

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON  
STATUS OF NUCLEAR WASTE SAFETY

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NUCLEAR REGULATORY COMMISSION

1 White Flint North  
Rockville, Maryland  
Monday  
March 4, 2002

The Commission met in open session, pursuant to notice, at 2:00 p.m., the Honorable RICHARD A. MESERVE, Chairman of the Committee, presiding.

COMMISSIONERS PRESENT:

RICHARD A. MESERVE, Chairman

NILS J. DIAZ, Member

GRETA J. DICUS, Member

JEFFREY S. MERRIFIELD, Member

EDWARD McGAFFIGAN JR., Member

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STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

HUBERT J. MILLER, RGN-I/ORA

DR. CARL PAPERIELLO, EDO

DR. WILLIAM TRAVERS, Executive Director of Operations

MARTIN J. VIRGILIO, Director, NMSS

STAFF:

PAUL BOLLWERK, ASLBP

JOHN GREEVES

WILLIAM REAMER

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(2:03 p.m.)

CHAIRMAN MESERVE: Office of Nuclear Materials Safety and Safeguards in the regions on the status of programs in the nuclear waste safety arena. Since our last meeting a year ago a number of events have occurred that have significantly impacted activities associated with this arena. Foremost were the events of September 11.

Although the waste arena may have been affected somewhat less than some of our other activities, there nonetheless were a whole series of areas having to do with the transportation of source, byproduct and waste material that were an important part of our post September 11 activities.

The second remarkable occurrence has been the President's decision to proceed with Yucca Mountain subject to approval by the Congress. We are perhaps one step closer to receiving a license application which of course will require very substantial NRC attention if it occurs.

The active activities encompassed by the waste arena also attract substantial public attention not only with regard to September 11 types of events and Yucca Mountain but also generally the activities in which we engage to do with the decommissioning of the facilities. As a result we very much look forward to hearing about your accomplishments in this arena, this year's plans and any emergent issues that will face the commission over the coming year.

Dr. Travers, you may proceed.

DR. TRAVERS: Thank you, Chairman. In fact in accordance with your opening statement, that's what we intend this afternoon with me and Carl Paperiello, who is the arena manager is going to begin the briefing and introduce the principle internal stakeholders here at the table.

I should mention that behind us are a number of principle internal stakeholders: NMSS, NRR, state programs and research. With that, Carl.

DR. PAPERIELLO: Thank you. The staff presentation this afternoon will be made by Mr. Marty Virgilio, Director of NMSS and Mr. Hub Miller, the Administrator of Region 1. If I could have the first slide.

I'm going to come back to this slide at the conclusion of the presentation. For now, I would like to point out to the Commission that this arena presentation is going to discuss a number of programs which have many of the four overarching issues which are presented in these slides. Mr. Virgilio.

MR. VIRGILIO: Thank you. Good afternoon. On slide three, we've outlined the briefing topics that we're going to touch on today: High level waste storage and disposal, Transportation, Decommissioning, Low level waste disposal and some Other Issues that I thought we would speak about.

If you move to slide four under High Level Waste Storage and Disposal, I'll talk about Independence Spent Fuel Storage Installations and Central Storage, Resolving the High Level Waste Key technical issues, rulemaking and guidance development and High Level Waste Repository hearing issues. First with respect to the Independence Spent Fuel Storage Installations and Central Storage.

What we're seeing is an increasing need on the part of our stakeholders particularly the reactor licensees for drycast storage of spent fuel. Operating reactors need to maintain storage space from their spent fuel pools in order to provide a full core off-load capability. Those reactor facilities undergoing decommissioning want to empty their spent fuels expeditiously to proceed with reactor site and facility and dismantlement and decommissioning.

Our role here is to assure that there is an adequate, effective and efficient regulatory program in place to keep pace with this expanding use of drycast storages spent fuel. Our pending policy issues in this area for the Commission include changes to Part 72, a seismic rulemaking. This will align our program in approach with what's used in reactor licensing today and also a final decision on private fuel storage when the hearings in this area are complete.

The second bullet on that slide is Resolving High level waste Key Technical Issues. The KTIs are nothing magic. It's just been basically the staff's method for organizing numerous first-of-a-kind technical issues associated with a possible High level waste repository. The staff's objective here is to ensure that there is adequate integrated technical basis that is provided to demonstrate compliance with the performance requirements of our Part 63.

Staff is actively monitoring and interacting with DOE on these key technical issues and associated agreements as part of our prelicensing interactions that were required under the Nuclear Waste Policy Act. The focus of these interactions with

DOE is to provide guidance on the information that is needed for a sufficient license application consistent with our long-standing expectation for a high quality license application. DOE needs to keep pace and keep emphasis on its efforts to provide information required to address the agreements in these areas.

We seek a high quality license application in order to support a timely decision by the NRC on a High level waste repository. Our regulatory approach here in High level waste considers risk insights from a systems perspective, and this is based on our performance assessments and insuring that DOE has an adequate technical understanding of the repository system, the geologic setting. Our review will in fact be graded based on the significance of the issue to repository performance.

With regard to Rulemaking and guidance development the third bullet on the slide, I've broken that into two parts. First, focusing on Part 72. Looking at the process we use here, casks are approved for use through rulemaking. Our Part 72 rulemaking process for drycast storage for new certificates and amendments is a very active program area. The rulemaking activity in this area is expected to remain very high over the next several years as vendors continue to develop new casts and canisters to meet the continuing growing industry needs that I spoke of earlier.

Staff continues to refine our regulatory guidance in this area to address technically complex issues such as the storage of high burn-up fuel and expanded use of burn-up credit.

The other area I wanted to talk about here is High level waste Rulemaking and guidance development. Here it's Part 63 of the Yucca Mountain Review Plan. We continue to need to keep pace with our National High level waste Program. The Yucca Mountain Review Plan plays a key role in assuring that we have a risk informed license application review process. It's needed for the ongoing prelicense interactions that we have to support this objective.

NRC needs to complete the develop of the Yucca Mountain Review Plan and continue to interact with our stakeholders on the plan and consider and respond to their comments. I'm pleased to note that on Friday, the Yucca Mountain Review Plan was posted on NRC's public website.

A pending policy in this issue in this area is provided in terms of amendment to quantitatively define unlikely events. This is a proposed Rulemaking to Part 63. This proposed Rulemaking is currently in the public comment process.

The last thing in this area that I wanted to touch on was the High level waste repository hearing. The Nuclear Waste Policy Act mandates that the High level waste repository construction and authorization proceedings including a hearing be completed within a three year time period with an option for a one year extension if there is timely notice provided to Congress.

We recognize that automation is a key to achieving this three year hearing schedule. There are a number of initiatives in this area that go to automation. First, the Discovery Related Licensing Support Network. This became operational in October of 2001. We're in the process now of developing capabilities of an electronic motions practice, electronic information exchange and electronic harrying docket. We're also working with DOE to provide guidance to DOE on developing an electronic High level waste repository license application. Finally, we're developing a digital data management system process to make the electronic hearing docket that I spoke of earlier available in the Hearing Room.

That's all I wanted to speak about on that slide. If you would turn to slide five please, I'll talk about spent fuel transportation issues, interagency coordination and IDEA coordination and standards.

First in the area of Spent fuel transportation, NARCS role here is to certify the package designs approved, the package Q/A programs, approve physical protection plans and conduct inspections. We work cooperatively in this area with the Department of Transportation. I would like to note there has been approximately 1,300 spent fuel shipments in the U.S. over the past 20 years. None have involved package failures. Notwithstanding this good safety record that this area is receiving significantly public and stakeholder attention as we make additional milestones in the National High level waste Program and the staff completes its review of the private fuel storage application.

State government officials and state elected representatives to Congress have focused on the safety and safeguards of transportation issues. The staff is focused today on addressing the technical issues and stakeholder concerns that have come up in this area. We're doing a number of things that I just wanted to recognize.

We're developing an outreach communication plan to interact with the stakeholders. We're currently supporting a national academy's national research council study on the safety of transportation. We working with research, I'll speak a little bit more of this later, are working on what we call a "package performance study" which includes significant public participation and will likely include testing of cask and cask materials for validating the modeling codes and underlying assumptions that we have on cask performance in severe accident conditions. We're also conducting an analysis of the recent Baltimore Tunnel fire to confirm the acceptability of our programs in light of this event.

With regard to Spent fuel transportation and Interagency coordination, our regulations in this area for transportation in the U.S. are shared among multiple federal agencies and DOT as I mentioned earlier is responsible for hazardous material shipment safety and routing. NRC maintains a close staff and management coordination with DOT and Department of Energy and state agencies in this area. Recent experience in some of the post 9-11 activities and follow-up on some recent transportation incidents have shown the need for closer coordination with other agencies such as U.

S. Customs and additional components within the Department of Transportation and Department of Energy.

We're also supporting DOT and DOE in other transportation activities. We conduct technical reviews for DOT to support revalidation for uncertified packages for import and use in the United States. We're also conducting technical reviews of packages under reimbursable agreements with the Department of Energy to assist in the return of spent fuel to the U.S. which supports our U.S. nonproliferation goals.

Under IDEA standards, NRC and DOE regulations are based primarily on IDEAS transportation safety standards. These are periodically revised and updated. NRC and Department of Transportation are currently promulgating proposed changes to the U.S. Domestic Transportation Regulations to incorporate the most recent IDEA standards.

U.S. and broad international use of the IDEA Transportation Standards support an efficient and safe international nuclear regulatory commerce. IDEA standard development is an area of growing interest and growing demands on the staff. NRC is increasing its representation at the IDEA in the agency's transportation setting committees and working groups. This is in an effort to ensure our domestic and international goals are met.

If you turn to the next slide please. Slide six. I'm going to talk about some Decommissioning issues. Restricted release, Financial assurance, Interagency coordination and 11.e.(2) material.

First, with regard to Restricted release and institutional controls. One of the issues that we're grappling with today is third party enforcement of institutional controls which is a provision of our Part 20, decommissioning requirements. While this has been in effect for some time to date licensees considering restricted release for complex sites have not been able to find a third party to assume responsibility and liability.

NRC and DOE have been working cooperatively to draft a memorandum of understanding in this area. However DOE has recently put a further memorandum of understanding developments on hold while we reexamine policy options. I would note that we were working under Section 151-B of the Nuclear Waste Policy Act of 1982 which allows but does not require DOE to assume control of these types of sites.

DOE is now recommending that DOE and NRC work cooperatively with other federal land management agencies such as the Bureau of Land Management and Office of Management and Budget to seek other options for resolving this third party institutional control issue. We'll continue to interact with DOE and the Commission regarding DOE's proposal while other options are being evaluated.

The next bullet on that slide is Financial assurance. What we are finding is that there is inadequate financial assurance for a small number of the legacy sites that are undergoing decommissioning today. We've also seen a number of sites file for bankruptcy. These raise questions in our mind about the adequacy of our current financial assurance mechanisms.

Based on that we're conducting a comprehensive review of all of our existing and former NRC licensed sites to assess the status of the financial assurance for decommissioning and consider what more can be done in the future. We will consider decommissioning cost estimates, financial evaluations particularly the capability of responsible parties to fund the clean up, and the actions the staff could take to resolve these financial issues.

The staff is planning a briefing for the Commission on bankruptcy issues in the May time frame. We're also proposing to provide a paper to the Commission in the June time frame on amending our financial assurance rulemaking. Here what we would be looking at is changes of the certification amounts and requiring periodic cost updates. In the longer term the staff is looking at broader changes to our regulatory framework including considering the development of maybe performance indicators that would trigger a review and possibly an increase in financial assurance and expedited clean up when the adequacy becomes questionable.

The next bullet on that slide that I'll speak to is interagency coordination. Here the staff has ongoing interfaces with multiple federal and state agencies including the EPA, DOE, Army Core of Engineers and the State of New York. These interfaces are brought in on a range of policy and technical issues.

Our major efforts in this area include finalizing the EPA MOU for improving interagency coordination for decommissioning of NRC licensed facilities. We're also coordinating with DOE on the stewardship issue that I spoke of earlier. We're also coordinating with the State of New York on the multiple roles that they play in regulation and decommissioning of the West Valley site.

On that last bullet on the Atomic Energy Act 11.e.(2) byproduct material, here we're talking about waste produced through extraction of uranium or thorium for ore processed for its source material content. There have been several Commission papers and staff responses to outside inquiries in this area. These have been focused primarily on the language and legislative history of the Atomic Energy Act and 11.e.(2) byproduct material. There has been a growing interest in this area. We continue to get increased correspondence and question from our stakeholders.

The staff is now stepping back and taking a look at its policies in this area and will be providing a paper to the Commission on this in the future. What we want to do is consider in this area the range of external environmental changes that have occurred over the years including the access to and cost of Low level waste disposal, the decline in the uranium mining milling processing industries and the

lack of third party entities that I spoke of earlier around institutional controls. Our goal here would be to provide some flexibility while maintaining adequate levels of public protection.

With respect to Low level waste disposal in the next slide, slide seven, I'm going to talk about Compact sites and the commercial disposal facilities, some Rulemaking and guidance development work and a category of waste called Greater than Class C waste. First with regard to the compact sites and commercial disposal facilities, what we're seeing is the future availability of Low level waste facilities being somewhat uncertain at this point in time. States and compacts have been unable to develop any new full service facilities under the Low level waste Policy Act. Barnwell is gradually closing two out of compact generators. Envirocare has recently put its Class B and C waste disposal licensing action on hold.

The staff is now considering other Low level waste management options such as a short isolation entombment and yet other alternatives for disposal. In this area, research continues to provide us valuable support through its work on engineered barrier performance.

I also wanted to talk about Low level waste rulemaking and guidance and development. Here we've recently promulgated an advanced notice for proposed rulemaking on entombment for decommissioning power reactors. The Commission will receive a paper on a preferred option in this area I think coming up this summer.

We also note the EPA is considering moving forward with a rulemaking proposal for mixed waste disposal. That would allow for slightly contaminated radioactive mixed waste to be disposed of in hazardous waste facilities.

Greater than Class C Waste, the last bullet on that slide I just want to recognize that there is no federal plan at this point in time for the safe permanent disposal of Greater than Class C Waste. DOE is responsible under the Low level waste Policy Amendments Act. NRC is responsible for licensing of such a facility.

10-C of our Part 61 presumes that there will be a geologic disposal and allows for other alternatives if proposed by DOE. To date DOE has made little or no progress in addressing this Greater than Class C waste disposal. As a result myself and other senior managers have been actively engaged with DOE senior management to explore how best to make progress on this class of waste. We'll keep the Commission informed of our progress in this area.

Other issues. The last slide I'm going to speak to is on slide eight. I wanted to talk about our efforts to Maintain critical skills, our efforts to Risk inform the Waste Arena activities and Other efficiency and effectiveness initiatives that we have ongoing.

First with regard to Maintain critical skills, I would like to acknowledge that NRC has a very capable staff supporting this arena. We also have an outstanding contractor, the Center for Nuclear Waste Regulatory Analysis providing us support in this arena. Maintaining this staff both here at headquarters and at the center will play a key role in our ability to review a High level waste license application should one come before us and make regulatory decisions required in that three year time period I spoke of earlier, also to support some of our spent fuel review activities, spent fuel storage and transportation review activities.

Another important area that will play a key role in our ability to review a High level waste application and make regulatory decisions is having independent advisors available to the Commission on a timely basis in an event that there are licensing adjudication. Staff is consulting with the Commission in this area. We've recently completed an assessment of needs and potential sources for adjudicatory employees. We will be providing a paper to the Commission in the very near future on this topic.

The next bullet on Risk informing Waste Arena activities, we continue our ongoing efforts for a risk informed Yucca Mountain review plan. Use of risk insights in this area will help us identify information gaps and by focusing our review on those issues most important to protecting public health and safety, we want to focus on what's most risk significant and focus on what's most important to repository performance.

Decommissioning guidance consolidation is also another area where we're using risk information to make our guidance much more efficient and effective. This guidance will be helpful and necessary in the decommissioning process for licensees developing decommissioning plans and license termination plans. Our risk task group has recently completed another round of case studies for use on risk information and site decommissioning transportation spent fuel storage. The results from these case studies are being fed back into our programs to identify areas where we can further improve our effectiveness and identify additional efficiencies.

There are two areas that I would like to note that research is providing us very valuable support. One is on our probabilistic risk assessment of a spent fuel storage facility. Here we'll use this information coming out of the study to update our Part 72 regulations, update our licensing review process including our standard review plan and also look at our spent fuel storage inspection program.

Valuable opportunity to use insights here. Also I mentioned earlier the package performance study, this is another area where we're using risk insights to examine transportation casks and their behavior in severe accidents, in severe impacts and fire accidents. This will help validate our analyses codes and our regulatory requirements.

Other issues. I wanted to just touch on in terms of efficiency and effectiveness initiatives. First, it all starts with our planning, budgeting and performance management process. Our overall use of this PBPM process has provided us a framework for accommodating changes in workload, both new work and unplanned work, and prioritizing this work based on our performance goals. We budget for the work and then we monitor and manage our performance against perspective outcomes.

In our decommissioning area specifically, we've recently issued a regulatory issue summary on lessons learned. This will help us and our licensees develop more complete decommissioning and license termination plans. We've also revised our acceptance review process in this area to allow us to early identify issues in our review process. If an application is not complete, to turn it back to the applicant.

Here a decommissioning research is also continuing to make valuable support and contributions to our program as they update various tools that we use in assessing and modeling complex sites such as the probabilistic version of RESRAT and the DND codework.

In the area of spent fuel storage and transportation, we've had in place rules of engagement and our standard review plans. These continue to be improved upon to better manage and implement our programs for a license applications and for spent fuel storage and transportation casks. Other initiatives that we have in the spent fuel storage and transportation area include a format and contact guide for the staff to use in developing safety evaluation reports. SRPs and supplemental SRP guidance called interim staff guidance. We also use a lessons learned process here. All have been designed to increase the efficiency and effectiveness of our staff reviews of license applications.

This completes my portion of the presentation. Hub Miller will now provide a regional perspective in the waste arena. Then Carl Paperiello will summarize our presentations.

MR. MILLER: Thank you, Marty. I thought I would share with you original perspectives on two issues really that we are involved in, in the waste arena. One has to do with the decommissioning sites, the clean up situations.

I imagine that this is obvious but it's hard to overstate in a sense how much work there is involved in these cases beyond the technical and safety work. Of course it starts with the technical and safety work certainly. We from the regional side are involved in doing inspections. What we find is that typically there are a few if any patterns really, no script to follow in each case. Each case is a customized proposition. What we find is that success in resolving issues in closing these sites is often very much dependent upon the creativity and the innovation of the staff involved in doing these inspections in terms of searching out stakeholders and working with stakeholders.

Marty mentioned the MOUs that are underway with the Department of Energy and EPA. What we find in cases where we're successful, we in each case have to come to an agreement with the state and with EPA and with the local people. I guess my point here is that viewed from the field one of the most challenging aspects of these sites which typically don't pose the acute kinds of hazards that reactor and spent fuel does. It's a very challenging situation.

We've closed out in our region for example eight sites in the past four years. What we're finding is that any of the easier sites were closed out and we're dealing with them or are meddlesome issues now. That's the first perspective. It is a very challenging situation. Each of these sites.

The other point is somewhat related is in the area of ISFSI there's a growing business. Region One for example where there are a number of reactor sites that are going through decommissioning and are moving to the ISFSI. There are also a number of sites of course that are operating in, going to our spent fuels drycast. The public interaction, that dimension is in many respects beyond what we anticipated initially. It's a challenge for us again. It starts with the solid technical work. We walk a very fine line I find frequently and it has been increasing really.

The interest that comes from local people in these activities there is no formal hearing if you go through the CFC and the general license but what we're finding is there is intense interest. In many instances we prudently say yes. In many instances we prudently say no when it comes to heavy engagement with external stakeholders. It takes a great deal of wisdom where to draw that line. We are dealing with limited resources and it's often a challenge for us.

Just a couple of perspectives that may help you and I'd be happy to answer any questions as we go through the presentation.

DR. PAPERIELLO: If I could have the second slide please. The Overarching Issues that I've referred to before I believe many of the programs discussed in this arena share some if not all of the characteristics shown on this slide. These issues have required Commission attention and input on policy matters.

Many involve a first-of-a-kind licensing action. Clearly High level waste is in this category. However restricted release under Part 20, entombment, assured storage, waste shipment and dual purpose cask, central efficacies and the licensing of a Low level waste disposal site under Part 61 also share the characteristics of being a first-of-a-kind.

There is much work being conducted on standards in this arena especially implementation standards. I include in this area implementation standard presented as staff guidance such as found in standard review plans for decommissioning, the Yucca Mountain Licensing Review Plan, drycast storage and Low level waste performance assessments and computer codes and analytical tools endorsed by the staff.

This is also an area in which other federal agencies are involved as well as international organizations. Particularly transportation coordination is a fairly formal process. Because the activity level of outside agencies is high a lot of effort has to be spent in maintaining and understanding what others are doing and why. MARSIM and MARLAP are essentially implementation standards which are a product of federal coordination.

Research has a significant contribution here and maintaining cognisance of various standards, the technical bases for these standards, the development of NRC codes and analytical tools and improving the realism of parameters used in modeling.

The third overarching issue is the role of modeling. Compliance with the standards in this arena is demonstrated through modeling. In one sense this is unique. In another it isn't. In a sense all engineering calculations are modeling. However most if not all engineering calculations have received empirical confirmation through engineering experience.

The same is true for the theories of physical science that rise to the levels of laws based on our history of confirmation. In the waste arena, modeling of events over geological time scales does not have nor can it have in my view the type of empirical confirmation that exists in traditional engineering. This has led and leads to issues concerning realism in modeling estimates of conservatism and the questioning by some of the possibility of predicting performance of all over long periods of time.

Lastly as Mr. Miller noted, there is a high degree of public and stakeholder attention in this arena. Particularly in light of the previous three issues. Consensus among U.S. Government organizations as well as international organizations on modeling and standards can contribute I believe to improving stakeholder confidence.

Furthermore following Commission direction, the staff has maintained a high level of stakeholder interaction in this arena. Mr. Travers.

MR. TRAVERS: Chairman, that concludes our presentation. Certainly we have to answer your questions.

CHAIRMAN MESERVE: Thank you very much. I think that Dr. Paperiello's summation at the end really characterizes the many challenges that are common. In this arena perhaps we don't see to the same extent in others. It was a very helpful overview.

I think it's Commissioner Merrifield's turn.

COMMISSIONER MERRIFIELD: Thank you very much, Mr. Chairman. First question to Mr. Virgilio is associated with the issue of spent fuel storage and transportation casks. I want to first preface it by saying I think the staff has made significant progress in this area in terms of meeting user needs and meeting the desires to try to have us work through some of these issues.

We remain entangled in issues associated with high burn-up credit and damage to the fuel. I'm wondering if you could give some sense of what our schedule is for resolving some of these issues and what some of the key technical issues may be down the line that we may need to work our way through to get there.

MR. VIRGILIO: We continue to work and I was told this morning by our staff we're having additional meetings just this week on resolving some of those technical issues, particularly with regard to burn-up credit. At this point in time I would say that what we're doing is working on the margins. It's not that we're unable to license at this point in time. We certainly are licensing. We certainly are proceeding with our program.

Are there conservatisms in our calculations? Probably so. Are there opportunities to reduce those conservatisms with data and analysis? Yes, I think so.

I think I would have to come back to you with the detailed schedules. I don't have them with me today with milestones as to how we are proposing to proceed in these areas.

COMMISSIONER MERRIFIELD: That's fair. I didn't mean to put you in a position of having to give too much detail on that. I think the one thing I want to -- Sorry?

(Laughter.)

I think there's a sense of balance that we have to achieve. That balance is associated with on the one hand dealing with the ongoing needs of a large number of operating reactors which are seeking to utilize casks and make sure they have sufficient off core load capability in their storage pools.

On the other hand there are decommissioning facilities some of which have appeared before the Commission within the last year that are concerned. They want to get everything out of their pool. That leads you to the conundrum trying to

deal with some of the more marginal issues like high burn-up fuel and most known to be damage fuel.

When you come back with the more detailed information which is fine I would like to have you also reflect on how we are achieving that balance to meet user needs on both ends of the spectrum.

You stated in the briefing that the staff is developing a future commission paper relative to the 11.e.(2) byproduct material. This has been an area of no small amount of Commission interest or stakeholder interest. I recollect that the first opportunity that I had the pleasure to meet our General Counsel Karen Cyr was over this very issue during a hearing I think in 1997 in which the Senate Armed Services Committee had some great deal of concern about the ability to have a wide variety of locations for which fuselage materials to be deposited to, valid Congressional concerns about safe disposal and also economically efficient disposal.

Could you share some more details in terms of where you think this paper may take us and whether it will address the ever expanding number of loopholes or potential loopholes or unique areas that we seem to be finding relative to some of these sites? Additionally whether that paper will also reflect discussions with the Army Corps of Engineers and what they perceive is their user needs in that area?

DIRECTOR VIRGILIO: With regard to the stakeholders that will evolve, I think it will be a wide range of stakeholders including the Corps. Some of the things that we are thinking about right now that are driving this is insuring that we have flexibility and that we maintain public health and safety. We're looking at options around cost. We're looking at options around how to go about disposing of the material, where it would be disposed of. Institutional controls are other areas that we are looking at. Step back and look at this holistically.

I think we've address this as a case by case process. I'm not too sure that we've really thought about what's happened in the external environment over the last 20 or 30 years. Clearly the decline in the uranium mining, milling and processing industry and the lack of third party to take responsibility for the institutional controls and the cost of low level waste disposal are all key drives as to how we're going to have to approach this problem.

COMMISSIONER MERRIFIELD: It's a difficult one and I look forward to the Staff's paper in that regard. There's a lot of interest out there. It is a difficult one I think for us in that there are parties who have competing commercial interest in this area. All of them would like to be the sole source or sole repository for those materials. We should obviously be concerned about health and safety but we should also be mindful of the Federal fisc. in that respect.

I'm not certain whether this is appropriately directed to this half of the table or whether we may need some support from some of our supporting cast but we are required in our regulations associated with licensing support network to set a date by which documents can be electronically available. There have been a variety of discussions prior to the LSN becoming effective as to how parties should make a good effort to make sure materials get on the LSN.

The LSN became operational last October. In fact, it was October 18th. I'm wondering to what extent the NRC is placing documents in the LSN at this point, what our plans are for getting through the materials and into the system and to what extent key players in this effort most notable the DOE are making for their part good faith efforts to get their documents on to the LSN instead of merely waiting until the last day available to do so. So I'm wondering if you could address that.

DIRECTOR VIRGILIO: Let me start and maybe Paul can pick up then. There are roughly 10,000 plus High level waste documents in ADAMS today that will be moved into the system. I think the first priority is to make sure that the material is electronically available.

We were starting to move documents onto the server, however in light of 9-11 we stopped to assess whether there were issues around that. As well DOE advised us that they were stopping adding documents into the system as well. We're in the process of revising our guidance around this.

Given where we are with a proposed schedule from DOE of license application in December of '04, I think we've got ample time to move documents once we have them electronically onto the LSN Server. I think the key is getting the documents in electronic form so they're available to be transferred over.

DR. PAPERIELLO: Okay. Paul?

MR. BOLLWERK: Paul Bollwerk with the License Support Panel. Good afternoon. From our perspective and we have a little bit more of a global view of this because we have to worry about the staff as well as DOE and any other parties, we have seen some progress with the party particularly after the President's axe on the CY (PH) recommendation for instance White Pine County and some of the other Nevada counties that began to contact us about getting their documents on. One concern we do continue to have is with respect to the DOE who has the largest group of documents. Licensing Support now has an Administrator, Dan Grazer, (PH) and his staff have regular contact with the DOE. We do have some concerns about exactly what their strategy is whether it's in terms of resources, litigation strategy, whatever, of their putting documents on the system.

My concern frankly is that if given the large volume of documents that they have if they wait until the last minute, it may take some time for our crawlers to go through and bring the documents into the system. Again it says electronic

access and one of the questions is what does that mean. It may well be if they show up on the night, on the day in which they think six months is going to expire so their application is going to be filed. It may take us some time to get all of the documents crawled. That may delay potentially the ability of the agency to accept the application. We have that concern.

We're hoping the DOE's going to move forward frankly and begin to interact with us a little bit more. They did pull their documents off because of the 9-11 concerns. We're hoping now once the process moves forward, they'll begin to put some of them back up again.

COMMISSIONER MERRIFIELD: Thank you. I understand that these are practical consequences you're outlining regarding the volume. We all have been struggling with the issues associated with September 11. Hopefully we're getting beyond that and I presume DOE is as well.

I think my concern and the reason I raise this question is because, and this is not the first time I've done it, I've been talking about these issues for a number of years, is making sure the documents are out there as soon as they can be available for the public. The folks out in Nevada who I view were highly affected by this. In fairness, that's what we ought to do into the extent that we need to enhance our interactions with DOE and encourage them to put those documents on sooner rather than later. I think that's the right thing to do.

MR. BOLLWERK: Just to add, certainly the interaction that we've had through the Licensing Support Network Advisory Review Panel it's pretty universal that people would like to get the documentation out there as soon as possible particularly the DOE, NRC documents. I'm hoping that the agency will do what it can to move forward and set the right example. Thank you.

COMMISSIONER MERRIFIELD: The final question that I have and I'll direct this towards Hub Miller, it strikes me that we're in somewhat of a conundrum relative to decommissioning sites. We've gotten some of the easy ones off of the list. We have more of the more difficult ones ahead of us.

Traditionally the most difficult are the most difficult and we've considered the possibility of approaching the Environmental Protection Agency and asking them to list those sites on the national priorities list for payment out of the superfund trust fund. The difficulty is that many of our sites don't qualify under the hazardous ranking score. You have to have a score of 28.5 to get onto the superfund. It's mainly driven by water contamination which is not a significant concern at our sites. That's a funding mechanism that is unavailable to us.

We drive towards the licensed termination criteria, free release criteria. We have licensees who do not have the financial wherewithal sometimes to get there. That has the possibility at least of driving them into bankruptcy is to avoid and protect the assets of the company. It gets us into a real mole.

You get sites. The money isn't there. We've got criteria we're trying to meet. We're not going to bridge that.

Congress for its part related to chemical waste sites has tried to put in a framework signed into law by the President this past year, the Brownfield Remediation Act which allowed for redevelopment of these sites for in many cases industrial uses of utilizing a wide variety of controls available to the EPA, Randy's controls (PH), covenants, deed restrictions and ongoing oversight by the EPA down the line. I'm wondering the extent to which an approach like this might be something that the staff has at all thought about, whether it might be something that we need to rethink moving forward.

I ask this and I'll stop this longwinded question personally because despite the fact that we have restricted release criteria right now there is not an instance that I'm aware of in which a licensee is actually chosen to go that route. We have an opportunity but no takers. I'm wondering. Do you have any insight into that issue?

MR. MILLER: Yes. If I could just share my perspective again, I'm sure Marty, I'm not as familiar of this deal with the legislation as Marty is so I would defer to him. But you're right in terms of this being a very serious issue and a very difficult issue. Safety Light for example in my region in Pennsylvania if the estimates for unrestricted release of that is between 30 and 100 million dollars. These are estimates coming from the company. We're talking about radium largely.

It's a dual made more complex by the fact that it's not just the things that we regulate. There's stranzium(PH) and cesium and some tritium. These are not issues that are real severe or acute level of hazard. You're talking enormous sums however if you go and try to clean up that site completely.

A final solution has not been arrived at. Maybe I'm as much as anything echoing the premise of your question. That is the difficulty of this and the need to search solutions that might involve some sort of an institutional pair.

We've made some progress recently working with EPA who does have an authority under CIRCLA I'm told to spend some money in the short run without going through a full ranking. In fact before it's done with a very shortage of our short year funds in that case, we may end up taking advantage of that. EPA may in fact be stepping in. We're making some progress.

It's a tough issue. I think Safety Light may be more than anything bringing it to life.

CHAIRMAN MESERVE: Marty?

DEPUTY VIRGILIO: I just mentioned earlier that we were working with the Department of Energy on an MOU to have them take control of certain sites where institutional controls would be needed. We've also been thinking about Plan B if that doesn't work. One of the things that we've been looking at is the Brownfield Revitalization Act.

Our staff has gotten that. Their initial read of that is that was not really helpful but there are certain principles that we might apply. It's really focused on reducing the liability for innocent nonresponsible parties. However I think there are provisions within that act that might apply.

One is in thinking through how we do our model and whether the resident farmer scenario is the right scenario given you're just going to be doing it in an industrial area. There may be some opportunities for us to think through it. Also there may be other opportunities around alternate criteria for unrestricted release particularly where you're dealing with an industrial facility or an industrial complex.

Those are some of the things. Those principals might apply. Like I said, it's part of our Plan B thinking.

COMMISSIONER MERRIFIELD: You're reading of it is correct. You have to read between the lines and understand that Congressional history to get the suggestion that I'm making. I also have a caveat to put it in because I wrote some of the language that was adopted in that law. I have some personal preference to it as well.

The point remains that we don't have the resources nor do our licensees to get those landholdings back to as they say in my part of the country "the way God made it." To the extent that we don't, how do we bridge that difference to make sure the public health is protected while at the same time trying to get them back in the economic mainstream so that the communities which are surrounding that site can take advantage of those landholdings that get them back into economic redevelopment.

That in fact was the purpose behind the Brownfield bill that was signed by the President. I appreciate the further thoughts to the staff in that regard.

Thank you, Mr. Chairman.

CHAIRMAN MESERVE: Thank you. Let me say from my own experience on dealing with this decommissioning sites that there's one other big difference between the EPA and NRC. That is the EPA has very stringent requirements that they have in principle in their regulations, but at many sites it ends up being a negotiated arrangement. Quite seldom do they end up with clean up levels which are where they start.

Superfund of course doesn't allow you to get to a hearing process until after the cleanup is completed. You have an opportunity for trying to find things that are maybe a sensible balance between objectives that is much harder to do in our process.

There are great differences between the EPA system and ours. I think Commissioner Merrifield really has put his finger on an important problem however. It is trying to find some sensible way so that things can be cleaned up because of the extraordinary costs in many instances of going to the extreme levels that may be unnecessary in light of the actual uses of which the land will be placed.

In your discussion of the decommissioning sites that you had, one of the rulemaking areas that you mentioned was the need to reexamine the financial assurance requirements to make sure there was some money that's available and the problems that you've encountered with licensees that turn out to have less assets. I took a quick look at 30.35 and it does seem that the decommissioning plans do require to have prepayments or surety or some other assured means that the money would be there.

I'm curious what's happened. Is the problem that the estimates end up being too small? The point of the regulatory requirements in 30.35 is that you would not intend it to be vulnerable to the financial capability of a licensee. We actually in the regulatory sense thought about that part of the problem before. I'm a little confused as to what the issue is.

DEPUTY VIRGILIO: I think there are a couple of issues there. In some cases it's the estimates. In some cases it's the method. What we find is that some of the estimates are based on on-site disposal. When it comes to the actual decommissioning the materials are taken off-site and disposed of off-site which is a tremendous multiplying factor to the cost when you go that way. Ask Hub.

MR. MILLER: Another thing if you look at Safety Light much of that contamination preceded NRCs requirements for financial surety. We've been making this decision on an ongoing basis every five years or so as we choose or not to renew the license. What's the best situation to take possession of this hazard? Shut the facility down or keep it moving along, yielding some funds for the decommissioning fund. I think much of it just precede the time when we requirements.

CHAIRMAN MESERVE: So the modifications that you're contemplating then, how are you going to deal with retroactivity issue review or have you not sorted that out yet?

DEPUTY VIRGILIO: I think we're going to take it in two steps. The rulemaking that we're coming up with first, this one that would come up I think in the June timeframe, is a modest approach to this that would require rebaselining and I think it's three year updates. I think then we're going to step back --

CHAIRMAN MESERVE: So that gives you the cost estimate part of it.

DEPUTY VIRGILIO: Cost estimate part of it. Then we're going to step back in parallel and think through more broadly. If there are things like the performance indicators that I talked about earlier in terms of monitoring and taking action, also things that we might consider in terms of granting new licenses today with regard to insuring that there's not the contamination levels and cleanup problems that we're dealing with today.

CHAIRMAN MESERVE: With regard to the Yucca Mountain activities that you have underway, you've indicated that there are these 293 agreements that we have with DOE for the resolution of key technical issues and apparently few of them having been closed up. I can understand if I were on the staff and I were working out Yucca Mountain issues that not be any particular incentive to close out an agreement earlier than I had to because of the prospect that something might arise. There may be some aspect of what's been submitted that you haven't appreciated.

The danger is that time goes on and if in fact we do get an application we may get to the point where in fact the process that was intended to bring us to closure hasn't succeeded because we haven't had the discipline to be able to close these activities. I wonder if you could describe what things you have underway to actually bring some of these agreements to closure?

DEPUTY VIRGILIO: Based upon the numbers, you're right. There are 293 agreements where we started in terms of addressing the 9 KTIs and 37 subissues. So we keep the numbers straight here. As of today I believe we've closed 38 of the 293 with a target of closing 60 in '02.

That precedes what DOE has just finished doing which is a rebaseline and a reprioritization to try to focus on the most important of the agreements so that we make sure we put our attention where the attention needs to be placed. I think some of the more important ones that are around the waste package igneous-barrier performance, the models. These kinds of issues tend to be the ones where we believe that those agreements are of course they are not all equal the most important of the agreements that we have to close.

So we await hearing from DOE on the revised top to bottom review and the rebaselining. We've meetings scheduled this month with DOE and their contractors to make sure that we fully understand where they're coming out.

We're making process. I mean 38 out of the 60 that we've planned to this year I think we are making progress and not withstanding. I agree with you about some issues. There are disincentives concerns that we close them. However the process isn't unidirectional while on balance we want to see that the numbers come down, DOE is considering design changes to the repository. If they go to a different thermal condition that will bring up new technical issues and we may in fact open up additional agreements in order to close that.

What we want to do is to make sure that we have addressed all the agreements that we need to address at the time of licensing. If there are any additional agreements, all those are dealt in the post licensing performance confirmation period. That's where we want to be.

CHAIRMAN MESERVE: I don't want my comments to suggest that there should be an premature closing of any of these agreements. It's just the concern to make sure that there is a discipline that when they can be closed we do so. So that our attention and DOE's attention can be focused on those areas where there is a real issue that needs to be resolved. It's going to help us both if we have that discipline as this goes forward obviously engaging with DOE on the process of trying to get their sense of when they will be able to submit the information and what form will helpful on that.

I think that also related to this is that it's become apparent that issues associated with transportation are going to be ones that are likely to attract a huge amount of public interest. If we proceed with going forward on with the Yucca Mountain site and you've mentioned the package performance study, did you say something about the schedule by which that there might in fact be tests to valid the codes?

DIRECTOR VIRGILIO: I would have to get back to you on the exact schedule. Clearly what we do is have this completed before I think we are looking at over the course of the next several years certainly in ample time to have this done to support any campaigns to be moving fuel.

CHAIRMAN MESERVE: Let me say that I think is going to end up being one aspect of activity which will be hugely important in the public arena.

DIRECTOR VIRGILIO: Yes.

CHAIRMAN MESERVE: So that having this as an issue which we have a complete technical understanding of with adequate validation it will be a central concern as we proceed.

That's all I have for you. Commissioner Dicus?

COMMISSIONER DICUS: Going back to these agreements, the key technical issues, the sub issues, *et cetera*, when you are meeting with the public and I know you have some more public meetings coming up, how are you transmitting this information, the magnitude of it, whatever, to the public? What kind of feedback do you get from the public when they see numbers like this? Or does this even come up?

DIRECTOR VIRGILIO: There was a lot of concern originally around some of the definitions. I think people are trying to understand when we say closed and closed pending.

COMMISSIONER DICUS: Closed and closed pending. Right.

DIRECTOR VIRGILIO: Those were clearly issues that we were communicating with the public about. I don't see that there have been a lot of concerns about the numbers. I see more concerns about some of the issues that we're dealing with.

COMMISSIONER DICUS: The schedule for amending Part 63 to address ten likely events, is that on course? Give me an idea.

DIRECTOR VIRGILIO: I believe the public comment period closed already. John do you know?

MR. GREEVES: Bill would you help him out on that?

MR. REAMER: Bill Reamer NRC Staff. Short answer is we're on schedule. The rule was issued with a 90 day public comment period I think which will close shortly. We have the resources and the plans in place to evaluate those and meet the schedule that we propose to the Commission to complete that this fiscal year.

COMMISSIONER DICUS: Okay. Thank you. Going now to the IAEA Standards and amending our Part 71 regulations with regard to that, is that also on schedule?

DIRECTOR VIRGILIO: There I do have some concerns. We are waiting and we are proceeding in parallel with the Department of Transportation. We have been ready for some time but we continue to slip our schedules in order to ensure that this is a coordinated rulemaking.

The good news in all of that is there's really no consequence. We are not impeding any international commerce at this point in time or costing any of the stakeholders significant unnecessarily regulatory burdens. It's hard to say.

We continue to pulse the Department of Transportation. I think we're told now that they are optimistic that we can do it in the month of March but we've continued to suffer schedule slips.

COMMISSIONER DICUS: Thank you. When you are talking about the enforcement responses designed by Mr. Greeves and enforcement responsibility and liability, *et cetera*, with institutional controls and finding the third party that might assume that responsibility, could you give me a feel for how many licensees this has impacted or might impact?

DIRECTOR VIRGILIO: John, I don't know if you have that number.

MR. GREEVES: John Greeves. At one point in time about a year ago we had 11 sites in this category. It was net. It is shrinking in part because it's so hard. A couple of licensees have said okay I have the resources. This is too hard. I'll send it to him. So I'd say a clear answer. It's about four or five that I could name to you in terms of ones who tried and are unsuccessful and don't really seem to have an avenue, Sequoyah Fuels being one of them.

COMMISSIONER DICUS: Okay.

MR. GREEVES: But it could be larger and again these are only the NRC sites so that answers your question.

COMMISSIONER DICUS: Thank you. And finally going to low level waste disposal and looking this assured isolation concept as well as the entombment option, do we currently have a feel for what licensees attractiveness to either one of these options that he would want to continue to pursue them?

DIRECTOR VIRGILIO: I think there is some attractiveness in terms of cost savings. One of the things that we did is ask specifically when we put out the entombment rulemaking for people to come back to us and tell whether they would be interested and to what advantage. So we would hope that in the response to comments in the rulemaking, we would be able to give you an answer that reflected the stakeholders' interests.

COMMISSIONER DICUS: Thank you. Mr. Chairman.

CHAIRMAN MESERVE: Commissioner Diaz.

COMMISSIONER DIAZ: Thank you, Mr. Chairman. Going back to the KTIs and High level waste, besides the number which is large we agree, most of those five efforts which were the major efforts were the waste package, igneous activity, characterization of areas, confidence in models and processes, and criticality which seems to have resources again. Out of this, have you decided which one specifically requires more effort? Is there one issue that is really bigger than the others that you think would require more resources which we should be aware of?

DIRECTOR VIRGILIO: Out of these 293, these categories that you've mentioned are the ones that we believe will in fact require the most of our resources. I think the package performance is a very significant one in our view. Criticality out of all those I think being the least but still could be one of the ones that we're going to be addressing.

COMMISSIONER DIAZ: I am relieved.

DIRECTOR VIRGILIO: You could the number of agreements and I think there's only one related to criticality.

COMMISSIONER DIAZ: How about the igneous activity which we have been talking about for years and years, is that deal mainly unresolved? Are we getting to some resolution of it?

DIRECTOR VIRGILIO: I think we are. I think by the status moving to close pending. It shows you that yes we believe we are on a path to bring that to resolution. It's a matter of getting the information now that DOE is committed to provide. It's been a significant issue. It will remain to be as one of the top five that we're interacting with today but as I said close pending is a significant milestone.

COMMISSIONER DIAZ: And of course criticality would be a major issue if we wouldn't really give them enough credit. Right?

(Laughter.)

DIRECTOR VIRGILIO: Okay.

COMMISSIONER DIAZ: Now that we have issued the draft report on Yucca Mountain, the staff will soon have a schedule of public meetings that will be arriving when and where? Do you expect that in the next month or when will you have that?

DIRECTOR VIRGILIO: We actually have a schedule laid out that takes us up to revision 2 of the Yucca Mountain Review Plan. I have not seen the details but I'm sure the staff is working on that right now for public interactions and comments. I know there will be a series of meetings in order to gain comments and use these comments to refine Yucca Mountain Review Plan.

COMMISSIONER DIAZ: The Part 71 rulemaking. Is there an updated status and schedule on this effort? I know this requires coordination with DOT?

DIRECTOR VIRGILIO: I believe the last I saw was a request that we extend the schedule to the end of March. To March 31st. Anticipating that DOT would be able to resolve its management issues and focus on it.

It's just that they've not been able to get to it in light of responding to 9-11. All of our interactions with the DOE management indicated that there are no technical issues or problems that they are dealing with. It's just getting the attention on it. It's been under management review since the late fall.

COMMISSIONER DIAZ: Since transportation of course is becoming a major issue so whenever you get an updated status record, we would appreciate getting it.

DIRECTOR VIRGILIO: Yes.

COMMISSIONER DIAZ: I already made a small comment on why no credit. It's pretty hard to get poisons out of the fuel. It's not really been able to done effectively yet without repossessing which is not under consideration at the present time before transportation. I understand that the NAS study of transportation is going to look at public concerns about the spent fuel and we have done essentially two studies that deal with public concerns.

One we did ourself on the clearance. I asked the ANS to do one on clearance. They both deal with issues about concerns about radiation, concerns about termination, social concerns. I assume there is an effort that is going to use those ready available data points before we do this next study on NAS transportation so that we will not reinvent the wheel every time.

DIRECTOR VIRGILIO: I look at the NAS study as not being so much trying to help us understand public concerns which I are fairly obvious in this area and I think there are other studies as you point out that we can draw on. I'm looking at them to help us look at the package performance study to make sure that it's focused on the right area. So they provide a

step back in an independent review of what we're doing in that area to make sure that we are actually doing the right thing from a research and testing and modeling prospect as well.

COMMISSIONER DIAZ: But shouldn't they have access to what we did before and what the NAS did before on clearance so they will not have to be revisiting that?

DIRECTOR VIRGILIO: No question about that. That's a good recommendation. We'll follow up on that.

COMMISSIONER DIAZ: Good. And the IAA meetings the Commission has been concerned that we need to be ahead of the curve to be able to provide input on proposed changes to IAA transportation standards. Can you tell me what progress has been made in that area?

DIRECTOR VIRGILIO: I think that one of the most significant ones we had the IAEA Standard Setting Committee TRANSAC and now we have a seat at the table there along with the Department of Transportation. We've parsed the responsibilities and I think that's a tremendous leg up.

We've also started investing more and more resources in insuring that we are at the technical review committees. We're there with a statement that aligned and a purpose. Those will in fact have an impact on our progress.

COMMISSIONER DIAZ: We sit at many tables and sit at the table in active manner.

DIRECTOR VIRGILIO: Yes.

COMMISSIONER DIAZ: So that we get ahead of time what is happening not when it's past the time.

That was always the issue.

DIRECTOR VIRGILIO: And the people that we are sending, the people that are the designated representatives are those people that will be aggressive at the table in making sure that our position and our interests are served.

COMMISSIONER DIAZ: Good. Thank you. Byproducts materials. Staff is saying the policies that are being reviewed in these areas. I thought we made a bunch of policies decisions in this area. Have you come out with a new batch?

DIRECTOR VIRGILIO: Not yet. We're thinking about it.

COMMISSIONER DIAZ: You're thinking about it. Okay.

DIRECTOR VIRGILIO: So we're certainly going to bring them up to the Commission.

COMMISSIONER DIAZ: All right.

CHAIRMAN MESERVE: They'll be risk important.

DIRECTOR VIRGILIO: Yes, sir.

COMMISSIONER DIAZ: You scared me when you said you got all of this policy issue. We just seemed to finish. That area. You know what I'm talking about. So you are thinking about what the policies issues are. Don't think too hard.

CHAIRMAN MESERVE: That's where the risk comes in. Risk of the Commission that is.

COMMISSIONER DIAZ: Last year you know there was a two phase effort to consolidate and abate and then assess the Commission in policy and guidance. What's the status of this?

DIRECTOR VIRGILIO: We have just recently published that Lessons Learned Report that was a regulatory information document that went out in fact in ten areas based on our decommissioning experience and that of the industry where we could in fact identify lessons learned so that people moving forward with the Commissioning Plans and License Termination Plans could actually take advantage. We have things having to do with effected groundwater, things having to do with modeling, things having to do with data collection, the quality of the documents that they had available, so I think this is a very valuable effort.

Now we've also published a NUREG just recently, a volume one of the Guidance Consolidation Program and that's now been published for public comment which is another tremendous effort. I think we're continuing to make good progress in this area. It's a two year program. I think we are well on our way to having it completed.

COMMISSIONER DIAZ: Okay. Sometime we will see all of these things put together.

DIRECTOR VIRGILIO: Yes. The two documents which are out on the street right now which I think are very good documents consolidating our guidance and taking advantage of lessons learned.

COMMISSIONER DIAZ: I know we do many things with EPA and sometimes without EPA. This rulemaking that EPA is proposing for makes waste which would allow slightly radioactive materials. Can you give me an update on how you see this progressing? Where are we?

DIRECTOR VIRGILIO: It's been very slow to progress and I think there's been a lot of fits and starts in this area. The EPA says that they are going to start on this again and then we don't see a lot of progress. There are complimentary rules that they were working on, one to allow storage of slightly mixed contaminated waste and mixed waste at NRC. Storage facilities are under this rule to allow storage waste in the facilities.

COMMISSIONER DIAZ: Can you speculate?

DIRECTOR VIRGILIO: I would hate to speculate on given the fits and starts that have surrounded this rule in the past.

COMMISSIONER DIAZ: Are we giving enough attention to the issue? Do you think that it is something that we should --

DIRECTOR VIRGILIO: I think through -- and other mechanisms we are providing attention and if it starts to accelerate we'll engage.

COMMISSIONER DIAZ: Okay. Last question for Mr. Miller. Somebody said sometime ago I can't remember who he was that when the rover meets the road. I don't know where they get that but I guess they blame you for having all this rover all the time. What can you tell us that the region is hearing on these issues from stakeholders and from communities and from facilities regarding high level waste issue and transportation? What are you hearing that is important for us to know?

MR. MILLER: Much of it recently honestly has been related to security.

COMMISSIONER DIAZ: No kidding.

MR. MILLER: So we hear a whole lot about that. The relative safety. Fuel burn is. Fuel as it would be in the spend fuel surge pad.

On the transportation side, honestly we have not heard a whole lot but it impinges on us other than what we just read in the popular press. I can't offer a real prospective there. As I mentioned earlier, I don't think initially we appreciated how much public interest there would be on these ISFSIs.

So there is no formal hearing in most instances. There is a very strong press and the members of Congress of course are very much involved in this now.

We're making tough decisions. I have in some instances have had to say no. What I mean by that is folks want access to my inspectors for example. And in some instances, it's the wrong thing to do to channel that through the appropriate people and the like. It's quite intense I would say the interest in ISFSI and it impinges on us. It's a growing issue. That's why I brought it up at the beginning.

COMMISSIONER DIAZ: Do we have a communication plan that we could actually when the time comes serve us well to interact with the communities in the areas where these questions are going to be arising? Is there enough thought being put into saying is this what it is? Is this what they mean? Is this what the risks are? How are we going to deal with it? Is that available?

MR. MILLER: Well we're learning. We had a recent meeting actually in Massachusetts associated with the Pilgrim site. We got help from Marty and his folks, Congressman Delahunt and others. They called for us to answer a lot of basic questions. It's my impression that we're assembling a standard set of questions and answers that are serving us well and that we can use in all of the different forums.

One of the things that we're preparing for example our people who are going out associated with our end of cycle meetings which all of the regions are going through over the next month or so is to be able to have folks answer at a broad level at least these questions that are out there in the minds of people about spent fuel. That's part of our communications plan.

Beyond that, Commissioner, I think that it becomes a very site specific service thing. If it's real intense like it is at Indian Point where you have a very specific program established almost at this point I'm not sure we need a communications plan per se just the kinds of questions and answers that we have available. I think that's what we're learning and we'll see. If it needs more, I think we've gotten a lot of support from headquarters.

COMMISSIONER DIAZ: Do we think we can properly communicate what the risk is on this facility so that people can realize that 20 miles away they're not going to be dropping dead because I think sometimes people get that impression? I think if we don't provide that information the myth will survive and grow.

MR. MILLER: I think you are right and that is why I think public meetings are things well, I said we are saying no in some instances. I don't mean to suggest that we're not aware of the need to put out information. It's a matter of supporting the right meetings or in the right things to get the widest possible dissemination of this information.

COMMISSIONER DIAZ: I agree with the point of your question.

DIRECTOR VIRGILIO: I would just add that it seems like if I look back three or four years ago we started to recognize that as we sent staff out to talk to the locals in the Nevada area about Yucca Mountain that was when we were receiving almost as many questions about the transportation issues as we were about the waste, storage and disposal issues. At that point in time, we started formulating communications plans with a little "c" to be able to respond to questions, to have presentations, to have booths and displays. Most recently we've developed a brochure that we will be sharing with the Commission before we start to use it.

It's been completed so there are a number of things we are doing. If I look out into the next few years, I see transportation being a major issue as far as stakeholder confidence is concerned. More and more efforts will spent on making sure we have communications plans and that we implement them. That we actually get out and make sure people understand what the risk is.

COMMISSIONER DIAZ: Capital "C" and capital "P" might be more adequate.

DIRECTOR VIRGILIO: Yes.

COMMISSIONER DIAZ: Thank you, Mr. Chairman.

CHAIRMAN MESERVE: Mr. McGaffigan.

COMMISSIONER MCGAFFIGAN: Thank you, Mr. Chairman. I'm going to just follow up probably on the issues that have already been discussed for the most part. The KTIs. You have 255 left according to the arithmetic the staff gave us. The DOE has given us information on 53 of those 255, leaving 202. DOE also plans to submit in this fiscal year 85 more or try to give you information. You will have to decide whether it is adequate or not.

I add all that up and that's a lot more than 60. You said your goal for the year was to close out 60. Shouldn't our goal be more in pace with DOE program? If we already have 38 in hand and we're pretty darn sure we're in pretty good shape on 10, need some additional information on 21, and documents partly received on 22, 60 is something you may achieve by April 30th let alone September 30th. So what should our goal be for closing these things out?

DIRECTOR VIRGILIO: I think I'd like to answer that question after we see this latest rebaselining effort by DOE. We started out with our plan based on DOE's original proposal now that they've gone through and rebaselined. I think what we need to do is to see where they are, how many they are going to submit and at what point in time.

We should get as many done. I think the bottomline is we should get done as many as we can. We should have them all addressed before the license application is submitted to us. This rebaselining is going to have an influence on the schedules.

COMMISSIONER MCGAFFIGAN: I think it is very important that DOE take this seriously and move off on it. I think mostly because the GAO report this 293 which is now 255 is something that has great credence. There are senior members of the United States Congress that think there are 293 major things that are on it and --

DIRECTOR VIRGILIO: Right.

COMMISSIONER MCGAFFIGAN: Many of these are very straight forward. You have identified the small number that are going to significant work on DOE's part. Isn't it true that some of these don't have to be done before the construction authorization license application? There are items that really lend themselves to being confirmed later in the process.

DIRECTOR VIRGILIO: This is being evaluated today. Let me step back and address what you said. I think that if you look at them, you can say roughly two-thirds of these 293 were really related to having DOE submit additional document.

COMMISSIONER MCGAFFIGAN: Right.

DIRECTOR VIRGILIO: To support statements that they've already made to us. Then the other one-third I think is related to documenting obligations that DOE has made or commitments that they've made to perform additional tests and analysis. So that should give you a sense of the significance. If two-thirds of them are just really tell us why you said

that and then one-third is that you really need to do more tests and analysis.

COMMISSIONER MCGAFFIGAN: This question is obviously a leading question but I'll say it anyway. How many of these agreements would affect the decimal point three points to the right of 15.001, when you're in the one-thousandth of a millirum level per year during the 10,000 year period? Our standard is a reasonable expectation that there be 15 millirums to the reasonably maximumly exposed individual fruit to the 10,000 year performance, the first 10,000 of your life. I can't imagine.

I can understand the package performance and a few of those things getting at the 15 mill or maybe to the first decimal point or maybe to the 15. Some of these things that I've seen are nice to have things that maybe will help somebody draft a paragraph on a safety evaluation. But really it almost has no relevance to whether they are going to make 15 millirums in the period.

How are we trying to discipline the process of it focusing on the standard? We didn't have the standard for much of this period. Now we have the EPA standard that we have incorporated into our rules. It's a reasonable expectation over 10,000 years that the reasonably maximumly exposed individual won't get more than 15 millirums.

That's not a perfection standard. It's one that they've applied at WIPP. God knows at WIPP they applied it with resources that are minuscule compared to the resources of this agency. So are we overdoing it?

DIRECTOR VIRGILIO: One of the things that we're currently looking at now is as to how to use the risk insights from the performance assessment to focus on which one of these agreements and which one of the issues have the most impact on barrier performance, the sensitivity analysis. I don't know and I couldn't answer your question how many really relate to the decimal point issue.

COMMISSIONER MCGAFFIGAN: I think that as you go forward you need to focus things on --

DIRECTOR VIRGILIO: Absolutely.

COMMISSIONER MCGAFFIGAN: On whether this is really relevant to making a judgement about the standard or not as it's now been proposed. I want to join Commissioner Merrifield in urging DOE and first of all you to get your documents into the Licensing Support Network.

I think there are securities issues. I can't imagine that very many of these documents have anything in them that would aid a terrorist. If the location of the Yucca Mountain, we have one meter resolution photography of every square centimeter on the face of the earth thanks to U.S. commercial satellite firms now and I think that the location of the Yucca Mountain is well-known. I'm not sure what a terrorist would particularly want to attack. I just don't know what it is that are in these documents that would be aiding a terrorist.

The transportation routes when the transportation campaign ultimately begins a decade or more from now, will be sensitive. We intend it to be sensitive. DOE intends that to be sensitive. We won't be sharing that information except with the states and whatever they need to know.

The documents it strikes me we need to get ours in. Judge Bollwerk says show good faith. Then maybe we can DOE to get its vastly larger inventory of documents in because I think it could be one of the pacing items in this hearing and in our ability to start the hearing. So I just wanted to second that.

With regard to restricted release and institutional controls, again I just want to second Commissioner Merrifield in encouraging you to think about Plan B. I think DOE has given us every indication that Plan A is not going to work but I think they think that The Bureau of Land Management wants to become The Bureau of Radioactive Land Management or something. Secretary Norton may have different views about that.

But if that's their attack they're not going to be interested in taking our additional sites. I think we have to think about permanent licenses. We've told the State of Ohio that it's okay for them to have permanent licenses compatible with our current rule. We may have to amend our rule in allowing people to only go to an industrial scenario rather than having to do the resident permit.

It's always the most restrictive for growing garden and taking vegetables out of their garden. If the sites are going to be used for industrial purposes, they should only have to be cleaned up to that standard. We can have an active goal, this institution in sending people out every five years or ten years and make sure the deed restrictions are still working.

Otherwise we're going to spend millions, hundreds or millions, billions of dollars taking slightly contaminated dirt from one place in this country to another, probably making both cleaner. I don't know that that's the best use of even private sector funds let alone public sector funds.

The Commissioner mentioned he's from the Granite State. I've to get his exact quote here but "The way God made it." When he said that I was thinking of the Granite State and whether much of the Granite State would pass our restricted release criteria.

(Laughter.)

CHAIRMAN MESERVE: Not the Granite outcropping I grew up on I'll tell you that much.

COMMISSIONER MCGAFFIGAN: My brother lives in New Hampshire by the way and I had my Ludlum Micro R Meter (PH) with me one year helping my son with his science project and his basement was the most contaminated place that I came across other than Capitol Hill during my ventures with my Ludlum Micro R Meter (PH).

CHAIRMAN MESERVE: I used to tell people that the most dangerous thing I did everyday was taking a shower with the radon exposure.

COMMISSIONER MCGAFFIGAN: I wonder if Christie Brinkley has granite table tops or not. Somebody better warn her.

You mentioned entombment and you mentioned cost saving. Clearly there are Florida Power or others that are interested in entombment but I think there is a public health or at least a occupational work health issue that drives entombment for many of us. Former Commissioner Rogers.

Going in out and carving out the internals in these reactors and getting them out and shipping them off to a low level waste site gives a lot of people real exposure. They get REMs. All limited number of people get data on some of these things. Fifteen people will get 40, 50, 60 REM during a year going into Havendack (PH) or Manackee (PH) or someplace and hauling the internals. It would motivate many of us to improve the reactor vessel at Trojan being entirely replaced at Hanford (PH).

So I think there is a real health benefit that weighs there as well. I just mention it tacitly under low level waste. We're not pursuing entombment as a low level waste option. We are really pursuing it as a decommissioning option.

Some of the states argue that we will creating low level waste sites. I think that our argument is that that's not what we're doing. We're decommissioning a site. We're going to do it if we approve that entombment is an option but that has nothing to do with a low level waste site. It is making a reasonable judgement as to how to protect public health and safety in decommissioning this facility. We will have continuing arguments with the states but I won't characterize entombment as a low level waste issue.

I guess EPA is something that I can't resist. There's something in Today's Nuclear Fuels where Ray Clark of the EPA said in his presentation that "EPA would review the DOE license application" but he added "that he wasn't sure if the agency would be a party in a licensing hearing." Now it isn't clear if he's talking anymore from the article. "EPA clearly doesn't have a statutory role in the proceeding." Okay, he said it.

Do they have enough to do at that EPA? Honestly if they are going to review a massive application against what, I'm not sure, against our Yucca Mountain review plan or God knows what, they must not quite have enough to do unless they plan to become a party in which case they probably should be asking Congress for money so that they can buy lawyers and get involved.

Again, I'm asking a rhetorical question. No. I'm going to touch that. Right? Some of my questions lend themselves to that.

EPA's role was defined by Congress. It was to set the overall standard which we were to pursue and incorporate into our implementation standards. I'd urge their leadership to think about whether they want to be reviewing the license application or becoming a party to the hearing. They are welcome to if they have the resources or if Congress wants to give it to them. They are welcome to do that.

On the financial assurance issue. I regard it as related to the institutional controls issue, the restricted release issue in that. This rulemaking you are talking about doing later this year, is it going to assume that they're working to unrestricted release? I mean that you said that one of the things that drives the differences in cost is that they sometimes will assume that they are doing onsite disposal which is usually restricted.

If they are not doing that, if that's what their decommissioning estimates are based on then they are always going to be underestimating if we can't solve the institutional control issue. They may be on target if we can't solve it. But without having resolved the institutional control issue, how do you go ahead with the decommission of financial assurance because it isn't clear what financial assurance target it's being judged against? If it's unrestricted release we can't make restricted release work. Professional license or whatever we come up with to make restricted release work, then there will be a lot of people who are very severely underfunded.

DIRECTOR VIRGILIO: I think we will have an opportunity to dialogue. We have a Commission meeting in the spring to talk about these very issues around financial assurance. The second broader look is something that we thought about doing after we started the first rulemaking and it may overtake the first rulemaking. You're right. We may have to consider all these other things when we started out with a simple change in mind. I think the issues are much more complex.

COMMISSIONER MCGAFFIGAN: In the simple rulemaking, against what standard are they making their guesstimate as

to what it's going to cost them to clean up? Is it unrestricted release or is it restricted release?

DIRECTOR VIRGILIO: I don't believe we specify. I think we allow them the freedom to select what method they are going to use.

COMMISSIONER MCGAFFIGAN: Are we going to make the other method work if some of them are going to use it? Thank you, Mr. Chairman.

CHAIRMAN MESERVE: I would like to thank the staff for a very helpful presentation. The activities that you undertake in the waste arena are very important to the Commission and also have broad public interest. So your efforts in this area are very much appreciated. With that, we are adjourned.

(Whereupon, the above-entitled matter was concluded at 3:40 p.m.)