think it's a preferred option.
COMMISSIONER DICUS: Okay. Thank you, Mr. Chairman.
CHAIRMAN MESERVE: Commissioner Diaz.
COMMISSIONER DIAZ: Thank you, Mr. Chairman. Referring back to something that the Chairman and Commissioner Dicus said, on the bottom of page 4, that bullet on materials to come under the NRC jurisdiction, and there was a lot of talk about norm. However, the Commission is exploring whether we should go into norm. Were there any of the commenters or the staff that could see whether we would be looking at transportation of norm, something that might play into our role? Is anybody concerned about it? Is it an issue? Will it be an issue?
MR. TANIOUS: The comments were concerned that we, NRC, seeking to regulate normal, I mentioned earlier, and the staff at that meeting stated clearly that we are not seeking to regulate normal, at least not in this rulemaking.
Under the Memorandum of Understanding between DOT and NRC, they divided the responsibility by activity, like Dr. Paperiello mentioned, and so this is an area where slow activity would fall under DOT. But it still, I think, may cause some complication because it would be okay under the proposed rule for Part 71 to transmit these variable limits because of the constant dose model, but in disposal it would not match because they still use the 70 Bq/g.
COMMISSIONER DIAZ: Nothing on norm.
MR. TANIOUS: No.
COMMISSIONER DIAZ: I noted on page 10, you know, and you covered it, that DOT has expressed concern about the NRC adoption of the change of dual purpose certificate holders. Could you elaborate a little bit on the concerns that the DOE and the other issues -- is there anything else that weighs on this from DOE?
MR. BRACH: I don't recall -- I apologize -- that the Department of Energy had concerns they'd expressed to us on the dual purpose cask designation.
MR. TANIOUS: But we will check.
COMMISSIONER DIAZ: And the last one which has already been touched on, but on the issue of the contamination limits, and because we are not going to deal with it at this time, because the coordinated research project is going to be dealing with it. Do you have an idea of the timetable? Will that be completed in time for this rulemaking, or not be completed in time for this rulemaking?
MR. COOK: The proposed schedule for the CRP which is actually being developed on an accelerated schedule is two years from the date of initiation, which will probably be in May this year. So, it's unlikely that its effort will be completed before this rulemaking is completed. However, it is intended to be completed before the next cycle for the revision of TS-R-1, so it should be available to be considered at that time by IAEA.
COMMISSIONER DIAZ: And we will know about that early enough so that we can stick our fingers into it.
MR. COOK: I believe so.
COMMISSIONER DIAZ: Thank you.
CHAIRMAN MESERVE: Commissioner McGaffigan.
COMMISSIONER McGAFFIGAN: Thank you, Mr. Chairman. I'm going to have some questions, and I think I'm going to have numerous other questions I'll just deal with the staff in private on because I regard this as a target-rich environment as the GAO regards our information technology programs.
I'm going to stick on where Commissioner Diaz just finished. I've talked to European regulators about this 4 becquerels per centimeter limit, and no one will defend it in private. No one wants to be quoted in public for members of the public present. There really is no basis for it.
The British did a paper several years ago, I think in the early '90s, that looked at removal data and gamma contamination, and they suggested that the limits could be moved up significantly. So, I would hope we could move relatively rapidly. This is one of the European regulators in public was quoted as saying, "This is a cleanliness standard, not a health and safety standard". And the last time, as I said, at one of our previous meetings, our statutory mission is adequate protection of public health and safety, it is not adequate protection of public health and safety and cleanliness, whatever that means.
So, I hope we can get to it, and I personally -- I'm going to be around here, I got confirmed until 2005 -- I hope that if you make some progress in this, you can build on the British, that we could do it domestically next time around, which is about two years from now, rather than waiting until

four years from now when it gets a little tenuous as to whether I'm going to still be around. Just so you know, I'm not going to go away, and the statement that we don't have the technical basis for making the change at the moment, I think that that's just because we haven't worked on it, and I think that it's there, and we should get on with it at some point.

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

MR. TANIOUS: Yes, Chairman --

COMMISSIONER McGAFFIGAN: I'm not Chairman, don't intend to be either. That's the Chairman.

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

COMMISSIONER McGAFFIGAN: Are all the backup documents available?

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

COMMISSIONER McGAFFIGAN: I thought there was an IAEA backup technical document that was going to be published --

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

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

MR. TANIOUS: Right.

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

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

COMMISSIONER McGAFFIGAN: I think it's a very unsatisfactory situation for that. I know we have repeated probably parts of it here, and DOT's going to repeat it in their statement of considerations, but I think it's pretty unsatisfactory that, what is it, three years now after these rules were completed, we still don't have -- it would be sort of like us trying to publish a rule without a statement of considerations, and say the statement of considerations will come three years later, that we will explain the explanatory material as to what it is we're doing here. I think we have to -- I know it's not your fault, it's the IAEA's fault, but I think it's terribly important that that document be available sometime soon so that people can see it.

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

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

COMMISSIONER McGAFFIGAN: Can you -- is that second change also being considered by IAEA in the current round?

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

COMMISSIONER McGAFFIGAN: But is there a difference -- I'm trying to help the public understand the IAEA process here. Is there a difference in the current status of the likelihood of the californium-252 change compared to the molyb-99 change being made in the current round of negotiations on the next update of TS-R-1?

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

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

What's changed? I mean, Mr. Taylor was pretty definitive with regard to the exemption values, Issue No. 2, and you have six provisions that we are unable to identify a public health or safety problem with the current provisions, the draft provisions would decrease harmony -- he basically says we're not going to adopt them -- since neither the UF nor exemption value provisions are needed for safety, their adoption in the United States will depend primarily on the provisions economic merit. It is our judgment that both provisions would fail the domestic cost-benefit screening because we are unable to identify and quantity sufficient benefit to compensate for their costs. I'm not reading the whole letter, but it was pretty explicit, and we'll stay on exemption values at the moment, that we thought that this was a bad provision, and we knew about the factor of 10 that you're now talking about and the Chairman asked you about when this went through. Didn't we? The factor of 10 was an accommodation --

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

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

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

COMMISSIONER McGAFFIGAN: The factor of 10 was added?

MR. COOK: Yes.

COMMISSIONER McGAFFIGAN: And you were making fairly definitive cost-benefit judgments back then, although we at least were being definite in our rhetoric, but you weren't able to give the Chairman much of a cost-benefit answer earlier, or Commissioner Dicus, about the cost-benefit of adopting these new exemption values.

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

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

Coal ash is an example. I don't know whether it's transported anywhere around the country, but it ain't an ore, so it isn't going to meet the factor of 10 exemption. And the last time I checked, coal ash can be reasonably hot. In fact, the Atomic Energy Commission once considered making coal ash source material according to, who was it, Mr. Rhodes in his paper -- I've not gone back and independently checked that -- but if coal ash was once considered source material, if it indeed has up to -- what are the numbers, 3- or 400 picocuries per gram -- I imagine you can get a pretty good dose out of coal ash, but maybe it's not moved. Maybe coal ash is just -- you know, the burn it and they dump it next to the plant and it's not radioactive because it never moves. But have you checked with the coal industry to find out whether they are worried about, you know, if they ever have to move any coal ash, whether it's -- because it's not an ore unless we define it as an ore -- and this may be in the DOT part of the regulations.

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

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

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

The proposal coming forward is picking up, I'll call it, a risk-informed approach to trying to establish a new radionuclide exemption value that has a dosimetric or a dose model basis behind the value that's assumed -- value that's calculated. And Chairman Meserve had mentioned the value does vary widely, based on each of the radionuclides, but looking at it from, I'll say, a risk-informed perspective, there is a common dose and modeling that was used to derive what that activity level should be on each individual radionuclide exemption.

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

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

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

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

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

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

COMMISSIONER DIAZ: Excuse me.

CHAIRMAN MESERVE: Commissioner Diaz.

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

COMMISSIONER McGAFFIGAN: Is it in here?

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

COMMISSIONER McGAFFIGAN: Is that an ore?

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

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

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

COMMISSIONER McGAFFIGAN: Natural material -- okay.

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

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

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

MR. BRACH: I was just going to add one other aspect with regard to our coordination with DOT. Representatives in Department of Transportation are here with us today in the audience, and Naiem had mentioned the activities up to this point in time have been very close working relationship between our Agency and DOT to have our activities coincide and, clearly, a goal we have is in the proposed rulemaking, moving to a final rulemaking, to have our two agencies' actions coincide at about the same time.

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

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

MR. TANIOUS: Our general statement about no significant cost is all the 19 changes -- we have 19 changes -- and, overall, there would be no significant cost. But if we pick one of the issues, such as the Issue No. 2, for example, of the exemption values, we have comments from oil and gas industry, and they say they will have significant cost because the shipment will become regulated. But that is exception, I think. Most we saw no significant cost.

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

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

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

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

COMMISSIONER MERRIFIELD: All of the rest of the Commissioners have talked about exemption values, so I shouldn't be the lone exception to that. I was reviewing the comments made by Mr. Riccio, and he brings into question this issue of our previous exempt concentrations of 70 Bq/g going now up to the IAEA level of exempting concentrations against 100 Bq/g limit. To quote his letter, he says, "This 30 Bq/g increase was not addressed in the DOT's proposal nor was I able to locate it in NRC's trove of documents. This constitutes a substantial increase in the radioactivity associated with these exempt changes". And then he goes on to note -- or quotes DOT saying "this change is really not very significant".

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

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

COMMISSIONER MERRIFIELD: So the take-away I have from that is given the fact you went in that particular direction and it's under 1 millirem, you would agree that that is not a significant change?

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

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

Why the difference in this particular case?

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

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

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

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

Given the thickness of this package, and the breadth of it, you know, I might suggest that we consider trying to focus having a separate area within the package where we outline the specific areas where we need to have answers. Otherwise, the public is going to be trying to ferret through hundreds and hundreds of pages, and we may not get all the answers we want, and focusing where we have to have some specific information to move forward with a final rule may merit some attention by the staff. Thank you, Mr. Chairman.

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

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

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

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

As you are probably aware, I have provided a written statement, and I am not going to read the statement especially as warm as it is in here and as hot as I am in this seat. We will move right along and just summarize it.

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

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

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

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

Moving on to some of the other issues, you did not adopt Type C or low dispensable material, DM. We recognize there is no present need for it, but we would like to see that you go ahead and consider that. We feel it's much better to have the rulemaking done rather than someone coming in and saying, "Hey, I want to have a Type C cask approved", and now you are developing the regulation at the same time you are trying to approve that cask. That's what happens when you put an additional burden on that first applicant. And so to avoid that, if you go ahead and adopt the regulations, it would take that burden away.

As we mentioned earlier today, the grandfathering provision. We generally support the grandfathering provision, the doing away with the fabrication of older packages. At the same time, the existing fleet has a very good safety record, it has been demonstrated, and there's no reason just to phase

out an existing package because of some new regulations. We have done this with a lot of other industries that have ruled out a lot of things that are very usable, serviceable and safely used on our roads that we will no longer be able to utilize. So we would like to see the grandfathering for the existing fleet of packages.

We would like the staff and the NRC to go ahead and look forward to trying to immediately take in the new review of packages going to the '96 criteria. Right now, the industry is going through a transition. We are developing a number of new packages and submitting them -- Global Nuclear Fuel just had an oxide package approved. Most of these packages are being tested and verified to the '96 criteria. However, the NRC, since it hasn't adopted that criteria, cannot review these packages against it and cannot give a Certificate of Compliance with a -96 designation. And what this results in is additional work because now, in a year or two, maybe three, that package will be back in. Nothing is changed, but now you are going through additional review cycle and review process. So, if there is some way you can expediently adopt the '96 criteria, we'd appreciate that.

On the testing criteria, we certainly appreciate that you're going to adopt a crush test and the other testing criteria. The only issue we have is that right now there is a difference in the sequence of tests that are done, and what this results in is additional cost for the industry because what we end up doing is testing the package two or three times because the sequences are different between the United States, France, and some other countries. We don't have any problems with meeting the tests, it's just an additional cost and burden the industry would rather not have to go through and if we could just have one agreed-upon sequence -- now, once again, this is something that will have to be addressed through IAEA. The NRC by itself will not be able to come up with what is "the appropriate sequence", but we would like to see the NRC work with DOT and the competent authorities of the world to come up with a standardized sequence for testing of packages.

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

We also appreciate the idea of the change process being added to Part 71, particularly for the Type dual purpose packages, but we think that same criteria can be applied to other Type B packages and with the same criteria, that it should not be limited to just the dual purpose packages, that the certificate holders could periodically update a safety analysis of some form, and only certificate holders be allowed to make the changes in the packages, and we think that would be a way of controlling those changes.

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

We think this is a very good document. We think it's something that goes to the dose basis we've talked about rather than just a specific number, and it makes sense. The only thing is that we'd like to see is maybe you adopt this in Part 20 rather than put it in Part 71. Granted, since you are looking at transportation, you would limit it at this point in time to transportation, but with the aspect that as we go forward and looking at other things such as material clearance, disposal, recycle, what have you, that there may be some value in looking at this table for that purpose. So, it may be more appropriate put in Part 20 rather than Part 71.

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

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

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

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

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

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

Unfortunately, the proposed rule before the Commission fails to meet even these most basic principles. The proposed harmonization also contradicts NRC's own principles of good regulation and positions previously espoused by the Agency.

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

COMMISSIONER McGAFFIGAN: It was in my vote as I voted it.

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

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

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

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

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

Unfortunately, the proposal from IAEA fails to meet the requirements of the Executive Order.

And my friends at NEI, nuclear lobbyists who have never met a regulatory burden reduction they didn't like, have also stated in their comments to the Department of Transportation that the new standard "does not provide a substantial increase in safety and that the costs of implementation will be significant".

I would recommend that the Commission take a look at the comments that have been submitted to DOT. Some other comments that haven't gotten an airing here, seemingly, are those of the radiopharmaceutical companies, which were adamant in their opposition to this in that it would drive up their costs substantially. I've got no interest in seeing that patients don't get their radiopharmaceuticals. I'm here to hopefully ensure that the public health and safety is protected.

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

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

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

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

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

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

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

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

I would like to briefly address the proposed elimination of the double containment of plutonium. Actually, I came from a meeting this afternoon -- or this morning -- where Mr. Wolf, Bertram Wolf, one of the industry's most adamant proponents, said that even he is willing to accept MOX as a solution at this point for our troubles with plutonium. I find it unconscionable that the NRC would remove the double containment provision just at a point in time where transportation may actually be increasing because of our potential use of MOX.

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

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

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

Let me say, though, we are talking about something that is a preliminary before a proposed rule is going to be undertaken, and there will be a whole public process that's going to be -- in which we are all going to be engaged, and there the process of reaching forward to a final rule. This is hardly the last time in which we are going to have an opportunity for public comment.

Mr. Lewis.

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

(Slide)

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

Duratek has historically communicated our issues and made recommendations to the U.S. DOT and the NRC staff. We have also participated in industry forums to effect modifications to the domestic regulations and international standards. Our goal, as yours is, is to enhance protection of the public health and safety, while at the same time, in our case, not over-burdening the industry.

(Slide)

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

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

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

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

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

(Slide)

In support of compatibility, most shippers and carriers are in basic support of

compatibility, while Duratek is in strong support of compatibility with TS-R-1 because it promotes compliance and results in minimal confusion while shipping internationally.

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

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

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

(Slide)

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

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

Also, I want to point out consideration that since the NRC is currently relicensing nuclear power plants for operation of greater than 20 years, a precedence has been established whereby the NRC recognizes that equipment can be safely maintained for over a 20-year period of time.

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

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

Just specifically for Chem-Nuclear, where Chem-Nuclear has approximately eight different certificates for Type B packages, with a significant number of individual casks themselves, the cost to our business alone is somewhere in the neighborhood of $12 million to both incur the engineering and the licensing fees, and then to go ahead and replace all the packages that we have that might be affected by this rule. With a $12 million price tag for our particular business, for Duratek's business, the total for the industry certainly must be greater than, say, maybe $50 million, depending upon the number of package designs which, at this point in time, I really don't have a good feel for how many other packages other than our own might be significantly impacted by this.

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

(Slide)

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

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

Duratek has personally conducted or been involved with over 30 such moves requiring either up to about 10 DOT or NRC exemption requests. We were not involved with the Trojan Reactor Vessel, that was the primary NRC application of an exemption. Most of the exemptions that we have been involved with have been under DOT's jurisdiction -- steam generators, pressurizers, for example. The same concept, I think, is being considered by DOT, and certainly has merit to be able to minimize the amount of resources necessary to be able to continue this process of shipping these very large components for one-time transport for disposition, whether or not it be disposal or dismantlement decontamination purposes at some remote location.

(Slide)

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

When, in fact, shipping in accordance with Part 71 and Title 49 and in authorized quantities defined by its A-1 or A-2 value, the risk while in transportation is equivalent to any other radionuclide. The value of the Q-value system used to develop the A-1/A-2 values is to quantify the equivalent risk of one radionuclide compared to the others.

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

(Slide)

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

We commend the staff for their thoroughness in developing all recommendations and their work toward compatibility. We also want to thank the Commission for applying the enhanced public participation process for this rulemaking. We believe it will result in a greater acceptance and understanding, fewer comments upon publication of the proposed rule, and a faster final rule cycle. Thank you very much.

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

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

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

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

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

MR. KILLAR: It concerns us as well because it goes right to the cost issue. There is a lot of cost that we're going to be bearing as a result of these regulations that, from a safety standpoint, aren't justified, but from the commercial standpoint of doing international commerce, we feel we have to go along with them. And we think that it's not beyond the NRC control because it's dictated by the IAEA.

And, granted, NRC with DOT do participate in the IAEA discussions and the industry, as a result of this, I must admit, has gotten a lot more interested in the IAEA discussions and have been trying to be more active and proactive at the IAEA meetings.

COMMISSIONER DICUS: Okay. Now, the staff, if I heard them right, I think made the comment that probably there aren't too many costs associated with these changes. I think I heard that's what you were saying, although that was sort of averaged over, I think, all of the changes, but some individual ones might carry significant costs. I don't know if we can average cost out that way, but that's one of the things I guess we'll be debating when we get down the road with the rule, but we do have something here of a little bit of a difference.

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

Another one is the proper shipping names have changed. A lot of this, I might have mentioned, is over on the DOT side, it's not of the NRC side, but the proper shipping names are changing which required us to go out and relabel and repaint the containers, the shipping containers, to put the proper shipping names on. It's an extensive cost. Whether there is benefit and improved safety, we don't think so, but there is cost. But once again, because of the international nature, we need to do these in order to make sure we do international commerce.

COMMISSIONER DICUS: Thank you, Mr. Riccio.

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

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

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

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

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

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

If there is a sound technical basis for removing the double containment for plutonium, would and/or should the same technical basis apply to removing the 20 curie per container solid material requirement for plutonium?

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

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

COMMISSIONER DICUS: Thank you. Thank each of you.

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

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

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

CHAIRMAN MESERVE: Commissioner Diaz.

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

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

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

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

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

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

MR. RICCIO: Quite honestly, I look at what's on the table, and it's really a mixed bag. You have certain radionuclide values that go up, certain radionuclide values that go down, and I'm not an epidemiologist, I can't tell you whether or not that's going to actually increase or decrease public exposure. All I can tell you is that this doesn't pass regulatory muster, this being your regulatory analysis.

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

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

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

MR. RICCIO: By its own admission, it doesn't and, from our perspective, that -- if this is the way NRC and DOT intend to harmonize with IAEA standards, it points out some major problems. If we don't have access to the decisionmaking body, we at least have access here, but you guys are in a position

where you may have to adopt certain standards by law. That doesn't give us much access.

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

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

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

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

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

So, technology may, in fact, decrease the cost of a licensing process, and may even decrease the cost of fabrication of a new package, but that doesn't preclude the continued use of an old package. I mean, the analogy -- I gave you a couple of things to consider, but the analogy may be as new technologies are developed for cars, that doesn't mean you can't drive the old one. And so we want to continue to be able to use those until there is some safety basis by which it needs to be phased out.

COMMISSIONER DIAZ: Thank you, Mr. Lewis.

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

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

COMMISSIONER DIAZ: Thank you, Mr. Chairman.

CHAIRMAN MESERVE: Commissioner McGaffigan.

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

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

COMMISSIONER McGAFFIGAN: One of your comments, which I don't think we are likely to pick up on, but it was intriguing, was the suggestion that we think about Part 20 for some of what we are doing here, but I could turn that on you. We essentially, if we were doing that, would be adopting ICRP 60 and Part 20 -- part of it, part of it -- the exemption values. Can you speak for NEI as to whether you also could accept the occupational dose limit reducing from 5 to 2 rem -- or 10 rem over 5 years?

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

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

Mr. Riccio, I know it's tough to sort this stuff out, but there are parts -- I mean, the part of your testimony that I resonate with is the difficulty of getting your hands around all this, but the one-way ratcheting part -- I mean, there is, they say, in adopting these values, we're going from 70 to 10 becquerels for cobalt-60, and that presumably will provide some additional benefit. And I don't know how many of the 70-to-10s offset the 70-to-100s, but the rationale which we may have to adopt, at least for international purposes no matter what, is that we go to a fairly uniform risk basis with these new A-1 and A-2 values, with exception for molyb-99 and exception for californium-252 because the pharmaceutical industry yelled loud enough -- but are you more comfortable with uniform risk regime, where we are fixing some things that may be a factor of 7 too large, like cobalt-60, that the risk of some things going in the other direction, or are you saying that you want only a one-way ratchet, that if 70 should go to 10, we should go to 10, and if 70 should go to 100, we should stay at 70?

MR. RICCIO: Is that your question?

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

MR. RICCIO: I don't believe that we should have the ability by the industry to come in and say what they want exempted away whereas the public obviously doesn't have the same access to you or to really the IAEA, and if by instilling a one-way ratchet into the regulations, we can preclude that, then I would be for it.

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

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

COMMISSIONER McGAFFIGAN: That's surface contamination --

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

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

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

increase or decrease the public health and safety.

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

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

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

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

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

MR. KILLAR: But as was discussed earlier, you're not going to have this rule in place until probably June or maybe later of next year. So, basically, certified a number of packages or recertified an existing fleet of packages to the '85 where they could have been certified to the -96.

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

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

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

MR. RICCIO: Commissioner, I'm told that an answer to your question is actually in the comments from NIRS, which I would like to submit to the Commission.

COMMISSIONER McGAFFIGAN: On the --

MR. RICCIO: On the ratcheting --

COMMISSIONER McGAFFIGAN: The one-way ratcheting?

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

COMMISSIONER McGAFFIGAN: I think you are misinterpreting ALARA, but I'll leave that to another day.

CHAIRMAN MESERVE: Commissioner Merrifield.

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

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

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

MR. LEWIS: My only comment is as a past licensee fabricator -- I mean, we are already following the codes anyway, and I'll just reiterate what Mr. Killar said. Since we are already complying with those codes as they are, it makes it very difficult to comply with the most up-to-date code if, in fact, we've got to wait for a rulemaking change.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman.

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

My understanding of the staff's interest in dealing with the phasing out of the oldest of these casks is that the requirements have changed over years. And, although the casks that were from the -- I guess compatible with the 1960s era, IAEA standards are ones that are still allowed to use. The idea was that in each of the successive generations of changes there have been, as a result presumably of the rulemaking process that we've gone through, there have been increased requirements, and we've allowed the continued use of these older casks, but at some point it does seem to me, if we are serious about the regulatory changes being necessary, you would have to envision that these older casks are going to disappear from use. And I think the proposal is for a three-year timeframe for just the oldest era of casks, it would still be the '70s and '80s era casks could continue to be used.

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

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

As far as technical improvements, I'm all for technical improvements. You already heard me say that compatibility, I think, is important for a number of reasons, one of which is to facilitate easy

transportation, but by the same token, from a deviation standpoint, the package has been in service and has proved itself to meet the goals of safe transport in commerce. And so I would have to say that with the fact that it's proven itself and it has been highly maintained, that there ought to be some provisions to allow for continued use of it until there is some question of its risk.

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

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

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

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

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

MR. KILLAR: Probably the other area that is probably the most pronounced right now is work that's being done on Part 72. We start looking at line-of-credit and criticality analysis and what have you in Part 72 for storage. Once you move over to Part 71, you basically lose all those benefits because there is no risk analysis for that same type credits being applied in Part 71. And so there is where you may look at some of the risks. And, granted, you have a different set of scenarios as far as risk of someone sitting on a storage cask versus something going down a highway. But there is some work being done in that area, and so there should be some benefits done in Part 71 in that area.

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

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

It does mean I have looked through the rule and things for radium-226 that goes from 70 to 10 Bq/g, for natural uranium it goes from 70 to 1 Bq/g. No doubt, for others there are many that go from 70 to 100 and what have you. They have obviously done some sort of rounding to get to these round numbers, but they are sort of all over the lot, as I think you'd expect, and that basis by which they derive these numbers is now at least of a common principle that is related to what the objective is, namely, that your purpose of the regulatory requirements is to ensure protection of the public health. So you have a methodology for setting the limits that's intended to reflect that purpose.

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

MR. RICCIO: We don't have access to those panels that are making the decisions as to how dangerous a specific radionuclide is. We are familiar with the fact that the panels in this country either are being stacked with people who are claiming that radiation is less and less and less dangerous when a review of, for instance, the BEER panels over the previous years, have come to the opposite conclusion. As I said, I don't have the expertise to go through every single radionuclide and say whether or not there's been a substantive increase in the public health and safety. I would hope that the IAEA would only do things that would increase the public health and safety, but I find it very instructive that the industry wants -- they wanted adoption so long as it decreases their costs or, in some cases, actually increases their costs, as long as commerce can be exacerbated or maintained.

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

CHAIRMAN MESERVE: I think that you ought to expect, given the different methodology, that some numbers may be different, and I think probably most of them are different. The idea, I think, is to have some consistency so that you are treating radium and uranium and iodine and various other radioisotopes on a basis that they have a common framework from a risk perspective.

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

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

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