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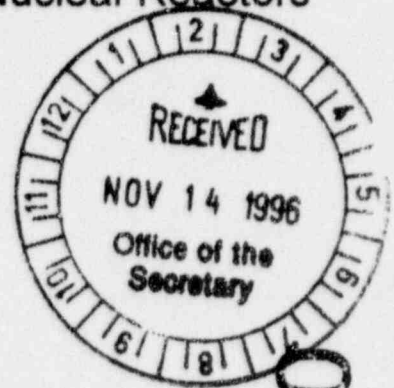
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5 STRATEGIC ASSESSMENT REBASELINING INITIATIVE

6 AND

7 STAKEHOLDERS PUBLIC MEETINGS

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9 STRATEGIC ARENA:

10 ASSURING SAFE OPERATIONS

11 OF NUCLEAR REACTORS

12 + + + + +

13 FRIDAY

14 NOVEMBER 8, 1996

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16 ROSEMONT, ILLINOIS

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18 The Assuring Safe Operations of Nuclear  
19 Reactors Session met at The Ramada Hotel-O'Hare, 6600  
20 North Mannheim Road, at 8:00 a.m., Francis X. (Chip)  
21 Cameron presiding.

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A-G-E-N-D-A

	<u>AGENDA ITEM</u>	<u>Page</u>
1	Strategic Arena:	
2	Assuring Safe Operations	
3	of Nuclear Reactors	
4	Reactor Licensing for Future Applications	4
5	Operating Reactor Program Oversight	26
6	Power Reactor Decommissioning	59
7	Risk-Informed, Performance-Based Regulation	90
8	Low-Level Waste	127
9	High Level Waste and Spent Fuel	161
10	Decommissioning-Non-Reactor Facilities	182

13

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

(8:15 a.m.)

MR. CAMERON: Well, good morning, everybody and welcome to our second day. We were very pleased with the discussion that we had yesterday and the comments, and I would just encourage you to continue in that vein today. We have a number of interesting issues to discuss.

Our first session this morning is going to be in the strategic arena of the safe operation of nuclear reactors. We're going to have Frank Miraglia, who is the acting director of our Office of Nuclear Reactor Regulation talk to us about first, reactor licensing for future applicants. We'll have a discussion and then we'll go to operating reactor program oversight. We'll probably take a break at that time, then we're going to come back to power reactor decommissioning. Frank is also going to present that paper.

And then we're going to go to risk informed performance based regulation, and Themis Speis is the deputy director of our Office of Research and he's going to present that. We'll break for lunch and then we have two concurrent sessions. One is on the safe management of nuclear waste, and the second concurrent session is managing NRC finances. That will be in the Rubic's cube room, is that right?

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1 But before we get started with Frank, Jim  
2 Milhoan has an important announcement to make.

3 MR. MILHOAN: Thank you, Chip. As you know,  
4 there have been some requests for extension of the comment  
5 period which was intended to end November 15th. I was  
6 notified this morning the Commission has considered those  
7 requests for extension of comments. The comment period  
8 will be extended to December 2nd. There will be a press  
9 release issued and a Federal Register notice issued  
10 concerning the extension of the comment period, and also  
11 those that had formally requested the extension will also  
12 be notified separately.

13 Also the unedited transcripts of the  
14 Washington meeting and the Colorado Springs meeting, I am  
15 informed are now available on Fed World and Internet.

16 Thank you. Any questions? Thank you very  
17 much.

18 MR. CAMERON: Thanks, Jim. We're going to go  
19 to Frank Miraglia now.

20 MR. MIRAGLIA: Thank you, Chip. Good morning.  
21 The first paper in the reactor arena is the future  
22 applicants for new licenses.

23 The Commission has long supported  
24 standardization. For over a decade it looked at ways of  
25 modifying its processes and encouraged the industry to

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1 come forth with standardized designs, in the expectation  
2 that these designs would provide for safer reactors for  
3 future applications. The Commission modified its rules  
4 and promulgated Part 52. That had three significant parts  
5 to it.

6 One was a design certification process which  
7 permitted a separate application for a unique design to be  
8 brought forward and brought to completion and design  
9 certification rule making. The second part of that  
10 process was an early site review process in which sites  
11 could be brought forward either by utilities or state  
12 entities as being reviewed and being declared appropriate  
13 for nuclear plant application at that site. And Part 52  
14 provided for a combined license issuance, CPOL, a one-step  
15 type process.

16 The rules were promulgated. The Energy Policy  
17 Act of 1992 reaffirmed the goals and objectives in Part  
18 52. The Commission has been engaged over the last few  
19 years in testing parts of that new Part 52 process, in  
20 terms of two evolutionary designs. One, a combustion  
21 engineering system 80 plus design and one General Electric  
22 advanced water reactor design. Both of those future  
23 designs have gone through the process and are pending  
24 before the Commission. After the Commission decision  
25 those two designs will be certified designs and they will

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1 have completed going through the first phase of the Part  
2 52 process.

3 In addition to that, currently we do have AP-  
4 600, a Westinghouse design, also in the design  
5 certification process.

6 Over the last few years there have been a  
7 number of designs also in that process but most of those  
8 reviews have been terminated at this point in time. The  
9 Commission does not have any applications for early site  
10 review before us and certainly there is not an applicant  
11 for a combined CPOL license on the horizon.

12 Given that an application for new design would  
13 require the commitment of a significant amount of  
14 resources, it doesn't appear that there's an application  
15 on the horizon in the near future. As a result, the  
16 direction setting issue here in DSI-10 was, given the  
17 current environment, what should the Commission's policy  
18 be on future reactors.

19 Some of the factors that bear on this issue,  
20 as I indicated, the Commission's objectives in Part 52 was  
21 to provide a process with those three parts to it. The  
22 objectives of the process was to encourage standardized  
23 designs. Also to add some certainty and stability to the  
24 process by having some of the review completed prior to  
25 substantial commitment of resources in terms of the

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1 construction of the facility.

2           There are no new orders for nuclear power  
3 plants in the near term. I think if we look to the  
4 future, we don't see utilities bringing forth a new design  
5 application, for application here in the United States.  
6 There's budgetary pressure on the industry, also the  
7 Department of Energy and NRC. That's been a consistent  
8 theme throughout the stakeholder meetings over the last  
9 couple of days, and budgetary pressures are real and being  
10 felt in all sectors of the industry. The Department of  
11 Energy has been supporting, in a cooperative way, with  
12 industry some of the advances in these new designs, and  
13 also at the NRC. This is another factor that bears on  
14 this issue.

15           There is foreign interest in U.S. designs.  
16 There was some discussion at one of the sessions yesterday  
17 relative to countries with interest in the U.S. designs.  
18 Certainly the Pacific rim area of the world is looked at  
19 as a potential market for nuclear power. China,  
20 Indonesia, Japan have growing programs and energy needs  
21 and seem to be a potential market. System 80 designs are  
22 being examined for Korea. The ABWR is being built in  
23 Japan right now. In fact, one of the units is  
24 operational.

25           There has been Congressional interest in Part

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1 52 over the past decade. It's been mentioned in  
2 appropriations and authorization bills for the NRC and  
3 DOE. And also, as I said, the Act of 1992 reaffirmed the  
4 principles of Part 52. So there's been interest from many  
5 of the stakeholders in this design.

6 The current options that we looked at, as I  
7 said, the Commission's position has been to support and  
8 encourage these designs. The first option would be a  
9 slight backing off from the current policy. The policy  
10 right now is priority given to any review that's put  
11 before the NRC that would test the design certification,  
12 early site review or combined CPOL parts of the Part 52  
13 rule. Given that, we don't see those pieces on the  
14 horizon, that the design certification work seems to be  
15 coming to a completion.

16 As I said, two design certifications close to  
17 the rule making and expectations are to get to the same  
18 place where they'd be 600 towards the end of this fiscal  
19 year, that we would reassess the current policy and only  
20 apply resources to folks and applications that are going  
21 to test other parts of the process, early site review with  
22 combined CPOL. So that's a slight change and backing away  
23 from the current policy.

24 Option two was the sustained responsiveness  
25 option, and that's essentially the position that the

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1 Commission has had for a long period of time and this  
2 would maintain that policy intact. No changes to the  
3 policy would be contemplated. The agency would apply  
4 resources and efforts to review new designs put before it  
5 and give it agency priority.

6 Option three is a shift away and looking at  
7 since there are no new applicants on the horizon, we don't  
8 see plans in the near future for anyone testing the early  
9 site review process, that we would complete in an orderly  
10 way the reviews that are before us, get those through the  
11 certification process and then re-examine the priorities  
12 such that the resources could be applied to other areas  
13 within NRC's areas of concerns, high level waste,  
14 operating reactors, or other places within the agency. So  
15 it would be to refocus the resources that have been being  
16 applied to advanced reactors in that kind of way.

17 The fourth option was kind of an out of the  
18 box thinking option, in saying there's been discussion in  
19 maintaining the nuclear option. There's been discussion  
20 yesterday at the session on public responsiveness about  
21 the agency's sensitivity to being a regulator and not a  
22 promoter, and in this option it's walking the fine line in  
23 saying if there is a concerted effort by the industry, it  
24 would support other government agencies to, say, in order  
25 to sustain the option would bring forth a design, bring

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1 forth applications to test Part 52, that the Commission  
2 would stand willing to play its role as a regulator in  
3 that type of process. So it doesn't want to take the  
4 lead, but said if that lead is out there and those options  
5 are brought forth that the Commission would consider that  
6 as a potential path in consideration of applications for  
7 future designs.

8           Those are the options that were put forth  
9 before the Commission and they have expressed their views  
10 in the preliminary reviews that are discussed within this  
11 issue paper. And it's clear that the economics is going  
12 to decide the level of support that's applied and that  
13 economics affects the decision not only here for the NRC,  
14 but how the industry is going to support the applications  
15 and the design.

16           The Commission said, notwithstanding that, we  
17 should continue to give priority to reviewing standard and  
18 advanced designs; early site approvals; and licensing for  
19 new reactors. So they've essentially elected to adopt  
20 option two which was the sustain responsiveness option.

21           In addition the Commission gave further  
22 instruction in terms of the staff in developing going  
23 forward with this decision and the implementation plan  
24 would need to specifically address how the utility  
25 requirements document, which was a document that was

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1 prepared in concert with the utilities, I believe with  
2 some funding from DOE, as the requirements document for  
3 new designs, how that would be maintained. We needed to  
4 address an orderly close out of all the activities, to  
5 document the work that we have done to date. The SBWR was  
6 a GE simplified boiling water reactor design that was in  
7 the design certification process.

8           We completed reviews of their testing program  
9 and the like, and that program has been terminated, so to  
10 capture the work and document the reviews that have been  
11 done to date with respect to that review. The MHTGR was a  
12 high temperature gas cool reactor and it was a preliminary  
13 review done of a concept provided by DOE, and that  
14 preliminary safety evaluation report was issued I believe  
15 early this summer. That completed that kind of activity.

16           In addition what the Commission said is that  
17 we've had a test of the Part 52 design certification  
18 process and upon completion of those rule makings, the  
19 staff should take it a step back and look at the lessons  
20 learned from the implementation of the reviews done for  
21 those current applicants, as I said, the CE system 80  
22 plus, the GE APWR and the current review of the AP-600 for  
23 Westinghouse.

24           That summarizes the preliminary views of the  
25 Commission, and I'm prepared to turn it back over to Chip

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1 and to you, to have some discussion on this issue and some  
2 of the views of the Commission.

3 MR. CAMERON: Thanks, Frank. Frank has given  
4 us a good perspective on the future plant situation,  
5 including the preliminary views of the Commission, which I  
6 guess is correct to characterize as a reactive role. In  
7 other words, we're going to continue to respond to  
8 industry initiatives.

9 I guess I would go to all of you. Do you  
10 think that this is the best way to deal with this  
11 particular strategic issue? Do we have all of the options  
12 identified that we should have up there? Anybody want to  
13 take a crack at this first, open up this morning?

14 Let's approach it from another angle. Does  
15 anybody think that we should be following the single  
16 solution option? I guess, Frank, I would ask you, is that  
17 a more aggressive stance for the Commission, the single  
18 solution or is that also reactive?

19 MR. MIRAGLIA: I think it's a signal from the  
20 Commission that it would support and attempt a process  
21 where the industry came forth with trying to test all  
22 elements of the Part 52 process. So it's saying if the  
23 viability of the nuclear options to maintain, the agency  
24 doesn't see itself as being the promoter and making that  
25 kind of decision. That's a national decision or an

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1 industry decision to say that in order to sustain the  
2 option, we'd like to bring forth a design, we're going to  
3 commit time and energy and resources and come up with a  
4 program that does that.

5           The agency recognizes it has a role to play in  
6 that with respect to its regulatory role and it would be  
7 prepared to provide the necessary resources to support  
8 such type of a program. So it's the option two, with a  
9 little bit more directed focus in saying if energies are  
10 put into, proceeding with the process, they'll commit.  
11 The Commission is going to commit, to play its role in the  
12 process. It doesn't see itself as the initiator of those  
13 activities. So in that regard it would be a reactive  
14 mode, but it's proposing a broader look.

15           MR. CAMERON: Does anybody think that the  
16 Commission should be taking a stronger role as the  
17 initiator on single solution?

18           Roger, I'm going to go to you because you've  
19 had some involvement in this in the past. Just from a  
20 factual point of view if you could just tell us a little  
21 bit more about the single solution idea and what might be  
22 behind bringing some of that into play. If you wouldn't  
23 mind.

24

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(8:30 a.m.)

MR. HUSTON: Roger Huston from NEI. This is what I get for speaking up in Colorado Springs I guess.

I mentioned there that the single solution is similar to the concept that was put forth in a paper I co-authored for an A & S meeting several years ago. Our premise at that point was that there's a lot of promise in the new regulatory process but there may be at least a lot of uncertainty in how it's going to come off, and some concern that perhaps the reality won't meet all of the expectations of the promises.

The best way to get through that is to have a demonstration, to have somebody be able to take a look, somebody wants to make a decision on a future plan, to be able to take a look and see how it did work, not just listen to how it's supposed to work. At that time, as at this time, there doesn't seem to be anyone who's stepping forward waiting to order another plant.

So at that point, an attempt to try to gig the system. We made a suggestion that the industry and the government, probably DOE would be the appropriate player on the part of government rather than NRC, but if we really want to demonstrate the future viability of Part 52 licensing process, we ought to be able to combine our resources in some way to take a plant through the process,

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1 so that others that may be on the sidelines or not sure  
2 because of the uncertainties that are inherent in dealing  
3 with something that's a promise rather than a demonstrated  
4 reality, would have that demonstration, to be able to look  
5 at it to see if it's really going to work.

6 Now, I might also point out that that paper  
7 was five years ago and a lot of things have changed in the  
8 environment since then. That's still sort of a  
9 provocative concept out there and it hasn't moved anywhere  
10 and it doesn't look like it's going to.

11 MR. MIRAGLIA: Can I clarify the record, Chip,  
12 and say that you didn't have retribution in mind in  
13 bringing Roger to the microphone but to have a full  
14 discussion of the issue. I think the concept for the  
15 single option and as described by Roger is exactly the  
16 same. It's been an underlying theme to the current policy  
17 of the Commission to support the development of and the  
18 application of new designs. In fact, the designs we  
19 review to date are safer designs. That's where we are.

20 We haven't completed the design certification  
21 process. I think the question of are those designs safer  
22 has been answered by the tests that we have done by far  
23 with part of the process, and to complete the whole  
24 process and to get the uncertainties out of the process,  
25 as Roger said, we need to test the whole thing from

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1 beginning to end.

2 With respect to the design certification  
3 process we have questions right now between the industry  
4 and the agency relative to how that part was implemented,  
5 and there's issues before the Commission where industry  
6 has expressed a view relative to the implementation thus  
7 far and the staff has also taken a position on those, and  
8 those views are pending before the Commission at this  
9 point in time.

10 And that's the Commission's point, is that  
11 there's lessons to be learned on what we've done thus far,  
12 but there are several important elements of the process  
13 that remain untested and those uncertainties won't be  
14 identified until we try to put a plant through the entire  
15 process. And the economics is such that it would require  
16 a substantial commitment of resources on the part of the  
17 utility or other federal agencies and even the NRC to play  
18 its role in that kind of process. Given the current  
19 environment, there's no one willing to come up to bat.

20 MR. CAMERON: Okay. Thanks, Frank.

21 MR. WIGHT: I'm Roy Wight from the Illinois  
22 Department of Nuclear Safety.

23 It appears to me that one of the things that  
24 should be considered is that you have built up over the  
25 past several years a lot of expertise in reviewing the

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1 plants that have now gone through their design  
2 certification with you. And a cadre of that group of  
3 people and their expertise should be maintained so that in  
4 the event that industry or nationally we decide to be more  
5 pro-active in the development of new reactors, that that  
6 cadre could lead the way and build up to the necessary  
7 review level more quickly.

8 MR. MIRAGLIA: That's a very fair comment and  
9 I believe within the context of the issue paper that's  
10 discussed as a factor, that we have come forth with new  
11 concepts and new designs. The instrumentation control are  
12 is one. And the staff is trying to capture some of that  
13 in the context of development of regulatory guides and  
14 standard review plans to capture that. But the core  
15 capabilities is an issue, and that was discussed in a  
16 number of issue papers in a broader sense, not only for  
17 advanced reactor areas, but in other areas. It's an issue  
18 before the Commission in terms of declining resources and  
19 how do you maintain those core capabilities, because if  
20 you lose them it takes time to bring them back.

21 That's a fair comment. It's addressed as at  
22 least a factor within the context of this issue paper.  
23 Some of the implementation there were some related issues,  
24 it would be how do we maintain the infrastructure or the  
25 regulatory structure that we've completed thus far.

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1 That's some of the lessons learned, to say how do we  
2 capture what we've learned to date, to maintain that and  
3 keep that as fresh as possible. The longer that there's  
4 not a design and we don't use that, the tougher it's going  
5 to be to maintain.

6 On the other hand, some of the new concepts  
7 such as in the INC area with digital controls are also  
8 being applied to some of the operating plants. So give us  
9 some ability to maintain that kind of expertise and that  
10 kind of review process as well, and we're taking those  
11 lessons learned in the application of this new technology.  
12 It's a good comment and I think it's an issue that's not  
13 only in this issue paper, but other areas within the  
14 Commission's purview as well.

15 MR. CAMERON: It is a good comment and I think  
16 it goes right to the heart of the strategic assessment  
17 process, as not only maintaining that core capability but  
18 something we talked a little bit about yesterday, this  
19 trade off between various strategic arenas, and perhaps  
20 decreasing resources where they're not needed and shifting  
21 them to another arena. So that's a good thing to keep in  
22 mind when you submitting formal comments on these issue  
23 papers.

24 Does anybody else have something?

25 MR. HUSTON: First off, I should say that the

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1 thought of any retribution never crossed my mind. I'd  
2 like to second the comment that was just made.

3           While having a demonstration, being able to  
4 flesh out all the details, by virtue of having to deal  
5 with them one at a time might be preferable. In the  
6 absence of that, there's still a lot that can be done.  
7 And that can contribute to maintaining the core  
8 competencies in both the NRC and in the industry. And  
9 there is a lot, although we are nearing the end on the  
10 first of the design certification rules, that's only the  
11 first phase of a very long process that would ultimately  
12 get us to a new plant.

13           And there are a lot of details in the  
14 subsequent phases that can be worked out, can be worked  
15 out in a way that allows us to keep, both sides, to keep  
16 some core of resources available, interested,  
17 knowledgeable, working on those issues over time. That's  
18 basically where we come down and we are recommending  
19 option two, sustained responsiveness, and are pleased to  
20 see that the Commission's preliminary views are also  
21 directed along those lines.

22           MR. CAMERON: Okay, good. Thank you, Roger.  
23 That's a good comment in terms of the other things that  
24 remain to be done here, that would help maintain the core  
25 competence. I assume that NEI will be going into

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1 specifics on that in their comments.

2 Any other comment on this issue? It seems  
3 like there's not feeling out here that this is an  
4 unreasonable focus for the Commission to take, based on  
5 the current environment.

6 Are there other things the Commission could be  
7 doing in this area, in terms of strategic options?  
8 Sometimes we hear the statement that while these plants,  
9 the whole idea behind future plants is that they're going  
10 to be safer by an order of magnitude, whatever that means.  
11 But the regulatory regime should also reflect that  
12 increased safety. I guess to a certain extent some of the  
13 things that are in the Commission's preliminary views are  
14 going to get at that issue. Is that true, Frank?

15 MR. MIRAGLIA: I think the process to date  
16 right now with respect to design certification, aspects of  
17 it has indicated that the designs for these new plants  
18 will result in a safer design. Some of the issues in  
19 implementation of this Part 52, in terms of how should  
20 that be captured within the design certification process  
21 is an issue that's pending right now before the  
22 Commission. The staff has expressed a view as to how  
23 should that level of safety be maintained from a  
24 regulatory perspective. The industry has some views that  
25 are a bit different than that. And that issue is before

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1 the Commission with respect to the current Part 52  
2 designs, the regulatory part of it.

3 I think the technical piece is are they safer?  
4 I think there's agreement on the side of the regulatory  
5 staff, as well as the industry, and I think it's been  
6 clearly articulated within the public record the basis for  
7 those kinds of statements. Now, that the issue is, is in  
8 the regulatory process, what's the best way of maintaining  
9 the envelope of safety for those new designs given this  
10 new process, and that's a regulatory issue that's pending  
11 before the Commission.

12 MR. CAMERON: Okay. Thank you. Does anybody  
13 have any comments on that particular issue, even though  
14 it's not folded into the strategic issue?

15 MR. MIRAGLIA: I think it will be an outcome  
16 of where we are.

17 MR. CAMERON: Okay. Anybody else on future  
18 plants, before we get to the current set of operating  
19 plants?

20 MS. JOHNSON: Betty Johnson, League of Women  
21 Voters of Rockford, Illinois.

22 I just came in. I have all the material. I  
23 could not get here yesterday. So I missed part of this  
24 and I'm not sure this is where it belongs.

25 I am concerned about working with the

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1 Department of Energy and their idea of modifying reactors.  
2 I don't know if this would go into anything new, to use  
3 mock fuel with weapons grade plutonium in the civilian  
4 reactors. And also the option which some of them have  
5 taken to produce tritium as triggers for nuclear weapons.  
6 That ties into international and national and I don't know  
7 how it would fit into design changes or whether it's even  
8 being considered but I am concerned about it.

9 MR. CAMERON: Thank you, Betty. I think that's  
10 an appropriate question to have on our total record here.  
11 Frank, could you clarify that situation for Betty?

12 MR. MIRAGLIA: There are a number of  
13 initiative under way. There's a broader initiative in  
14 terms of DOE and should DOE be externally regulated as  
15 opposed to self-regulated. There have been a number of  
16 reports and studies and that paper was discussed  
17 yesterday. There's a decision that will come out,  
18 probably next year. I think the Secretary of Energy will  
19 be making some recommendations to Congress relative to  
20 that. And an internal report and task force has  
21 recommended for some type of external regulation.

22 The Commission, the Nuclear Regulatory  
23 Commission has taken the position relative to those views  
24 that it does have a role to play. It's not seeking, in a  
25 very vigorous way, to assume that role, but it does have

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1 expertise that it can apply and if those decisions are  
2 made that these issues be regulated by the NRC and the NRC  
3 is given the right resources, it is ready to assume that  
4 type of mission. That's a broad answer to the question on  
5 DOE.

6           With respect to the two other issues that your  
7 raised with respect to tritium, there has been a request  
8 for proposal published by the Department of Energy and  
9 they are considering, as an alternative, to provide  
10 tritium targets to be inserted in commercial nuclear power  
11 plants for the production of tritium, to be used, as you  
12 indicated, for triggers for nuclear weapons. There has  
13 been a request for proposal on that activity. There has  
14 been a number of utilities that have expressed interest in  
15 participating in this type of program. And it's one of a  
16 number of alternatives that are being looked at by the  
17 Department of Energy.

18           The Department of Energy and NRC have entered  
19 into a memorandum of understanding that if that's to  
20 occur, we as a regulator want to review those target  
21 assemblies and the use of the new material within the  
22 commercial reactors and we have a regulatory role to play  
23 with respect to the insertion of that material and the use  
24 of that material. And that's an activity that's being --  
25 dialogue is ongoing right now.

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1 I believe the Department of Energy will be  
2 providing a board topical report to the NRC for review  
3 sometime early next year, to indicate what the scope of  
4 that would be, what the process of that would be for lead  
5 test assemblies and then eventually for potential  
6 application of insertion of test assemblies for tritium  
7 production in commercial reactors. So there is an ongoing  
8 activity on that and it's not the subject of this  
9 particular issue paper. It's related to the paper that  
10 was discussed yesterday. But there are issues ongoing on  
11 that, and they will be made part of the public record in  
12 other areas.

13 With respect to the mixed oxide use, DOE had,  
14 as a potential alternative to tritium production, a use of  
15 a new designed reactor or a power reactor to, what they  
16 call the triple play reactor. It would be a reactor that  
17 would use mixed oxide, plutonium oxide, uranium oxide fuel  
18 as a way of disposing of weapons grade plutonium in a  
19 reactor. At the same time this reactor could have the  
20 tritium type targets and be used as a producer of tritium.  
21 And the third thing that this reactor would do would be  
22 produce and generate electricity.

23 That's a proposal that was within DOE's plans  
24 and scope. I'm not quite sure if they're proceeding on  
25 that very vigorously because of how the budgets have come

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1 out for DOE, but that was a potential alternative.  
2 Whether that would be realized or not remains to be seen.  
3 In any event, if they do come forth with a plan to use  
4 mixed oxide in a commercial reactor, that would most  
5 likely be on the NRC regulatory review and would be  
6 handled within the kind of licensing process that we use  
7 for amending existing licenses or new reviews and it would  
8 be part of the public process.

9 MR. CAMERON: I think that has provided us a  
10 nice way to go into the operating reactors paper. I guess  
11 I just would want you to emphasize that if the DOE plans  
12 went through either for the triple play, as you called it,  
13 or the tritium triggers initiative that there would be an  
14 opportunity for public input into those specific decisions  
15 from the NRC perspective, is that correct?

16 MR. MIRAGLIA: Yes. In fact, the use of  
17 tritium targets in the commercial reactor are more likely  
18 to occur and there will be activity next year that will be  
19 visible in the dialogue between the NRC and DOE to the  
20 public, in terms of what our processes will be and how  
21 we're going to proceed on that.

22 MR. CAMERON: Thank you. Betty, does that  
23 answer your question?

24 MS. JOHNSON: Yes.

25 MR. CAMERON: Good. Anybody else on the issue

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1 that Betty raised or the future reactors issue before we  
2 go onto the operating plans paper?

3 Okay. I guess we can go with that one, Frank.  
4 Thank you.

5 MR. MIRAGLIA: DSI-11 deals with the operating  
6 reactor oversight program. Currently there are 110  
7 reactors licensed to operate within the United States.  
8 The reactor oversight program has a number of elements to  
9 it. It is an oversight program. The primary  
10 responsibility for the design, construction and operation  
11 of the nuclear facilities within the United States are  
12 with the utility. Our role as a regulator is to provide  
13 the oversight to assure that operation is a reasonable  
14 assurance of safe operation. In that context we're  
15 engaged in a number of activities in terms of reactor  
16 oversight.

17 We have licensing activities in terms of the  
18 initial licensing of these facilities. There's inspection  
19 activities, and then we have a performance assessment  
20 activity within the context of the conduct of that reactor  
21 oversight. There are a number of factors that bear on the  
22 DSI, as stated. Let me do that first.

23 Given the changes in the external/internal  
24 environment, what are the implications for the current  
25 strategies for the operating reactor program? There are a

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1 number of things that are happening, externally and  
2 internally to the agency and I'll go through those and  
3 we'll talk about the potential options.

4 Internally, as we said, there are no future  
5 applications for future designs. We completed the review  
6 of the last operating license early this year. I believe  
7 it was February when we issued the operating license for  
8 Watts-Barr facility for TBA. So there are no plants under  
9 construction or in the process for operating license. So  
10 the stable of 110 doesn't seem to be growing in the near  
11 future.

12 Based upon recent experience, over the last  
13 three to five years, it is not unreasonable to assume that  
14 three to five reactors would shut down prematurely. By  
15 prematurely we mean that they would not go to the end of  
16 their current licensed life for varied kinds of reasons.  
17 In the past three to five years we've had a number of  
18 reactors who have shut down prematurely. We'll talk a  
19 little bit more about that in DSI-24. So we expect over  
20 the three to five years in terms of work load that perhaps  
21 that 110 would come down a bit, not quite a large number.

22 It is a relatively stable regulatory climate  
23 in terms of new issues being identified. New issues are  
24 being identified but at a much lower rate, predominately  
25 deal with issues of aging and materials and compounds.

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1 Those are the internal factors.

2           Externally there's a little bit more going on  
3 in terms of one of the things that's happening in terms of  
4 the electric utility industry is there's a deregulation  
5 and there's increasing economic pressures. The shrinking  
6 that we've talked about is not something that's just  
7 unique to the federal government. Everyone is  
8 experiencing it. We as individuals and the various  
9 industries are all downsizing, right-sizing, streamlining.  
10 There's a number of words for it. And trying to get  
11 things done more efficiently, cheaper and there are  
12 economic pressures on all sectors of the community. In  
13 terms of the electrical utility there is a move to go to  
14 what's called economic deregulation in terms of the  
15 setting of electrical rates. So that can change the  
16 economic regulation of the electrical utility industry.

17           Now, the NRC is a safety agency. We don't get  
18 into the economic regulation of utilities but if that  
19 climate changes it could impact on how we do our job  
20 because being an electric utility has a certain meaning in  
21 terms of financial stability and application to resources,  
22 to safe operation of those facilities and I'll discuss a  
23 little bit later, it also has implications for the  
24 maintenance of decommissioning funds.

25           So that's an area that the agency is aware of

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1 and is sensitive to, to say we need to keep abreast of  
2 what those activities are and what they're potential  
3 impacts are to our regulatory program to assure that we  
4 can maintain safe operation of the facilities from a  
5 regulatory perspective.

6           There's greater use of probable risk  
7 assessment techniques for cost savings. The industry and  
8 the agency are encouraging paying attention to the risk  
9 important parameters and factors in the operation of these  
10 facilities, to try to conform the regulations such that  
11 the regulations are focusing on the right safety issues.  
12 There's lots of activities and initiatives on the way.  
13 DSI-12 will be discussed as the last paper in this session  
14 and the materials issue yesterday all discussed risk  
15 informed techniques. So there's an area here of looking  
16 at the regulatory process to make sure that we're paying  
17 attention to the right things and getting the right  
18 economic and safety perspective for our requirements.

19           Related to the first session yesterday, that  
20 has to be done in a way that's clearly understood by all  
21 the stakeholders and the public. If it's said too  
22 cavalierly, it can be interpreted that the regulatory  
23 process is moving away from safety and safety margins, and  
24 that's not the intent. The intent is to make those things  
25 so that the regulations, compliance with the regulations

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1 are focusing on the right things and if there are things  
2 in the regulations that are burdens that need not be there  
3 because they're not providing for safety, or because  
4 technology has changed and the regulations need to be  
5 conformed in such a way to meeting those kinds of goals  
6 and objectives. That's a challenge. And we are doing  
7 things in this area. You heard some of that yesterday in  
8 the materials and you'll hear a little bit more in detail  
9 on the agency's program in general, DSI-12.

10           The industry has expressed concern. We're 100  
11 percent fee recovery and that's a concurrent session this  
12 afternoon. The agency has to recoup it's budget 100  
13 percent. So the licensees pay fees. They pay fees for  
14 their licenses. They pay fees for inspections. And so  
15 the industry is concerned about the type of inspections  
16 and the number of inspections and the magnitude of our  
17 inspections. And so we're looking to make sure again that  
18 we're focusing on the right kinds of areas. So that's an  
19 external factor that's in consideration.

20           As I said, there's component and system aging.  
21 The plants are getting older. As equipment is in service  
22 for a long period of time, components are showing signs of  
23 age. For the pressurized water reactors, there's the  
24 steam generator issues. For the boiling water reactors,  
25 there's the BWR internal issues as well as for both, the

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1 imbrittlement issue for vessels, more towards the  
2 pressurized water reactors in that case. So there are  
3 those kinds of issues. As a result of component aging, as  
4 a result of operating experience and research, there will  
5 be issues that we have to deal with in the context of the  
6 regulatory process.

7           And certainly we have a public concern  
8 regarding the safety in the regulatory process. That was  
9 an issue that was discussed yesterday morning, the issue  
10 of public confidence and trust, and that there is a role  
11 for the regulator to play. The public is interested in  
12 what we're doing. We need to be able to make sure that  
13 the public understands what we as a regulator are doing  
14 and what the industry is doing.

15           There are a number of issues that have been  
16 identified as weaknesses and vulnerabilities within the  
17 process. It's been said several times in several of the  
18 sessions over the last day that our programs, where it  
19 says continue the current programs, the current programs  
20 are not static programs. They're kind of moving along,  
21 improvements are being made within those types of  
22 problems. There are lessons learned that are drawn from  
23 events and other experiences to try to improve those type  
24 of processes.

25           The first option is to review the process in

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1 the context of lessons learned. Stu Ruben talked about  
2 lessons learned in the context of the regulatory  
3 excellence paper. And we are doing those things in a  
4 reactive and responsive mode to lessons learned. The  
5 Commission says we need to continue to do that, and more  
6 so, we need to find mechanisms for a systematic re-  
7 evaluation of those activities, to assure their continued  
8 effectiveness. That was reflected within the context of  
9 the regulatory excellence paper, DSI-23. It also is an  
10 admonition to the staff that we need to try to find  
11 techniques and mechanisms to self-identify issues before  
12 they reveal themselves, either from external audits and we  
13 need to develop our own internal processes to make sure  
14 that occurs. And so that's continuing the program and be  
15 diligent in that regard.

16 The second option was to seek new approaches,  
17 to try and make the process more efficient and effective  
18 by working with the industry and also providing increased  
19 opportunities for public involvement in the regulatory  
20 process. Some of these thoughts and issues were discussed  
21 yesterday as well in DSI-13, with respect to the role of  
22 the industry. We have, in many instances, worked  
23 cooperatively with the industry to develop codes and  
24 standards.

25 There was a discussion yesterday in the broad

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1 context of the maintenance rule. The maintenance rule was  
2 adopted by the Commission. The industry proposed some  
3 broad frame work and guidelines on how that rule would be  
4 implemented. There was considerable dialogue with the  
5 industry and the staff in developing the review  
6 guidelines. Following that, the staff developed  
7 inspection guidelines. That was commented by the  
8 industry.

9           And all of that was done in a very open public  
10 process so that the public could understand that the  
11 agency was able to maintain its arms length regulatory  
12 role with the industry and come up to a point where we can  
13 implement a performance based rule in such a way that it  
14 was understood by the industry, understood by the staff  
15 and to have that visible and have a public understanding  
16 of the processes that were used and how we arrived at that  
17 place.

18           We're still in the very early implementation  
19 stages of the inspection process. There's issues that  
20 will probably come up in that implementation process that  
21 will need to be resolved, and there's processes and plans  
22 in place for dealing with those. But that's an example of  
23 to look for more opportunities to provide for that kind of  
24 relationship and role to the industry, as well as looking  
25 for increased ways of having the public involved in those

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1 kinds of processes as well.

2           The last option was perform a business process  
3 via re-engineering. There was discussion at the materials  
4 session yesterday about the business process, re-  
5 engineering process that was used for material licensing.  
6 It has resulted in improvements that seem to be endorsed  
7 by our staff, by the agreement states, by the licensees  
8 that see promise in that type of process and the option  
9 that was discussed here is for the reactor program to  
10 examine that type of process, to say are there  
11 applications of that technique within the context of our  
12 own processes, performance assessment and licensing and  
13 inspection that we could look for application of that  
14 process, to look for ways of improving the efficiencies  
15 and effectiveness of those type of processes. So that's  
16 the scope of the third option.

17           The Commission's preliminary views are  
18 presented here. And essentially what they've done is  
19 taken part of all of the options. Their preliminary views  
20 indicate that the staff needs to continue with the  
21 comprehensive review and the systematic re-examination of  
22 the reactor oversight program. Let's continue doing what  
23 we have been doing, proving the process based upon the  
24 lessons learned, that are under review and to look for  
25 systematic mechanisms for incorporating those lessons

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1 learned within the process.

2           With respect to option two, they said we need  
3 to go forth and encourage industry to develop generic  
4 guidelines that can be endorsed by the NRC and carried out  
5 by industry. Look for additional opportunities such as  
6 the maintenance rule type of activity. Also with the  
7 admonition that we need to do that with increased public  
8 involvement, and this relates to the arena that we talked  
9 about yesterday. We need to maintain the arms length and  
10 the public trust and confidence. So that has to be a  
11 consideration and it all has to be done in full view of  
12 the public.

13           In addition they said we ought to look for  
14 ways of incorporating the new technology within our  
15 processes, in terms of how we communicate internally and  
16 externally with the industry in terms of new technology  
17 and computers and the like. The Commission asks us to  
18 continue to improve the understanding of the performance  
19 assessment process.

20           There are a number of initiatives underway in  
21 that area that have been directed by the Chairman and the  
22 Commission to make those processes visible and  
23 understandable to the regulated, as well as the public,  
24 and those activities are underway and the admonition there  
25 is to continue for those types of improvements.

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1           Option three, they picked pieces of that out  
2 in terms of look at the process engineering methods and  
3 application to the reactor oversight program. They  
4 recognize that this could be a very big task, a very  
5 resource intensive task. So they said take a look and  
6 come up with some thoughts as how they may be applied and  
7 then we'd have to go back to the Commission and report on  
8 those and seek their approval on what areas and how to go  
9 about it. So this would be a systematic approach to the  
10 process.

11           In addition has asked us to go back and look  
12 at best practices from other regulatory agencies, domestic  
13 agencies, as well as our foreign regulators, to take a  
14 look at their programs, their best practices and  
15 techniques to see what could be applied in our own  
16 processes, to improve efficiency and effectiveness.

17           That completes the preliminary views of the  
18 Commission and a brief overview of this strategic issue as  
19 well, DSI-11. I'll turn it back to Chip.

20           MR. CAMERON: Thanks, Frank. As you can see  
21 the Commission selected, on their preliminary views,  
22 something from I think all of the options that the  
23 steering committee presented to them, and this is probably  
24 an appropriate time to just remind everybody once again of  
25 the questions that the Commission was specifically

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1 interested in getting comment on, in terms of these  
2 strategic issues papers.

3 Are there any issues that we might have missed  
4 in terms of key factors? Are the assumptions that we're  
5 basing the selection of options on, are those assumptions  
6 correct? Of course, comment on the preliminary views that  
7 the Commission has on each issue. We'll see later on  
8 today there will be some specific questions on some of the  
9 issues papers that the Commission would like you to  
10 address.

11 So what about this strategic issue? Paul, do  
12 you want to start?

13 MR. FARRON: A couple of items on the external  
14 effects. I think we're going to talk about it later, but  
15 it's also a factor here and that has to do with the waste  
16 issue. That's becoming an overwhelming concern of a  
17 number of utilities. And the identification of possibly  
18 three to five reactors shutting down prematurely, that  
19 could be even higher depending on what happens with both  
20 low level and high level waste and how it's handled by DOE  
21 and NRC.

22 Other factors, you talked about the PRA. I  
23 believe utilities would like to see more utilization of  
24 PRA, but we've only seen it primarily on the soft issues,  
25 such as been used for fitness for duty, maybe fire

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1 protection. But we really haven't seen an implementation  
2 or doing anything with that on some of the harder issues,  
3 the safety systems, hardware.

4 And some of the options I see that you talked  
5 about other agencies and best practices. There's a lot of  
6 things DOE does that aren't very good. They do try to  
7 implement a graded approach to the implementation of the  
8 regulations and that may be an area that the Commission  
9 and the staff might want to take a look at, to see if  
10 there's anyplace that it would apply to, to our industry  
11 as well.

12 MR. CAMERON: Thanks, Paul. You made a number  
13 of points there. I assume that when we go to the risk  
14 informed paper that we might be able to address perhaps in  
15 a little bit more detail the comment on the use of PRA on  
16 what Paul characterized as the hard issues. Is that  
17 correct?

18 MR. MIRAGLIA: I would agree with those  
19 comments. With respect to the waste issue, that was  
20 recognized within the context of the paper as a factor  
21 that would lead to perhaps premature shut downs, and  
22 whether the number is three to five or greater, if there  
23 are views out there that it is greater, I think the agency  
24 would like to have those kinds of views. We're looking at  
25 the past performance and looking ahead. There are a

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1 number of states that have taken positions with respect to  
2 low level waste. With respect to high level waste,  
3 there's transportation issues of high level waste. Those  
4 will be discussed this afternoon. Those all affect the  
5 economics and all of that goes into affecting this issue  
6 in a large way. So I think we would agree with those and  
7 I think if there are thoughts out there that that number  
8 would be bigger than three to five, if there are other  
9 views out there, it would be useful for us and the  
10 Commission to be aware of that.

11           With respect to the use of PRA, I think we  
12 have a plan. We have a PRA implementation plan. Risk is  
13 being used in a very disciplined kind of way. I think  
14 within the context of DSI-12 you'll hear a little more  
15 about the plan.

16           With respect to the graded approach, I think  
17 that that's going to be an outcome of the use of risk and  
18 I think it has to be done in a disciplined way. I think  
19 the Commission's plan is such that we do that in a way  
20 that's clearly understood by the regulated and by our  
21 staff and also by the public, that we're not backing away  
22 and decreasing safety. We're trying to get the most  
23 effective safety in the most effective manner and  
24 maintaining reasonable assurance. So those are all good  
25 comments and points, some of which have been considered

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1 within the context of this paper and others that will be  
2 discussed a little bit later this morning and this  
3 afternoon.

4 MR. CAMERON: Paul hit on a couple of issues  
5 that are identified up here. Does anybody see any  
6 factors, any issues, any options that the Commission  
7 hasn't identified in this strategic paper that should be  
8 considered by the Commission? Does anybody have any  
9 comment on that?

10 MR. WIGHT: Roy Wight from the Illinois  
11 Department of Nuclear Safety.

12 We recognize that these three options are  
13 definitely not mutually exclusive. They are very much,  
14 almost inextricably connected. The option to continually  
15 assess situations and ability to continue is just  
16 absolutely essentially for its continued success. It  
17 leads you directly into consideration of both option two  
18 and option three. The need for business re-engineering  
19 back to zero base may not be required, as you've  
20 recognized, but a large part of that may come out of your  
21 own self-assessment. For evaluation on performance, we  
22 think that there's a weakness that could be improved  
23 significantly by establishing really clear and realistic  
24 guidelines and measurements, performance measurement  
25 that's clear to everyone, and that would be a big help.

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1 Standards for measuring performance, we have those but  
2 those seem to be continually re-evaluated to make certain  
3 that we're up to speed, and how they link to PRA's we'll  
4 probably discuss in DSI-12.

5 As far as self-assessment, we believe it would  
6 be useful to establish an independent oversight group that  
7 would be made up of knowledgeable and independent experts,  
8 experienced people to verify, as a quality verification,  
9 oversight group and make a report to the Commissioners on  
10 a periodic basis so that this effort is focused amongst  
11 all the major stakeholders who would be a part of this  
12 oversight committee. We would recommend that for your  
13 consideration.

14 MR. CAMERON: Thanks, Roy. That's an  
15 interesting idea, that last one and maybe we should  
16 explore this a little bit further. I take it that the  
17 type of oversight group you're talking about would include  
18 representatives from states, public. Could you amplify a  
19 little bit more on that so that we could understand the  
20 difference between this type of oversight group and some  
21 of the existing oversight groups that we have within the  
22 Commission, like the Advisory Committee on Reactor Safety?

23 MR. WIGHT: The difference would be that the  
24 group that we're suggesting would be particularly focused  
25 on oversight effectiveness, which we all know is the only

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1 answer to continuing to perform in shrinking personnel  
2 resources. We have to be more effective. Independent  
3 looks, I think most of us agree, are very important to  
4 that process and including the stakeholders in doing that.  
5 And I'm talking about the public, federal government  
6 agencies, industry, the special interest groups and those  
7 people that can be represented in this oversight view,  
8 which we all do but it's not focused, not structured.

9 MR. CAMERON: Thank you.

10 MR. MIRAGLIA: If I could ask Roy, if they  
11 have specific comments in terms of the make up and how it  
12 would interact with the Commission on its broad range of  
13 programs, that would be appreciated.

14 DSI-23 on regulatory excellence had that type  
15 of concept in terms of the Commission saying the  
16 Commission needs some way of integrating and having a  
17 broad oversight on its effectiveness program. And that  
18 was kind of the context and the concept that was described  
19 yesterday in terms of regulatory excellence. Certainly  
20 that has application not only to the reactor oversight,  
21 but all of the Commission's programs. So comments on  
22 specific implementation along those lines, related to  
23 either this DSI or DSI-23, would be very helpful.

24 In addition the comments that you made  
25 initially that these are not mutually exclusive options, I

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1 think one is going to be done and two and three are  
2 increments above that, and it's a question of how much and  
3 the scope of those activities in the face of, as Chip  
4 reminded us all yesterday, that within each of these  
5 issues the diminishing resources and the pie and if we  
6 establish priorities within, then how does this issue  
7 relate to those other issues and how does one prioritize  
8 among all of the issues.

9           It's certainly a challenge for all of us, a  
10 challenge for the Commission. And if there's thoughts and  
11 ideas on how those priorities within the issues can be  
12 assigned or what the relationship is of some of these  
13 issues among themselves from a perspective of the  
14 stakeholders, I think that would be information that would  
15 be useful to the Committee as well as to the Commission.

16           MR. CAMERON: How about some reaction to Roy's  
17 suggestion of a independent group composed of a broad and  
18 diverse set of interests to advise the Commission on  
19 effectiveness? Is there anybody who wants to talk about  
20 that particular suggestion? I realize that we've all  
21 heard this here for the first time and the idea is not  
22 very specific at this point, but any general thoughts on  
23 it?

24           MR. SWANK: I guess one of the concerns we  
25 have in the industry always is the cost of activities such

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1 as this. The NRC, by definition, is an overseer, and now  
2 we're proposing having an overseer for the overseer or  
3 regulator. As Chip stated, there are already methods in  
4 place for oversight of the staff.

5 I guess our past experience has been that  
6 those have been fairly effective. That's not to say that  
7 the staff is always effective or certainly that the  
8 industry is always effective. That's then reflected in  
9 the staff's performance. Certainly some of our recent  
10 activities have indicated that. As an industry we make  
11 the staff look bad and we need to be careful and work hard  
12 not to do that. We have the obligation to run our plants  
13 safely and we need to do everything we can to make sure  
14 that happens and that the staff looks good because the  
15 industry is performing well.

16 MR. CAMERON: Thanks, David, for taking a  
17 crack at that and also for giving us that perspective.

18 MR. SWANK: I have several other things.  
19 Yesterday we talked quite a bit about what is safe and how  
20 safe is safe enough. I guess I see in this paper and  
21 several of the other papers, and the slide here is a  
22 perfect example, which is option two, where we're going to  
23 have new approaches to encourage continued industry  
24 performance improvement. When is performance good enough?

25 Obviously there are weaknesses in our area,

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1 weaknesses at my plant that we need to work on, but at  
2 what point does the staff accept performance as good  
3 enough? When the options and the direction for the staff  
4 are being driven in this direction, when do we stop? I  
5 think the lady yesterday had some real fine comments in  
6 this area, that the public gets a different perspective of  
7 the industry. If we're continually saying we have to  
8 continue to improve, that we're not safe enough because --  
9 it goes kind of without saying that if you have to improve  
10 more, than maybe you're not good enough now. So I think  
11 we need to be careful as we go through making these kinds  
12 of statements, that we don't leave the wrong impression  
13 with the public that our performance isn't adequate now,  
14 that's why we have to improve. I don't want to mislead  
15 anybody. I think we all want to improve. I think the  
16 industry and the staff recognize that, but we have to be  
17 careful how it appears to the public when we make those  
18 kind of statements.

19 MR. MIRAGLIA: I think those are valid  
20 comments. I think we've touched on all of those issues in  
21 the last day or so in terms of the issue yesterday and the  
22 public confidence in terms of there was the accentuating  
23 the negative and what level, do we get down to the last  
24 nano curie. All of these things are inter-related to one  
25 another.

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1 Roy mentioned that the performance assessment,  
2 we need to have a clear understanding of what we're  
3 talking about. That's related to the comment you just  
4 made. The Chairman and the Commission have indicated to  
5 the staff that we need to do a better job of articulating  
6 what is the objective criteria we're using in our  
7 performance assessments, be they candidates for  
8 inspections in certain areas, and that's an admonition  
9 that the Commission and the Chairman has had on the staff  
10 and it's encompassed within one, to try to do a better job  
11 of that. That has to be done. And to make that process  
12 transparent not only to the regulated but also to the  
13 public so they understand the yardsticks that are being  
14 used. So that's related to that issue. It's not going to  
15 be the same yardstick for all the issues and for all the  
16 various scope of activities within NRC, but the agency is  
17 sensitive to that issue as well.

18 In terms of the continued excellence kind of  
19 thing, that has tried to be expressed within the reg  
20 excellence paper. We're talking also about our  
21 effectiveness, to try and do our job as best we can. But  
22 I think those are well taken, that sometimes those nuances  
23 and the words and the intent and bullets aren't clearly  
24 articulated. I think it's a comment well taken.

25 MR. CAMERON: Thanks for responding to that.

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1 David, do you have one more comment?

2 MR. SWANK: I have one more.

3 MR. CAMERON: Could you hold that for a second  
4 so that we don't lose the thread that we were on. Betty  
5 Johnson I think wants to say something in regard to the  
6 independent assessment.

7 MS. JOHNSON: I just wanted to say that it's  
8 very important. I think the League of Women Voters thinks  
9 that and other responsible public interest groups. A  
10 perfect example of the need for that was what happened  
11 with the Illinois Martinsville site for the low level  
12 radioactive waste compact that we're trying to set up?  
13 They were going to go ahead and license a terrible site.  
14 And only by meetings by people that got the facts and  
15 brought them forward -- that would have been a terrible  
16 fiasco.

17 Another thing, of course, the League did was  
18 to intervene in the operating license of the Byron nuclear  
19 power plant and we brought a lot of safety issues to that  
20 plant. It still has a lot of problems. But I think it  
21 depends on the quality and you cannot do away with that.  
22 If you just let the Nuclear Regulatory Commission and all  
23 of the agencies, we're going to have problems. You've got  
24 to have responsible independent people looking at what  
25 you're doing.

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1 MR. CAMERON: Thanks, Betty. I guess I would  
2 look on that as just general support for the idea that Roy  
3 brought up. But I would also clarify that we're still  
4 going to have independent opportunities for people to be  
5 involved and to challenge any regulatory decisions that  
6 we're going to make.

7 MR. MIRAGLIA: That's within the context of  
8 our processes right now in terms of public participation  
9 and the like. I think the preliminary views of the  
10 Commission is to look for even more ways of enhancing  
11 that, to get that independent view from the public on all  
12 of our processes.

13 MR. CAMERON: While we're here on that  
14 subject, if you look at the last phrase in this first  
15 option it says, provide increased opportunities for public  
16 involvement in the regulatory process. I guess I probably  
17 could lump Roy's suggestion in there.

18 Do we have any other comment on specific  
19 suggestions for increased opportunity for public  
20 involvement in regulatory decisions? We always talk about  
21 this, about this is a good idea and this is what we want  
22 to do. Does anybody have any specifics that they want to  
23 discuss along those lines?

24 Okay. I would just emphasize that if you do  
25 submit written comments, if you do have specifics, that

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1 would be very helpful. David, do you want to go back and  
2 do some more? I think you can go ahead now.

3 MR. SWANK: There are a couple other things in  
4 this particular paper that I wanted to talk about. There  
5 are a couple things in here that appear to me to be  
6 assumptions by the staff, that weren't really challenged  
7 by the staff. Yesterday I talked a little bit about  
8 trying to baseline against other nationalities, other  
9 federal agencies, and there's a couple statements here  
10 that may be worthy of that. On page five there's a  
11 statement that each of the three major inspection program  
12 elements is important in achieving the objectives of the  
13 program.

14 I'm not sure that that would be borne out by  
15 looks at other agencies, say, in western Europe or Asia.  
16 There's also a statement on page 24 that the current  
17 requirements for minimum staffing of two residents at  
18 single unit sites would be maintained. This is in  
19 relationship to the N plus one at multiple unit sites. I  
20 guess I'd ask the staff to consider whether that's a  
21 necessary part of this.

22 One resident is adequate at a site, at a  
23 single unit site. Probably at out site N plus one is  
24 appropriate at this point in time. But you have sites  
25 such as Grand Gulf where the inspection hours for that

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1 site were less than 4,000 for the year, so essentially  
2 you've gone to less than two residents by farming the  
3 resident out for other inspection activities at other  
4 plants. I guess given that, it appears you've already  
5 made a decision that there may be sites where the  
6 performance is exceptional and N plus one may not be  
7 required.

8 I guess I'll comment on your discussion of the  
9 maintenance rule. I agree with you. I think there has  
10 been significant industry involvement in the development  
11 of implementation of the maintenance rule and we  
12 appreciate that opportunity. I will point out, though,  
13 that the industry opposed the maintenance rule during its  
14 development. I would say personally I was surprised when  
15 it was issued. We thought the maintenance rule had kind  
16 of gone into non-issuance, so there were a lot of us in  
17 the industry who were surprised by its issuance, just as a  
18 clarification.

19 One other clarification I would like to make  
20 on PRA. The slide talked about using PRA for cost  
21 savings. I guess I'd like to characterize it a little  
22 differently. We try to use PRA for distribution. That  
23 is, there's a limited amount of funds that each of us  
24 works with, and through PRA we're trying to apply those  
25 funds in the most safety significant manner that we can.

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1 So that's just a clarification. Thank you.

2 MR. CAMERON: Thanks, David. I guess I would  
3 just say, before I go to you, Frank, that we do use a lot  
4 of jargon when we're talking about things. When we go to  
5 the risk informed paper I know we're going to be talking  
6 about PRA and perhaps when we do that paper, we can just  
7 have a very simple explanation of PRA for the benefit of  
8 everybody's understanding.

9 MR. MIRAGLIA: I'd like to ask Dave for  
10 clarification. In terms of the elements that we were  
11 talking about, Dave, is the important elements of the  
12 oversight program are the licensing, inspection and  
13 performance assessment. Are you saying that there are  
14 other regulatory agencies that don't use all three and do  
15 their job without some of those elements? If you do, if  
16 the comments could be pointed towards that.

17 MR. SWANK: To be quite honest, I don't know.  
18 What it appeared to me, though, was it was an assumption  
19 on the staff's part that the three elements were necessary  
20 for you to perform your function. I guess I would say  
21 it's possible that one or more of those elements may not  
22 be necessary.

23 MR. MIRAGLIA: I understand that as a  
24 viewpoint. If there are views out there about that, we'd  
25 appreciate those. We were thinking those are elements and

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1 I think what we were trying to say in the paper is that if  
2 we change something in licensing we may have to look for  
3 compensating changes in the other two elements, and that  
4 there was a relationship. But as I understand your  
5 comment, you think perhaps some of those elements may not  
6 even be required.

7 MR. SWANK: I'm just saying there's the  
8 possibility, in particular in the performance assessment  
9 area. There's a lot of redundancy between what the  
10 industry does and what the staff does as far as tracking  
11 and trending. Certainly I don't envision that the staff  
12 is going to stop looking at performance.

13 MR. CAMERON: Thanks for your comments, David.  
14 Do we have anybody else that has a comment on this  
15 strategic issue?

16 I guess I had one clarification I wanted to  
17 ask the NRC about. Frank, how does license renewal fit  
18 into this strategic issue?

19 MR. MIRAGLIA: In terms of the way it fits in,  
20 is license renewal, there is a rule that's been  
21 promulgated. There are a number of utilities that have  
22 expressed an interest in renewing the term of their  
23 operating license, and there are processes underway. So  
24 in terms of maintaining the structure at 110, there's a  
25 number of plants that will maintain their operating

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1 license beyond the end of their operating life. Just as  
2 we expect that perhaps some won't make it to their current  
3 operating life, there a number of plants that are  
4 examining extending past that life, in terms of the  
5 license renewal process, and there are ongoing activities  
6 of review.

7 But the oversight of those would be maintained  
8 in a similar kind of way. So it's keeping the  
9 distribution of the 110 in that kind of range. The 110  
10 will be decreased by the number of plants that go to end  
11 of life and decommission the number of plants that  
12 prematurely go to end of life, and the plus side of that  
13 would sort of be those that will be renewed. So the set  
14 is 110 and something less than that. The expectations are  
15 that half or more of the operating licenses we'd look at  
16 and seriously consider renewal. There is a rule that has  
17 been promulgated by the Commission and there's ongoing  
18 dialogue with the industry. The first application for  
19 renewal is expected in the next calendar year.

20 MR. CAMERON: Thank you, Frank. Any final  
21 comments, questions?

22 MS. WESTRA: Heather Westra with the Perry  
23 Island Indian community in Minnesota.

24 I just have a question concerning license  
25 renewal. To what extent will renewal decisions be based

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1 on the waste issue? Yucca Mountain is looking like it's  
2 years away and there's a lot of opposition to on-site dry  
3 cast storage. How will that be considered by the Nuclear  
4 Regulatory Commission with regard to license extensions?

5 MR. MIRAGLIA: Actually it's an issue for  
6 existing plants, and that was alluded to by one of the  
7 earlier comments, that may lead to plants shutting down,  
8 not being able to get to the end of their operating life  
9 because of not having sufficient either on-site storage or  
10 repository available, and in some cases, in extreme cases,  
11 low level waste storage.

12 So it's an issue in that kind of context that  
13 would have to be resolved, that the facility would have to  
14 have suitable storage for spent fuel. The Commission has  
15 taken the position in terms of waste confidence that a  
16 repository will eventually be built and that the fuel can  
17 be safely stored within spent fuel pools or on site or in  
18 dry cast storage for long periods of time. But you're  
19 right, the resolution of the high level waste issue will  
20 affect and will drive economic decisions and affect not  
21 only future renewals, but even perhaps current plant  
22 licensing. So I think it is a factor that has to be  
23 examined, but the expectations are that there will be a  
24 repository and the fuel will be disposed of in a  
25 repository as part of the national program that's been

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1 enunciated.

2 MR. CAMERON: I guess just to put a finer  
3 point on that, as a generic criterion, in other words, the  
4 availability of centralized disposal or centralized  
5 storage, that's not a specific factor that's considered in  
6 the Commission's decision to renew a license for an  
7 operating plant?

8 MR. MIRAGLIA: It would have to say that  
9 there's sufficient storage for the spent fuel that's going  
10 to be generated at the renewal period.

11 MR. CAMERON: Okay. So as a specific issue,  
12 it will be considered and perhaps the generic issue that  
13 you brought up, waste confidence, would be something that  
14 would be appropriately discussed in the high level waste  
15 paper and maybe we can get into that and how that fits  
16 into the Commission's choice of options at that point.

17 Any other comments?

18 MR. KELLEY: Glen Kelley, NRC staff. A  
19 question for NRC. Licensees have been complaining about  
20 inspections, about the number of inspections, that they're  
21 not risk informed, they're not coordinated. I know NRC  
22 has been moving in that direction to do a better job. At  
23 the same time, going the contrary way, the public and some  
24 Congressional opinion seems to be that we should be doing  
25 a lot more inspections. We should be going into many more

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1 areas in much greater depth. How do you see NRC balancing  
2 these different views?

3 MR. MIRAGLIA: That's the challenge that's  
4 before the agency, not only in the reactor area, but in  
5 other areas as well. It has to be done in a way that the  
6 rules that are out there right now, we need to comply with  
7 those rules, we need to demonstrate compliance to those  
8 types of rules.

9 The processes that we're talking about are  
10 going to result in changes and more conformance of those  
11 rules to the risk informed performance based approach. So  
12 it's going to take time. We're going to have to live with  
13 what we have, take steps to change what we have in such a  
14 way that it can be done in an orderly kind of way for the  
15 transition. The real challenge is, as again it goes back  
16 to the issues of application of resources and priorities  
17 within the issue and then how do the issues across the  
18 agency bear on what priorities they get. The real  
19 challenge comes in that to say what's the size of the pie,  
20 and then how should that pie be sliced. I think everybody  
21 expects that the size of the pie is going to be smaller.  
22 I think in the context of the meetings yesterday and the  
23 meetings you'll hear today, there's lots of issues for the  
24 agency to deal with in terms of what are the relationships  
25 and what should the slices of those pies be.

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1           One of the advantages I think of this kind of  
2 broad spectrum view of all the stakeholders is that many  
3 of the stakeholders and even the staff -- I've learned an  
4 awful lot about materials issues in my association with  
5 being on the strategic planning. There's lots of issues  
6 out there, lots of challenges from a reactor perspective  
7 that I didn't have an awareness of.

8           I think when you hear and see in these two  
9 days the issues that are before the Commission and the  
10 challenges, the pie is smaller and there's lots of people  
11 wanting a slice of the pie and I think this might give  
12 everyone an appreciation of where the issues are and what  
13 others' perspectives are. If there's views on how the  
14 Commission can deal with that issue amongst the  
15 stakeholders, we certainly would like to hear from you.

16           MR. CAMERON: That's a good closing comment.  
17 Do we have any other comments on the pie issue?

18           Okay. That was a good discussion. Let's  
19 break until ten after ten. That will give you plenty of  
20 time to get coffee and be back.

21                               (Session recessed  
22                               at 9:48 a.m.)

23           MR. CAMERON: Okay. We're going to get to the  
24 two final papers in this arena in a minute. I just wanted  
25 to go over some procedural things for you, to remind those

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1 who have been here and for the benefit of those of you who  
2 are newly arrived.

3           Today there a number of ways to submit  
4 comments on the issues papers and the strategic assessment  
5 process. One, of course, is through the mechanism of this  
6 meeting. Secondly, you can submit hard copies of  
7 comments, and third, you can submit electronic copies  
8 through the Internet and the NRC's home page address is in  
9 your materials. If people need that specifically, I would  
10 ask them to talk to the strategic assessment staff that's  
11 here from the NRC. If you have any problems with that,  
12 let me know.

13           Also on the Internet, we're putting the  
14 transcripts up in all their naked glory, unedited and this  
15 transcript from this meeting will be up as well. The  
16 comment period has been extended to December 2nd. We just  
17 learned that this morning from the Commission. There will  
18 be what's called a stakeholders interaction report that  
19 the staff will prepare from all of the comments, including  
20 the comments at these meetings.

21           That will be presented to the Commission for  
22 use in their decision making process on the strategic  
23 issues and in finalizing the strategic plan. That  
24 document, the stakeholders interaction report, will also  
25 be available to the public and that will also be posted on

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1 the NRC's Web site.

2 Jim, is there any other administrative details  
3 I should mention at this time? Okay. Good. Let's go to  
4 Frank Miraglia for the third paper on decommissioning.

5 MR. MIRAGLIA: Before we leave reactor  
6 oversight, I would like to correct an oversight on my  
7 part. I've discussed two papers thus far and on the first  
8 slide, the writer of each of those papers was identified.  
9 For DSI-10 it was Mike Case, and for DSI-11 it was Michael  
10 Johnson. I wanted to recognize their efforts in that  
11 regard.

12 This is direction setting issue 24,  
13 decommissioning of power reactors. There's a similar  
14 decommissioning paper for materials facilities. I believe  
15 that was discussed yesterday. To complete the reactor  
16 arena, we've talked about new plants, current plants and  
17 these plants ending their life.

18 The Commission has considered decommissioning  
19 power plants for quite a while. In 1986 it promulgated a  
20 rule, specifically to address decommissioning power  
21 reactors. The context of that rule, what was contemplated  
22 at that time, the environment was such at the time that  
23 reactors were thought to operate to the end of their  
24 licensed life and then would be decommissioning toward the  
25 end of that life and the process assumed that five years

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1 before decommissioning plans would be submitted, the  
2 process would proceed.

3           As I indicated a little earlier, we had a  
4 number of premature shut downs over the past three to five  
5 years from the perspective of materials and other  
6 regulatory issues. We had Yankee Row shut down, the  
7 Trojan facility in Oregon, Rancho CECO in California and  
8 the Public Service, Colorado's facility. As a result of  
9 those premature shut downs, a number of issues were raised  
10 in the context of the regulatory infrastructure that had  
11 been established back in 1986. The Commission found  
12 itself having to deal with some of those issues on a case  
13 by case basis.

14           As a result, the Commission's current strategy  
15 has been established in terms of what's been recently  
16 experienced. So this DSI is what should be the NRC  
17 strategy for regulating decommissioning activities at  
18 power reactor sites. There are number of factors that  
19 have changed the environment. We talked about some of  
20 those with respect to the new and the current plants and  
21 some of those factors are also factors of consideration  
22 here for decommissioning of power reactors.

23           Again, the deregulation of the electric power  
24 utilities changed the financial structure and has the  
25 potential to change the financial make up and how electric

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1 utilities receive funds and would use those funds for  
2 maintaining the facilities, and also the rules established  
3 that they had to set up a decommissioning fund. They had  
4 to have certain kinds of funding assurances. Many of the  
5 utilities have those assurances based upon the fact that  
6 they're a regulated electric utility. So there's  
7 potential for that aspect changing. It's certainly a  
8 factor that needs to be examined and considered.

9           Again, we talked in terms of economic factors  
10 that could contribute to utility decisions to  
11 decommission, perhaps earlier or at the end of life.  
12 Economics again is a key. That's been a key for most of  
13 the issues discussed in the last day and a half and that  
14 will persist.

15           Again, disposal sites impact could result in -  
16 -we discussed a little bit of that in the previous issues.  
17 Certainly the disposal of both low level and high level  
18 waste, the availability of waste sites and the issues,  
19 some states have unique issues associated with some of  
20 those, so those aspects can affect individual plant  
21 decision for decommissioning plans.

22           Certainly our experience has been, with regard  
23 to a number of these premature shut downs, that there is a  
24 significant public interest in what happens with the site  
25 and the facility in the areas of power plant

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1 decommissioning. That's an issue that has certainly come  
2 to bear, and we expect that to continue in the future as  
3 well.

4           And the internal, it seems that's a perennial.  
5 We should have had just one chart made up for the key  
6 factor for all our issues. The streamlining and the  
7 budget restraints is certainly an internal factor that  
8 bears on resources and strategies that one needs to look  
9 at in this context.

10           A number of options were considered. As I  
11 said, the Commission has been focused on decommissioning  
12 for quite some time. When it was faced with the premature  
13 decommissionings, it handled it on a case by case basis  
14 and also directed the staff to go back and re-examine the  
15 rules that were promulgated in 1986, to say what are the  
16 lessons learned from these premature decommissionings and  
17 how can we modify and change the rules in such a way that  
18 it would accommodate some of the experiences we had with  
19 respect to these premature decommissionings.

20           I would characterize the current strategy as a  
21 number of rule makings. There's potentially seven or more  
22 potential rule makings at various stages that sort of  
23 embody the current strategy. Like I said, they directed  
24 the staff to go back and modify the 1986 rule based upon  
25 the experiences gained with respect to premature

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1 decommissioning. That rule was published and proposed,  
2 commented on and I believe it became an effective rule  
3 towards the end of August of this year. That part of the  
4 rule making has been done.

5 Another substantial part which was discussed  
6 yesterday is the site decommissioning criteria. That's an  
7 important aspect of decommissioning, not only for power  
8 reactors, but for material sites as well. That's an issue  
9 that certainly needs to be decided in order to make  
10 decisions and estimate economic cost. That rule making is  
11 a participatory rule making and that was discussed and  
12 that's certainly a part of the process that's ongoing.

13 In addition, there's a number of activities  
14 that the Commission is pursuing with respect to the  
15 economic issues, and there's an advanced notice for rule  
16 making that's been published on that, to look at the broad  
17 aspects of what the potential impact on the regulatory  
18 structure is because of economic decommissioning, and in  
19 particular, what does it mean to the assurance of  
20 decommissioning funds. Those are three primary pieces.  
21 There are other pieces within the context of that.

22 The costs of decommissioning are being re-  
23 examined. That's another issue that needs to be dealt  
24 with. Power reactor decommissioning cost estimates were  
25 made a number of years ago. Since the external

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1 environment has changed, it's changed the low level waste  
2 disposal cost. It's potentially changed transportation  
3 cost. The level of clean up perhaps will be established  
4 by the site decommissioning criteria. And so those costs  
5 need to be re-examined. And there's a project and  
6 activity underway within the agency to re-examine a number  
7 of those issues.

8           So the first option is we'd continue with the  
9 current strategy and the planned initiatives by proceeding  
10 with the rule making. There's more than these few that  
11 I've mentioned here. They're in the paper. Some depend  
12 upon completion of other rule makings. So that's the  
13 first option.

14           The second option would be should we pursue  
15 some of these more aggressively. I think ones of the  
16 things we'd like to hear from the stakeholders is, is the  
17 current pace the right pace or are there particular rule  
18 makings that need more focus and attention, and within the  
19 suite of the rule makings here, which ones are more  
20 important in terms of stakeholders' needs and desires.  
21 Give us some feel for which ones perhaps need to be on a  
22 more aggressive schedule.

23           The third option is are we going too fast,  
24 should we slow down in some areas. Some of these  
25 questions are raised in terms of the AMPR on the utility

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1 regulation. Because of those kinds of uncertainty with  
2 respect to the economic deregulation, should we pause and  
3 wait before we change cost estimates to determine what the  
4 environment is going to be. So there's an inter-  
5 relationship of those. So the thought process of the  
6 Committee was maybe that needs to be considered, and that  
7 was an option.

8 In looking at the Commission's preliminary  
9 views, the Commission has directed the staff to proceed  
10 with option one. We need to look for even more innovative  
11 approaches for advancing the strategy in this area. They  
12 went on to say, in looking at these rule makings, to  
13 consider some unique aspects and questions. These are  
14 things that I think we and the Committee and the  
15 Commission would like specific comments from the  
16 stakeholders on some of these thoughts and ideas of some  
17 of these innovative approaches that they discuss in that  
18 option.

19 Transfer of nuclear power plants to agreement  
20 state control after the fuel has been put into dry storage  
21 or has been removed from the site. Should we have a  
22 process that results in that kind of transfer? The  
23 Commission would like thoughts and comments on that.

24 The question of the strategy for using our  
25 inspection resources in terms of resident inspectors at a

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1 site that's being decommissioned, should we have a  
2 resident here, should the resident only be there for the  
3 unique activities or should we have a resident at all?

4           And also asking the NRC to look at  
5 performance-oriented approach to performing the  
6 radiological assessments, the final assessments that take  
7 a performance-oriented approach. There's a very  
8 proceduralized process that has to be gone through in  
9 terms of the number of surveys, the timing of those  
10 surveys and should there just be a performance goal set  
11 for those surveys, have it understood what the goal is,  
12 what the performance measures of acceptability are going  
13 to be and then have the licensees conduct those surveys  
14 and then say they're ready for that final survey. So  
15 that's an issue that they're seeking some additional  
16 comments on.

17           Some of these thoughts and ideas were  
18 discussed to some degree probably during the material  
19 sessions yesterday, but again, if you have specific  
20 thoughts with respect to the power reactor  
21 decommissioning, we'd certainly like to hear your views in  
22 that regard.

23           That's a brief overview of this issue. I'll  
24 turn it back to Chip and to the stakeholders.

25           MR. CAMERON: Thank you for that reminder on

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1 the materials decommissioning paper. One of the things  
2 that's been pointed out to us at other meetings is that  
3 there may be ideas in the materials licensing  
4 decommissioning area that might be profitably considered  
5 for power reactor decommissioning, and vice versa. But  
6 that's a good lead in I think to the overview of this  
7 paper. The options are all related to how aggressively  
8 the Commission should pursue certain substantive ideas in  
9 the decommissioning area. Frank mentioned three of them,  
10 the power reactor decommissioning process rule which is  
11 essentially complete. It is complete.

12 MR. MIRAGLIA: It wasn't complete at the time  
13 the issue paper was written.

14 MR. CAMERON: Okay. Then there's the site  
15 clean up criteria that would apply to reactors and  
16 materials licenses. And that, of course, is a proposed  
17 rule and we have comments in on that, but it hasn't been  
18 finalized by the Commission. And then there's the  
19 economic affects that Frank talked about.

20 So I guess I would open it up to you, not only  
21 on the options about how aggressively we pursue these  
22 ideas, but are there other substantive ideas that should  
23 be considered by the Commission in the power reactor  
24 decommissioning area. Does anybody want to comment or ask  
25 a clarifying question of any kind?

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1 MS. WESTRA: I was wondering if you could take  
2 a few moments to explain the decommissioning process in  
3 those plants where you've had premature shut down, what  
4 kind of regulatory oversight is still in place.

5 MR. CAMERON: Frank, do you want to do that  
6 for us?

7 MR. MIRAGLIA: Sure. As I indicated, the rule  
8 that was in place for decommissioning, the expectation was  
9 that decommissioning would occur towards the end of life,  
10 that five years before there would be a plan developed as  
11 to how that decommissioning would occur, and that plan  
12 would be reviewed and certain activities would be  
13 conducted over a period of time and it would be a more  
14 disciplined type process.

15 What we found, with respect to these premature  
16 plants shutting down before end of life, there was no five  
17 year window for this orderly review. An overall  
18 decommissioning plan was submitted but there were a number  
19 of activities that the licensees could conduct under their  
20 existing license, as an operating license. They could  
21 make changes in the facilities within the regulatory  
22 structure. It is not uncommon for operating plants to  
23 decontaminate and to remove equipment from service, put  
24 new equipment in and improve the facility, so there's a  
25 regulatory infrastructure that's related to the same types

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1 of activities in terms of maintaining and operating the  
2 facility.

3           So under their current license, they could  
4 conduct certain activities. So they would propose to do  
5 certain activities within the constructs of their license  
6 and some of those activities might require an amendment to  
7 their license and some might not. That was an issue that  
8 the new rule tried to put into some kind of context, that  
9 activities that normally could be conducted under an  
10 operating license would be permitted because there is a  
11 regulatory infrastructure that had been put in place in  
12 full consideration of providing reasonable assurance of  
13 public health and safety and the work environment and that  
14 type of issue.

15           The structure of new rule tries to put a  
16 little bit more order and process in it to assure public  
17 participation within the decommissioning process. That's  
18 what the changes in the rule that just became effective  
19 area, is to say that we realize that we might not have the  
20 five year window and that it was to clearly articulate  
21 what type of activities could be conducted within the  
22 context of an existing operating license, what activities  
23 would have await the approval of a decommissioning plan.  
24 Where the staff and the Commission found itself having to  
25 make those decisions on a case by case basis, the new rule

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1 change tries to delineate what that separation is and to  
2 provide for a more orderly process and a more planned  
3 process and to identify where the public can participate  
4 and would be allowed to participate in that process in a  
5 more structured kind of way. That's kind of a result of  
6 the case by case reviews. It was kind of a lesson learned  
7 that's reflected within the activities of that rule that  
8 became effective at the end of August.

9           That rule also indicated one of the things  
10 that we found ourselves in the position of having to  
11 provide license amendments or exemptions to the  
12 regulations because, as fuel was taken from the reactor  
13 and put into the spent fuel pool or systems were cleaned  
14 up to the point where they could remove pumps, they were  
15 not allowed in some cases by their license to remove the  
16 pump, and that was with the premise that they would  
17 continue to operate.

18           The specifications and the license would say  
19 you have to maintain those kinds of activities. So the  
20 Commission found itself in having to do lots of approvals  
21 or exemptions to the regulations because the regulatory  
22 structure was such that you had to maintain those systems,  
23 the facility in such a way for continued operation. So  
24 the rule provides that once a utility declares its intent  
25 no longer to operate the facility, it does say that at

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1 certain stages they're exempted from certain rules and  
2 that's been put within the context of the rule making.  
3 Whereas in the individual case by case things we had to  
4 take specific actions and specific amendments and go  
5 through a more step by step proceduralized process.

6 So I think the regulatory structure is  
7 basically the same and the rules are to assure and  
8 articulates what the licensees can do under the existing  
9 license, what activities they need to describe in the  
10 decommissioning plan and they can't do until that  
11 decommissioning plan is approved. That was an area that  
12 we sort of felt our way through on the four cases that I  
13 talked about. We tried to put some rationale into that  
14 process.

15 That's a long answer and I don't know how  
16 helpful it is.

17 MR. CAMERON: Could you repeat that, Frank?

18 MR. MIRAGLIA: I'll ask the court reporter to  
19 read it back.

20 MR. CAMERON: He always has an answer. Could  
21 you just clarify one thing? What's the first step that  
22 the public has to be involved in the decommissioning  
23 process?

24 MR. MIRAGLIA: It has a number of steps. As I  
25 say, if a licensee is conducting things within its

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1 existing structure and it requires amendments of the  
2 license, that's done within the normal licensing process  
3 with the notices and public notification and they can ask  
4 to participate and provide comment in that kind of  
5 context. So there's that process.

6 The new rule now establishes where that line  
7 is and then what activities have to await the  
8 decommissioning plan. When that decommissioning plan is  
9 submitted, that's noticed and comment is sought at that  
10 period of time. So there's that opportunity for remaining  
11 activities for public participation to occur.

12 So there are a number of instances, depending  
13 on where they are within the decommissioning process. The  
14 decommissioning process is kind of a continuum. Many of  
15 the activities that could serve to decommissioning are  
16 things that utilities have been licensed to do, can do and  
17 are doing on a day to day basis, just within the confines  
18 of the operating license, and there's always been public  
19 participation in those aspects, and changes and amendments  
20 up to that point in time. So where do you declare the  
21 start of decommissioning and initiation of decommissioning  
22 in some kind of context and that's described in the new  
23 rule.

24 MR. CAMERON: Okay. Thank you, Frank.  
25 Heather, does that give you some information on it?

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1 MS. WESTRA: I'm just asking in the case where  
2 you have had to shut a plant down and where waste might  
3 still be on site, is it the utility or the NRC that's  
4 providing regulatory oversight of that waste and making  
5 sure that safety and emergency considerations are still in  
6 effect?

7 MR. MIRAGLIA: The NRC is providing oversight.  
8 What this new rule does and some of the rule makings is to  
9 address the question, what's the degree of some of the  
10 context. When a facility gets to a point where it has,  
11 say, all of the material in the spent fuel pool or in dry  
12 cast storage, it would still possess that material as it  
13 stands right now under an NRC license and it will have NRC  
14 oversight. If it's in a spent fuel pool, it is under the  
15 Part 50 license and the reactor regulations would apply.

16 Internal to the agency we have a memorandum of  
17 understanding with our office of nuclear material safety  
18 and safeguards. At the time all of the spent fuel is  
19 transferred to dry cast storage, it is possessed under a  
20 storage license and the oversight would be by our office  
21 of nuclear material safeguards. One of the questions up  
22 here is should we consider, in agreement state cases, that  
23 we would transfer that oversight authority to the  
24 agreement states.

25 So there's always regulatory oversight of the

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1 material. The activities to decommission have oversight  
2 and fuel has oversight. Right now it's all by the NRC.  
3 One of the thoughts that's expressed up here is should  
4 that authority be given to agreement states, in the case  
5 that there is an agreement state, that the reactor resides  
6 in an agreement state.

7 MR. CAMERON: Okay. Thanks, Frank. Why don't  
8 we keep thinking about these three options. But since  
9 Frank brought it up, why don't we address this preliminary  
10 view about transferring nuclear power plants to agreement  
11 state control. I would like to hear from the agreement  
12 states on this one and I think I have a volunteer.

13 MR. APPEL: Gordon Appel with the Illinois  
14 Department of Nuclear Safety.

15 I don't think very much of the option frankly.  
16 The plant was sited, constructed, licensed and operated  
17 without the regulatory involvement of an agreement state.  
18 So at some point you decide you want to make that our  
19 problem, I just don't think it's a very good option. We  
20 have some experience as an agreement state in having taken  
21 responsibility for NRC licensed sites in the past, that  
22 we've had to spend some time with, most recently in the  
23 past couple of years. And I don't see this as much any  
24 different. I think it would be very unlikely that you  
25 would find an agreement state who was willing to play that

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1 role.

2 MR. CAMERON: That's about as understated as  
3 it gets, too. We appreciate that. I'd like to hear also  
4 from other agreement states on this, but also from the  
5 utility industry about whether they have any views on this  
6 transfer to agreement state control. Do we have any  
7 takers on this from the states?

8 MR. COLLINS: Steve Collins from Illinois  
9 Department of Nuclear Safety but representing the  
10 Organization of Agreement States.

11 Certainly the Organization of Agreement States  
12 feels like Gordon does with regard to being willing to  
13 accept it. But the Organization of Agreement States has  
14 stated on the record already that any such discussion on  
15 whether or not that transfer could occur should not be  
16 amongst NRC but amongst NRC and the agreement states that  
17 would be involved.

18 MR. MIRAGLIA: Chip, might I make a comment?

19 MR. CAMERON: Go ahead, Frank.

20 MR. MIRAGLIA: I think any of these things in  
21 terms of implementation that come out of the strategic  
22 planning and assessment are going to require, in some  
23 cases, as we've discussed, require legislation or rule  
24 changes or any things like that, those would all have to  
25 go through the normal agency processes. So there would be

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1 those rule makings and those processes available for the  
2 stakeholders to participate in the specifics of the  
3 implementation. It's just as a general comment.

4 MR. CAMERON: That's a great comment, Frank,  
5 and one that we should just emphasize is that this is  
6 strategic assessment. The product is going to be, as  
7 Jesse described yesterday, we're going to be preparing a  
8 strategic plan. There's going to be other steps after  
9 that. But specific regulatory or policy initiatives that  
10 come out of this are going to be fed into the normal and  
11 extraordinary public participation process that we have.

12 MR. COLLINS: I think you just covered it for  
13 him, Chip. He had raised my eye a little bit and that of  
14 several other agreement states, as we countered before,  
15 that we don't want to be involved after you've got a draft  
16 rule developed and be commenting on it like everybody  
17 else. We've got to be involved much earlier than that. I  
18 want to make that very clear.

19 MR. MIRAGLIA: That's also within the context  
20 of all the steps to enhance public participation. I think  
21 there's a number of things that have come to the fore  
22 where it says the earlier the better. I think there's  
23 even been suggestions of enhanced participatory rule  
24 making on some of these things based upon comments. So  
25 all of that will be considered. Your comment is well

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1 taken, that early involvement is the best.

2 MR. CAMERON: That was the preliminary view of  
3 the Commission on the public communications initiative.  
4 But let me add, before you add it, that we're always  
5 looking for more ways to involve our strategic partners,  
6 the agreement states early on in the process. So I think  
7 that's your point.

8 We'll go to Gordon and then over to Steve.

9 MR. APPEL: Frank, I just have one question.  
10 In your explanation earlier of the option of transferring  
11 authority to agreement states, the way it is written there  
12 on the view graph it implies that that authority would be  
13 transferred after fuel had been put in dry storage and I  
14 presume the distinction you're making there is dry storage  
15 on the reactor site or removed from the reactor site. But  
16 in your discussion you seemed to also include as part of  
17 that option a situation where fuel would be just moved to  
18 pool storage and then such a transfer would be made. I  
19 just want you to clarify that.

20 MR. MIRAGLIA: The intent would be transfer  
21 from wet to dry.

22 MR. APPEL: Okay. Thank you.

23 MR. MIRAGLIA: Regardless of whether it's on  
24 site or in a dry storage somewhere else.

25 MR. CAMERON: Okay. That's an important

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1 clarification. Steve Crockett?

2 MR. CROCKETT: Let's assume for the moment  
3 that NRC licensing has created a problem for the state.  
4 If I've understood the comments so far, IDNS would not be  
5 anxious to inherit the problem. But I'm a little puzzled  
6 by that, and perhaps in your comments you could tell me  
7 why you wouldn't be anxious to be in control of the  
8 solution.

9 MR. APPEL: I can answer that pretty easily.  
10 Being in control of the solution without having availed of  
11 the resources in order to affect an appropriate solution  
12 doesn't do much for the agreement state. It's one thing  
13 to say here's the authority to regulate this, and it's  
14 another thing to say and oh, by the way, we expect you to  
15 find the wherewithal to do that on your own. And that's  
16 effectively what has happened in some other instances, and  
17 we'd prefer not to repeat that.

18 MR. CAMERON: I think that was a good  
19 question. I guess the assumption that you're making,  
20 Gordon, is probably a reasonable assumption, that this  
21 type of transfer would not be accompanied by the resources  
22 to be able to do this effectively. But I think it was a  
23 good point, that that's the issue. It's not that the  
24 state isn't concerned about it being done effectively or  
25 overseeing it, but the fact is that the resources wouldn't

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1 be there.

2 MR. APPEL: It's not simply a matter of  
3 resources. It's a matter of involvement in the process,  
4 too. There are two aspects. One is the way I read that,  
5 it's we'll transfer the fuel and then we'll give  
6 regulation of this site to the agreement state and NRC  
7 brushes their hands off and then comes around and reviews  
8 our agreement state program and says you guys are not  
9 regulating the decommissioning of that reactor properly.  
10 That's a humorous example, but frankly it's not too far  
11 fetched. So there a lot more aspects under consideration  
12 here than simply a matter of resources or simply a matter  
13 of NRC deciding to unload its regulatory responsibility on  
14 agreement states.

15 Don't interpret my remarks to mean that  
16 agreement states are not concerned about how things are  
17 done and how plants are decommissioned in the agreement  
18 states. Any acceptance of such an authority like that  
19 would have to have a great deal of discussion related to  
20 how the agreement state would be supplied with resources  
21 to do it and what the constraints would be in the future  
22 on what they decided to do.

23 MR. CAMERON: Great. I think that's a fuller  
24 explanation of the view on that issue. We're going to go  
25 to Jim from the state of Ohio. I would like to get the

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1 industry perspective on this issue, too.

2 MR. WILLIAMS: Jim Williams from the State of  
3 Ohio.

4 I would comment to the NRC, please don't let  
5 the nuclear power plant decommissioning issue cloud the  
6 issue of the non-reactor facilities in terms of the  
7 decommissioning process. As a state that has ten or 12 of  
8 those in the process of being dealt with now, in the  
9 remediation role, those don't need to be passed down to  
10 the state in much the same way as Gordon is saying, that  
11 the nuclear power plants don't. The state wasn't involved  
12 in controlling the problem when the sites got  
13 contaminated, and the state doesn't need to be expending  
14 resources to remediate the problem after the NRC passes  
15 that on.

16 In many cases, NRC currently has decision  
17 making power, authority to have sites who become  
18 contaminated through an off site process, even to seek  
19 license. That authority somewhat is well vested currently  
20 at the national level, where perhaps handed down to a  
21 current agreement state or a state seeking to be an  
22 agreement state, that would have less of an impact.

23 I think that in many cases, where EPA is  
24 involved with mixed waste in some of these sites, it's  
25 probably better handled on a federal agency to federal

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1 agency interface than it is from a state agency to a  
2 federal agency interface where the state would have to be  
3 dealing with the EPA in terms of some super fund  
4 activities or site remediation.

5           So there's a lot of issues out there. I know  
6 of high visibility as the new nuclear power plant  
7 decommission part of this issue, but it goes far beyond  
8 that in terms of non-reactor facilities.

9           MR. CAMERON: Thank you very much. We'll also  
10 fold that into the materials licensing decommissioning  
11 area.

12           Do we have any industry views on the  
13 Commission's transfer of nuclear power plants to agreement  
14 state control?

15           MR. SWANK: Dave Swank, Washington Public  
16 Power.

17           I also share the states' concern. Certainly  
18 of the 29 agreement states, I would hazard to guess that  
19 15 to 20 of them have nuclear power plants. I know in our  
20 state we have the only operating plant. So the state  
21 would be required to come up to speed on the  
22 decommissioning requirements and regulations. They would  
23 have to either train their people or hire trained people  
24 for the sole purpose of decommissioning one nuclear power  
25 plant.

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1           Looking across the industry, as a single  
2 plant, that's a little bit different. But Oregon, with  
3 the Trojan plant, would be required to do the same thing.  
4 I'm sure there are examples of other states that have one  
5 or two plants. It doesn't seem like an efficient use of  
6 resource and expertise to try to distribute that among 15  
7 or 20 states, when the staff can continue to oversee that  
8 process. So from a fiscal point of view, I don't see the  
9 benefit of doing that.

10           MR. CAMERON: Good comment. Anybody else on  
11 this particular issue? Kristin?

12           MS. ERICKSON: Kristin Erickson, Michigan  
13 State University.

14           Although we don't have a reactor of our own,  
15 I'm going to comment on this both from the point of view  
16 from reactors in our states, because I do have some  
17 interaction on those things, and from the point of view  
18 from the broader decommissioning issues.

19           With this issue, the idea of taking it from  
20 the NRC and then giving it to the states, it appears to be  
21 like the college students who get a kitten or a puppy and  
22 then want to give it up when it becomes a problem. This  
23 is not a good idea to do that.

24           Going back to our initial initiatives and what  
25 we're looking at in this whole meeting, we're looking at

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1 public involvement and public trust again. I think there  
2 needs to be a tremendously enhanced public participation  
3 long ahead of time, even to the agreement states being  
4 consulted long before they just hear it in a meeting like  
5 this.

6 In the decommissioning rule itself, there are  
7 some parts of that that are just flat out unwieldy in the  
8 view of us big university broad licenses. Right now, in  
9 fact, I just recently called our region and discussed it  
10 at length with Kevin who went to headquarters and got back  
11 to me and then I routed it through the grapevine, the part  
12 about if after two years you haven't used a building then  
13 it should be decommissioned. Well, in a license like  
14 ours, it's absolutely impossible.

15 We have buildings that will go -- maybe we  
16 have 50 researchers in a building and they one by one stop  
17 using radioactives, yet they continue other research.  
18 Well, if that continued for two years under the current  
19 rule, would that mean that we would then have to  
20 decommission that building and then add it back to our  
21 broad license? Which negates the whole underpinnings of  
22 the broad license. Well, their interpretation was that  
23 that wasn't exactly what it meant, although it's still a  
24 little hazy.

25 The other part we ran into that presented a

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1 problem and was another gray area in the rules as they  
2 exist was the building we decommissioned, even though it  
3 wasn't being torn down completely, it was totally gutted,  
4 but there was nothing but the bricks and the frame  
5 remaining. All the ventilation, the plumbing, everything  
6 taken out and renovated. Well, it wasn't written in such  
7 a way that it fell within decommissioning, but because  
8 that was what we truly ended up doing, we worked with NRC  
9 and wrote a little plan, monitored the whole thing and  
10 reported afterwards.

11           Now, just that one case on our license, you  
12 just cannot imagine the amount of time that it took our  
13 office in meeting with people who are involved in the  
14 process who were public. That was the physical plant  
15 people who moved things, it was the janitors and the other  
16 people who are interacting with the process but yet who  
17 don't handle the rads and don't understand them.

18           And then in the end, of course, there are the  
19 contractors who take possession of the building. We had  
20 it so clean that we actually left not one single DPM of  
21 contamination anywhere in the building, at great expense  
22 to myself and my staff. It was worth doing, but somehow  
23 some grad student at the end had one little tiny rad label  
24 in the wastebasket and it was like a bunch of cattle  
25 bawling at the door. It was a real problem.

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1                   Now, in the bigger picture with reactors  
2 themselves in our state, I get calls. Even when it is or  
3 is not decommissioned, I have someone asking their  
4 cattle are ill because they live 30 miles upwind of the  
5 reactor. We have a lot of huge public concern and a lot  
6 of what I would consider old wives tales, paranoia,  
7 misinformation. I think there needs to be a lot of work  
8 done on that in any reactor decommissioning before it goes  
9 forth and again down on the smaller scale on our license.

10                   I think the rules could be clarified and there  
11 needs to be some kind of a threshold, again written and  
12 established just like we're talking about doing with other  
13 parts of radiation regulation because right now, once  
14 again, we're looking down at every little single DPM of  
15 every single little isotope until and unless we get  
16 permission and agreement with the NRC to do it otherwise.  
17 This takes a lot of time for both ourselves and the NRC.  
18 Thank you.

19                   MR. CAMERON: Thanks, Kristin. We could  
20 discuss this more when we get to non-reactor  
21 decommissioning. But for some of our sites we are  
22 undertaking a broad public education move to alert people  
23 to what the decommissioning issues are. But I think we  
24 can get into that. I wanted to get into the question of  
25 whether we think that the NRC utility licensees are

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1 housebroken yet, going back to your first comment about  
2 the puppy. Tom, I won't put you on the spot. David wants  
3 to talk on that one. Okay. Mal, did you want to say  
4 anything in regard to Kristin's points?

5 MR. KNAPP: Only that a number of them are  
6 very well taken and the last paper this afternoon will be  
7 on materials decommissioning, and some of the things you  
8 suggest are either options or variance of options. I'm  
9 sort of saying I'd like everybody to stay around towards  
10 the end so we can hear your views on that one.

11 MR. ANGER: My name is Ken Anger and I'm with  
12 Com Ed. We are a major stakeholder in this issue, since  
13 own 13 power reactors that will eventually need to be  
14 decommissioned.

15 Com Ed believes the overall direction set in  
16 this issue is appropriate, but that some of the  
17 intertwined rule makings in progress affecting this topic  
18 should be brought to closure as soon as possible so all  
19 the requirements are known and stable. In essence, we're  
20 in favor of option two as presented in this paper.

21 The paper discussed three major rule makings  
22 in progress, the first being the recent issuance of the  
23 decommissioning rules and Com Ed encourages the NRC to  
24 promptly issue its set of guidance documents on  
25 implementation of the new rule, such as reg guides and

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1 standard review plans so the intent of the rules is  
2 commonly understood.

3           With respect to the second rule making under  
4 consideration concerning decommissioning funding  
5 assurance, Com Ed submitted its comments on the advance  
6 notice of proposed rule making in June of this year, and  
7 we'll be providing additional comments on this topic where  
8 it overlaps with the NRC's draft policy statement on  
9 industry restructuring and deregulation. The thrust of  
10 our comments to be provided on the draft policy statement  
11 is that the NRC should take on a special role with the  
12 various economic regulators as an advocate for measures  
13 that will assure the industry's ability to bear the  
14 financial cost of decommissioning in light of pending  
15 deregulation and industry restructuring.

16           And finally with respect to the three possible  
17 approaches that might be concerned up on the view graph,  
18 the last one having to do with enhanced performance-  
19 oriented approach, Com Ed supports this and believes it  
20 would be in the best interest of the NRC and its  
21 licensees.

22           MR. CAMERON: Thank you very much, Ken. That  
23 was right on, on the issues. How about anybody else?

24           MR. MIRAGLIA: Chip, there are a number of  
25 other activities that are discussed within the confines of

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1 the issue paper in terms of potential rule makings and  
2 staff activities. There's views as to the prioritization  
3 and the need for those in the aggressive stance. If those  
4 comments could be submitted to the record, those would  
5 also be helpful.

6 MR. CAMERON: Okay. That's a good reminder.

7 MR. MIRAGLIA: That's what the Commission is  
8 looking for with respect to this issue.

9 MR. CAMERON: Anybody else? Roger.

10 MR. HUSTON: Just moving to the last couple of  
11 items that are up on the slide, I just wanted to make a  
12 comment. I think they're related, and they're related in  
13 that what we're talking about here is dismantlement,  
14 cleaning up, returning a facility or returning a site to a  
15 condition in which it can be used for other purposes.  
16 Radioactivity on that site does provide something to pay  
17 attention to, but the fundamental activities that are  
18 ongoing are not high technology and they're not high risk,  
19 especially by comparison with reactor operation. So we  
20 would suggest that it is not something that's appropriate  
21 to devote resources, in terms of a resident inspector.  
22 Oversight can be provided through regional inspection as  
23 it has been in the past.

24 And again, consistent with the fact that it is  
25 basically a straight forward operation, is going to have

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1 unique circumstances in many cases. It's very difficult  
2 to anticipate what all those unique circumstances are up  
3 front, and as long as there's a requirement for a very  
4 detailed evaluation of the process, you can get into  
5 situations where the circumstance is not exactly  
6 accommodated and now we've got to spend a lot of time and  
7 effort on both sides of the regulatory table dealing with  
8 it.

9           It would seem that that can be dealt with  
10 quite readily by moving towards a performance-oriented  
11 approach, saying we're going to have a general oversight  
12 of the process but it's not a high risk process and once  
13 we get to the end of it, we'll see where we are, we'll  
14 have performance standards that can be measured and can be  
15 met and as long as we meet those standards we can declare  
16 the process done.

17           MR. CAMERON: Thanks, Roger. Just for the  
18 record I would indicate that Roger was talking about --  
19 his points were on the last view graph on the Commission's  
20 preliminary views.

21           MR. MIRAGLIA: With respect to the last issue  
22 on performance based approaches, that means that we have  
23 to have some clear performance measures to shoot for. So  
24 in the context there's thoughts and ideas of what those  
25 performance goals and measures would be, that would be

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1 useful to the staff and the Commission as well.

2 MR. CAMERON: That's a nice lead into our next  
3 paper which is the risk-informed, performance-based paper.  
4 Themis Speis who is the deputy director of our office of  
5 nuclear regulatory research is going to present that paper  
6 for us. And we also have the writer of the paper with us,  
7 Tom Hiltz from NRR.

8 MR. SPEIS: Thank you, Chip. Again DSI-12  
9 deals with the risk-informed, performance-based  
10 regulation. Chip already introduced the author of the  
11 paper, but there he is. He's here for both moral support  
12 and real support. He did most of the work so I'm very  
13 happy that he's here with us today.

14 Before I get into the issue itself and some of  
15 the factors, the options and the Commission's preliminary  
16 views, I would like to say a few things as background for  
17 this issue. The idea of using risk and risk insight to  
18 improve the regulatory process is not, of course, a new  
19 one in our agency. Probably most of you know that since  
20 the early 70's, the NRC has expended a large amount of  
21 resources to develop PRA technology, especially in the  
22 application arena.

23 And in fact, if I were to recite some of the  
24 important milestones in developing and applying risk and  
25 PRA technology by NRC, some of you recall the 1975 1400,

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1 the first reactor safety study to look in a systematic way  
2 at the risk associated with the operation of a nuclear  
3 power plant. Later on the NRC sponsored the study to look  
4 at the risk associated with the operation of five nuclear  
5 power plants. That was done ten or so years later, and  
6 were able to include quite a bit of new information that  
7 had been accumulated between the 1400 study and this new  
8 study.

9           Of course, the many successful applications of  
10 PRA methods and insights to several regulatory activities  
11 during the 70's and 90's, which provided a valuable  
12 complement to the more traditional determination of  
13 engineering approaches that we use in our licensing and  
14 regulatory processes. Among these applications have been  
15 the back fit rule, the Commission's policy statement on  
16 severe reactor accidents regarding future designs in  
17 existing plants which led to the IPE. That's the  
18 individual plant examination program which was a plant  
19 specific PRA that looked for plant specific  
20 vulnerabilities.

21           Another use that has found extensive  
22 application at NRC was to use the techniques to prioritize  
23 and resolve many generic issues. In fact, many of those  
24 so called generic issues, because of their low risk  
25 importance, never materialized into either rule making or

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1 into any other requirements. But some of the generic  
2 issues, as a result of PRA, became rules, like the station  
3 blackout rule, the anticipated transient without scram  
4 rule.

5 This brings me to the more recently  
6 promulgated policy statement by the Commission in 1995 on  
7 the use of probabilistic risk assessment methods in  
8 nuclear regulatory activities. In this policy the  
9 Commission stated that, quote, "the use of PRA should be  
10 encouraged, and the scope of PRA applications in nuclear  
11 regulatory matters should be expanded, to the extent  
12 supported by the state of the art methods and data."

13 Along with the policy statement there is  
14 companion document which Frank also discussed earlier.  
15 This is the so called PRA implementation plan which  
16 describes, monitors and tracks the progress of risk  
17 informed activities throughout the agency, in all the  
18 offices of the Nuclear Regulatory Commission.

19 The next view graph shows the DSI itself. You  
20 should note that the phrasing of this contains the words  
21 expanding the scope. These words reflect the continuing  
22 NRC emphasis to use risk insights where appropriate, to  
23 enhance our safety decision making, to reduce unnecessary  
24 burden, and of course, to improve staff efficiency.

25 The DSI paper itself is meant to provide an

1 umbrella type approach of how we consider how fast and how  
2 far the agency moves in implementing risk informed,  
3 performance based approaches. We also recognize, and the  
4 paper addresses this explicitly, that there are  
5 differences in the regulations and the regulatory  
6 approaches between the materials and the reactors  
7 activities.

8           In the paper we draw some distinctions and  
9 recognize that the how far is probably going to be an  
10 implementation issue of the overall strategic policy, and  
11 therefore, how far we go and what areas are more amenable  
12 to risk informed, performance based approaches will be  
13 identified during the implementation phase of this DSI.

14           For those of you who have read the DSI, you  
15 see that we have attempted to define the various concepts,  
16 for example, risk informed, performance based. Hopefully  
17 those definitions will provide some clarity and context  
18 for understanding the direction the Commission may finally  
19 decide on this strategic issue. So it will be very  
20 important if you people provide us written comments on  
21 your views of those definitions. Also there's a  
22 discussion about regulatory coherence. This emphasizes  
23 the Commission's desire to insure that when we proceed  
24 towards more risk informed, performance based approaches  
25 we do so in a coherent way, and there are two pages of

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1 discussion about this in the paper itself.

2 Let me say a few things now about the next  
3 view graph, about the key factors that will affect how far  
4 and what will be the scope of this risk informed,  
5 performance based regulation and how we enter into this  
6 new arena.

7 The external factors are listed there. You  
8 can see that we are not the only organization that is  
9 interested in risk informed, performance based approaches.  
10 As late as 1955, Congress was considering legislation  
11 concerning risk assessment. In fact, it passed the House  
12 but it never made it to the Senate, but I think it will be  
13 taken up again in this new Congress.

14 Congressional and Executive requirements  
15 regarding regulatory reform, changes in international  
16 standards and advances in understanding risk and the  
17 biological effects of radiation may also affect  
18 deregulation of the nuclear industry.

19 The next external factor that is listed there  
20 is standard setting organizations. Standard setting  
21 organizations will also play a key role and may influence  
22 the transition to a risk informed, performance based  
23 regulation. Translations between dose and risk usually  
24 use international consensus factors.

25 The next factor that is listed is federal

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1 agencies, and in particular, the Environmental Protection  
2 Agency is going to influence how fast and how far we  
3 proceed. Most of you know that we at NRC have found  
4 ourselves at odds with some of the approaches and we have  
5 had difficulties in dealing with EPA on many issues. We  
6 put together a paper on risk harmonization to help explore  
7 ways to harmonize risk goals and to develop mutually  
8 agreeable approaches for risk assessment methodologies, to  
9 assess radiological risk. Those discussions are  
10 constantly going on and maybe Mal has discussed this  
11 already or maybe he will talk more about it this  
12 afternoon.

13           The nuclear industry will play a role in both  
14 the reactor and the materials area. In the reactor area,  
15 commercial nuclear power plant utilities and industry  
16 organizations are using risk insights to identify and  
17 reduce unnecessary burdens. In the nuclear materials area  
18 there's a less demand for regulatory change based on risk  
19 insights than in the reactor area, even though that was  
20 challenged last week in Colorado Springs. So we'd like to  
21 hear your views about what we perceive to be your views in  
22 this area. In some instances the nuclear materials  
23 industry may not be supportive of risk informed,  
24 performance based initiatives due to perceived high cost,  
25 impact on small number of licensees and possibly little

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1 perceived additional safety benefit.

2 And finally the public, the public will likely  
3 play a substantial role in the transition to risk  
4 informed, performance based regulation. It's important  
5 that, in order to maintain public confidence, the basis  
6 for and the implications associated with risk informed,  
7 performance based regulatory approaches should be well  
8 defined and easily understood. This issue also was  
9 discussed earlier by Frank Miraglia.

10 Some of the internal factors, internal to NRC,  
11 I have listed the nuclear materials initiatives. The  
12 Commission's decision on the future role and scope of the  
13 NRC's nuclear materials program will potentially affect  
14 the priority and scope for pursuing risk informed,  
15 performance based approaches in this area.

16 I already mentioned the Commission's PRA  
17 policy statement. Performance based regulation is not at  
18 this time an explicit element of the policy statement, so  
19 depending on the Commission's decision for proceeding to a  
20 risk informed, performance based regulatory approach,  
21 activities associated with PRA implementation plan will  
22 have to be refocused and staff resources may be redirected  
23 in this area.

24 Finally the issue of defense-in-depth is very  
25 important because the Commission has recognized, from its

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1 early days, that reliance for safety should not be placed  
2 on any single element of design, construction, operation,  
3 maintenance, training or other activity associated with  
4 nuclear facilities or the use of nuclear materials. So  
5 our current regulations are generally deterministic and  
6 were constructed around this concept of defense-in-depth.  
7 So therefore, a key element of the transition to risk  
8 informed, performance based regulation will be to maintain  
9 defense-in-depth for risk informed, performance based  
10 approaches by appropriately balancing deterministically  
11 based and risk informed and performance based requirements  
12 so that defense-in-depth is not compromised.

13           There are also policy and legal issues  
14 associated with introducing risk informed, performance  
15 based approaches. Some of them, of course, are related to  
16 how we're going to insure compliance. With that, I would  
17 like now to go to the options. The Steering Committee  
18 recommended to the Commission four options.

19           The first option is continue the current  
20 process which basically is described in the PRA  
21 implementation plan. The current process is responsive to  
22 industry initiatives in reactor related areas. We are  
23 working with industry to develop pilot projects in a  
24 number of areas, and that will be very important in  
25 setting up the transition to the risk informed,

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1 performance based approaches. These areas that we're  
2 working on are in service inspection, service testing of  
3 pumps and valves, graded quality assurance and technical  
4 specifications.

5           Again, I said already that there is no wide  
6 spread industry demand to consider risk informed  
7 approaches in many of the nuclear materials area. So if  
8 we are to include this area in a substantial way, similar  
9 to the reactor area, then we have to do quite a bit of  
10 homework. We have to develop a frame work similar to the  
11 one we have developed for the reactor area and of course,  
12 the most important, we have to see that the people out  
13 there in the materials area are interested in using these  
14 techniques and these insights to address issues associated  
15 with the materials area.

16           The next option, option two, is to more  
17 vigorously assess the relationship to public health and  
18 safety. In essence, this is a little bit similar to the  
19 current process but it uses a higher threshold in insuring  
20 that the issues that we pursue are more related to public  
21 health and safety and thus, this option is more narrowly  
22 focused on option one and applies a higher threshold for  
23 pursuing activities associated with risk informed,  
24 performance based regulation.

25           Option three is the more aggressive of the

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1 four options. This option calls for performing a  
2 comprehensive assessment of NRC regulatory approaches.  
3 This option would involve, as I said, a comprehensive  
4 review of regulations and regulatory processes in both the  
5 materials and reactor area to determine areas that could  
6 be improved through risk informed, performance based  
7 regulatory approaches. The agency priority for activities  
8 would be established based on consideration of the  
9 cumulative impacts on safety, burden reduction and  
10 efficiency.

11 Finally the last option would be to consider  
12 risk informed, performance based approaches primarily in  
13 response to stakeholder initiatives. This option is the  
14 most responsive to stakeholder interest. The agency would  
15 determine for new initiatives the priority and scope in  
16 applying risk informed, performance based regulatory  
17 approaches through consideration of stakeholder demand and  
18 ease of implementation.

19 Of course, the paper itself goes into some  
20 details about the options, about the pluses and minuses.  
21 So for those of you who are interested in this issue, it's  
22 important to read the paper in some detail. With that, I  
23 would like to get to the Commission's preliminary views.

24 As you can see, the Commission re-emphasized  
25 some of the concepts and goals of its policy statement

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1 which is that in order to accomplish the principal mission  
2 of the NRC in an efficient and cost effective manner it  
3 will, in the future, have to focus on those regulatory  
4 activities that pose the greatest risk to the public. The  
5 Commission supported aspects of options one and three.  
6 Basically it went along with option three, but they told  
7 us to see how some additional areas can be incorporated  
8 into the PRA implementation plan.

9           Also they want the staff to go through a very  
10 detailed review of the basis for nuclear materials  
11 regulations and processes and identify and prioritize  
12 those areas that may be amenable to risk informed,  
13 performance based approaches. They want the staff to go  
14 forth and develop a detailed frame work paper for applying  
15 PRA to the nuclear materials area, similar to the ones  
16 that we have developed for the reactors area.

17           Finally the Commission is particularly  
18 interested in public comments on how NRC should deal with  
19 dual regulation when applying a risk informed, performance  
20 based regulatory philosophy.

21           So with this brief overview and summary, I  
22 think there is substantial time left for questions. Some  
23 of them have already been brought up earlier in the  
24 discussions on Frank's paper but both Tom and I will be  
25 here to address any additional questions.

1 MR. CAMERON: Thanks, Themis. As you can see,  
2 this paper is an extremely important one because it talks  
3 about a fundamental approach to the regulatory frame work,  
4 not only in the reactor area, but also in the materials  
5 licensing area. We're been talking about areas of low  
6 risk throughout the past day and a half.

7 What about the Commission's preliminary views  
8 on this? Do we have someone who wants to start us off  
9 with any comments on this particular paper and the whole  
10 idea behind risk informed, performance based approaches?

11 I might note that Themis talked about various  
12 concepts being defined in the paper in order to provide  
13 context and clarity for comments on the paper, and I guess  
14 I also would ask, have we provided enough context and  
15 clarity on this particular issue?

16 Anybody have a comment? Roy?

17 MR. WHITE: Roy Wight from the Illinois  
18 Department of Nuclear Safety.

19 We're very much in favor of the initiatives  
20 that you've taken towards risk informed inspections.  
21 There are, however, some areas that we need to talk about,  
22 and that is that it's imperative that the process meet  
23 established standards, that the practices and the  
24 standards are clearly delineated and thought about before  
25 they're used in regulation.

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1           With the guidelines and standards once in  
2 place, then you can probably require that those who want  
3 to use PRA for regulation be required and maintained at  
4 specified levels of accuracy and completeness and  
5 currency. Much as to move into performance based  
6 regulation, you need to make certain that your assumptions  
7 that the design basis is known, current and maintained  
8 also. So those are two areas of standards and guidelines  
9 that need to be clear and enforced before those items are  
10 used to regulate the industry.

11           MR. CAMERON: Before we go to you Steve, let  
12 me just ask, Themis, is that clear, what that was?

13           MR. SPEIS: That's a very apropos comment. In  
14 fact, I mentioned already that as part of the pilot plant  
15 effort in the four areas that I mentioned, in service  
16 testing, in service inspection, graded quality assurance  
17 and risk informed tech specs, we're developing standards  
18 and guidance to help clarify and facilitate the use of  
19 both the staff and the industry. Of course, this will go  
20 out for public comment. It will be looked at carefully by  
21 our auditing committees, the ACRS and the public and we  
22 are moving in this area very deliberately, and it's very  
23 important that the public and the people who will be using  
24 the technique and applying them understand the rules and  
25 the uncertainties and all the issues associated with them.

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1 We appreciate that comment.

2 MR. CAMERON: Thank you.

3 MR. COLLINS: Steve Collins with Illinois  
4 Department of Nuclear Safety, representing the  
5 Organization of Agreement States.

6 One of the things in the non-reactor area that  
7 we want to make sure occurs in this is, because the  
8 agreement states regulate more than two-thirds of all the  
9 materials licenses, we want to be involved early as your  
10 strategic partners in coming up with what direction you  
11 may have on this particular type of technique and  
12 evaluating things.

13 We have particular concerns with regard to two  
14 major areas, decommissioning projects that are currently  
15 underway or far along in the licensing process. We  
16 wouldn't want that interrupted or sent back to ground zero  
17 when we're nearly finished with a good decommissioning  
18 plan due to some new technique or some technique that was  
19 used where it was felt appropriate. And also we wouldn't  
20 want this to any way adversely affect the current  
21 licensing process for any of the low level reactive waste  
22 disposal facilities in the country.

23 MR. CAMERON: Thank you, Steve. Themis and  
24 Mal, on the last one, do you guys have any comments or  
25 questions on Steve's point?

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1 MR. KNAPP: Certainly in materials, as we move  
2 in this direction, we'd like a lot of public involvement.  
3 As I mentioned yesterday, there's such a broad range of  
4 materials licensees that the decisions will not be simple  
5 and there will be different decisions for different  
6 classes of licensee. Frankly, from my viewpoint it's a  
7 complicated subject and I would like all the public input  
8 we can get as we move in that direction.

9 With respect to low level, arguably there's a  
10 lot of risk informed, performance based work in the  
11 existing regulation and the last thing we want to do is  
12 disrupt progress that's being made by agreement states or  
13 anybody else in developing sites.

14 MR. CAMERON: Thanks, Mal. I guess I have one  
15 question for the NRC staff related to both Steve's comment  
16 and Mal's comments.

17 We talked a lot about applying or looking for  
18 the high risk, low risk areas in particular activities,  
19 for example, medical regulation. In terms of generic  
20 activities, and by that I mean development of PRA  
21 implementation or a policy on risk informed, performance  
22 based, these types of generic approaches, what is the  
23 mechanism or the vehicle that we're going to be using to  
24 get agreement state and public comment? Do you have any  
25 information on that?

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1 MR. KNAPP: I don't think we're really that  
2 far along, to tell you the truth, Chip. If you look at the  
3 first bullet here on this slide, we should perform a  
4 thorough review of the basis for the materials regulations  
5 and processes.

6 We're just beginning to get into that. We  
7 haven't really laid out a game plan, so we're not in a  
8 position to say anything except that it will be a big  
9 chunk of work and I'd be looking for public involvement.  
10 But at this point, this is sort of a direction we're  
11 taking. It's a preliminary view. We really won't be  
12 moving in this direction until and presuming the  
13 Commission does make its final view corresponding to the  
14 preliminary view.

15 MR. CAMERON: At least in terms of materials  
16 regulation at a minimum. Any other things to add on that?

17 MR. SPEIS: I said already that everything  
18 we're doing in this area is capturing the PRA  
19 implementation plan.

20 MR. CAMERON: I just want everybody to know  
21 that if you're looking to that activity in the Commission  
22 that is focused on this at this point, as Mal pointed out,  
23 there's things that are developing but right now it's the  
24 PRA implementation plan.

25 MR. SPEIS: Yes.

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1 MR. HILTZ: I might add that we recently added  
2 a line item to the implementation plan that dealt with  
3 reviewing and evaluating the results from the IPE's, to  
4 help identify higher risk activities where additional  
5 actions or considerations may need to be given.

6 Also in the context of higher risk activities,  
7 many of the pilot applications don't distinguish a high or  
8 low. It is more a higher and lower risk activities. Then  
9 the burden reduction is consistent with that relative  
10 ranking of higher or lower risk.

11 MR. CAMERON: Okay. IPE for the uninitiated?

12 MR. SPEIS: Individual plan examination.

13 MR. CAMERON: The idea here is that the  
14 individual power reactors, that's the connection that  
15 you're talking about.

16 MR. HILTZ: They have completed the IPE's.  
17 The staff has completed its evaluation or is nearing  
18 completion of its evaluation of the IPE's and in the  
19 process of developing and finalizing a new reg which  
20 discusses the insights that have been gained from the  
21 IPE's. How we consider those insights is a recent  
22 addition to the PRA implementation plan, to help identify  
23 any generic implications for higher risk or lower risk  
24 activities.

25 MR. CAMERON: I take that the implementation

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1 plan, is that publicly available?

2 MR. HILTZ: Absolutely. It's updated  
3 quarterly.

4 MR. CAMERON: Okay. Great. Any comments?

5 MR. DORUFF: Mark Doruff representing Amer sham  
6 Corporation and counsel of radio-pharmaceuticals.

7 The first thing I'd like to say is that the  
8 perception that materials licensees do not want risk  
9 informed, performance based regulation is not accurate.  
10 Manufacturers of radio-pharmaceuticals and other  
11 radioactive products including sealed sources in research,  
12 life science, radio-chemicals, medical licensees and the  
13 research community have concerns that many radioactive  
14 materials regulations are unnecessarily prescriptive  
15 rather than risk informed and performance based.  
16 Prescriptive regulation has historically resulted in  
17 overly conservative requirements that have taxed licensee  
18 resources that could be more effectively employed in other  
19 areas concerning radiation protection of employees and of  
20 the public.

21 Another particular concern is the problem of  
22 duplicative prescriptive regulation. This is part of the  
23 rationale for the previously expressed opinion that a  
24 single independent advisory body is needed to promulgate  
25 risk informed, performance based standards for regulation.

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1 As a result we prefer option three which proposes a pro-  
2 active aggressive option for moving toward risk informed,  
3 performance based regulation and includes materials  
4 licensees in the scope of applying this approach.

5 We also are appreciative that option three  
6 states that it would likely intensify efforts to resolve  
7 issues associated with dual regulation. We think that's  
8 another area of particular concern for our industry.

9 MR. CAMERON: There's a couple of things I'd  
10 like to follow up with the rest of you in terms of what  
11 Mark said. One is he gave an example of why risk informed  
12 approach or performance based approach might be better  
13 than a prescriptive approach. I guess I'd like to hear  
14 from anybody else on the pros and cons of the performance  
15 based approach versus the prescriptive approach.

16 The other thing that Mark said flags a comment  
17 or concern that the Commission wanted to specifically hear  
18 comments from all of you on, is how NRC should deal with  
19 dual regulation in applying a risk informed, performance  
20 based regulatory philosophy. When we go back to that,  
21 Mark, I may have you amplify on, at least what you meant  
22 by dual regulation, what context you were using that in.

23 How about pros and cons of prescriptive versus  
24 performance based regulation.

25 MS. ERICKSON: We have been regulated both by

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1 the prescriptive determinings, low threshold approach  
2 where any radiation has to be regulated exactly to the  
3 letter of the law, with almost no shades of gray,  
4 everything very black and white. We are now also  
5 currently in our own program and in something in a pilot  
6 thing with the NRC, working on more of a performance  
7 basis. I can contrast both because I've been in the  
8 office for over ten years under both regimes, if you would  
9 put it that way.

10 Under the deterministic approach we spend  
11 tremendous resources in our staff, both dealing with the  
12 NRC and out on our labs. We survey and inspect  
13 approximately 800 labs a year, approximately 3,000 surveys  
14 a year, inspections, not only contamination, but all of  
15 the other parts of the regulation, security and postings  
16 and labeling and it just goes on and on. Under the  
17 deterministic approach we have to find every single little  
18 thing, find everything in the room and is it perfect or is  
19 it not. So that the user, so to speak, then would have  
20 500 things labeled correctly, for example, and if number  
21 501 wasn't, bang, you're in violation. Now what incentive  
22 is that for them to do a good job? How does that work  
23 with us? It's again that little mixed message I talked  
24 about.

25 Now, under our newer license and some of the

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1 changes in our license in the recent years, we were  
2 directed by NRC to come up with a risk classification  
3 scheme, which at that time I understood that no licensees  
4 had been asked to do it yet, because we were one of the  
5 first broad licensees in our region to renew with these  
6 criteria.

7           So we worked hard in our office and with our  
8 radiation safety committee and with a little input from  
9 the NRC, we came up with a scheme of classifying isotopes  
10 first by radio toxicity and then by amount on hand. And  
11 then put together a safety program based on that.

12           More recently we changed our surveys that same  
13 way, looking at performance rather than exact findings.  
14 It's been a really, really good thing. It saves times.  
15 It saves the users in the labs time. It has increased a  
16 positive attitude and a pro-active attitude towards safety  
17 at the user level in our labs, also with the NRC in our  
18 own safety management office, because we have more time to  
19 spend on real issues, find the problems and deal with  
20 those problems or build new programs, become aggressive in  
21 streamlining and making things more user friendly so the  
22 real safety is there and the real time can be spent on  
23 issues where you need to spend the time and not on menial  
24 little things that are no risk at all.

25           We also did that at our Cyclotron where we

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1 have levels of risk that range from no risk at all for  
2 some workers in the building to a moderate risk if a  
3 person were to enter an area they shouldn't, to a higher  
4 risk where, for example, the operators go right into the  
5 Cyclotron pit and pick up very hot parts with actual heavy  
6 external radiation exposure potential. And how were we  
7 going to do that? Again, we elected to go with a tiered  
8 approach, low, moderate and high risk categories. We tied  
9 the training to that, we tied the badges to it and we have  
10 our whole programs tied to these levels.

11 I suggest that the NRC, together with  
12 licensees could implement some similar kind of approach,  
13 but to do it they would first have to do this  
14 comprehensive assessment. They would need to look at  
15 scientific findings and there are tons of those that give  
16 you a good solid basis for establishing some sort of  
17 threshold, working together with licensees in looking at  
18 the different programs where it's been successful and you  
19 can see the results in a very short time. Those could be  
20 used as a pilot. Those also could be used as a model, and  
21 an incentive for other licensees to try to model their  
22 programs in a similar way.

23 As far as dual regulation, it could be said  
24 that the licensees who have this performance program and  
25 it's working very well and it is easy to gauge, we have

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1 dose records and all kinds of other things to document  
2 that it works, those could be used and put forth to other  
3 licensees who could then say, you people would be under  
4 the new regs, performance based and you're not tied to  
5 such strict things in the interim. Phasing licensees over  
6 time into something like this I think could be a real  
7 positive step.

8 MR. CAMERON: Great. Thanks for that,  
9 Kristin. We're going to go to Betty. You raised an  
10 interesting issue in terms of dual regulation. I guess  
11 I'm still having difficulty understanding what dual  
12 regulation is. Are we talking about dual regulation  
13 between the NRC and another agency or perhaps in the way  
14 you've used dual regulation which was a system where  
15 you're still using prescriptive standards but you're  
16 phasing in risk based performance standards. So I think  
17 we need to try to clarify this. Betty.

18 MS. JOHNSON: What I think is the most  
19 important thing that has to be put in all of this is the  
20 more rigorously assessed relationship to public health and  
21 safety. There she's talking about tons of examples.  
22 There are tons of examples where there have been damage  
23 and that has to have the primary emphasis. It's all right  
24 to have your risk and performance based and all of those  
25 things, but they must be based on the public health and

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1 safety, working with Department of Health, local and state  
2 and the Environmental Protection Agency.

3 That has been the problem in the past, a huge  
4 problem. I think you've got to have that as your primary  
5 focus, then these other things can follow.

6 MR. CAMERON: Thank you very much for that,  
7 Betty. I think that we're going to go to Mark. Perhaps  
8 he's going to amplify on dual regulation.

9 MR. DORUFF: I think I can cite good example,  
10 that highlights both the problems with dual regulation and  
11 prescriptive regulation and involves the application of  
12 the EPA to radio-nuclear emissions and the methodologies  
13 that are prescribed in EPA regulations to support what  
14 data are plugged in their comply code.

15 The issue is that there's a problem with dual  
16 regulation that NRC and the agreement states have their  
17 standards for limits on effluence and ultimately the dose  
18 to the off site public which is obviously of very critical  
19 concern.

20 But at the same time, the EPA in their  
21 methodology for assessing release, and one example is the  
22 method for conducting regiments for effluence for radio-  
23 iodines states that you must use a sodium iodide detector  
24 as part of your gamma analysis to measure the effluence of  
25 radio-iodine, whereas in facilities such as a radio-

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1 pharmaceutical manufacturing facility where you may emit  
2 small amounts of radio-iodine, you may also have to be  
3 concerned with other nuclides and it's really impractical  
4 to use a sodium iodide type detector in that type of  
5 application.

6           There are other solid state detectors that can  
7 high resolution and high sensitivity abilities that will  
8 enable you to do a much better job of not only detecting  
9 other nuclides, but also more accurately measuring them.  
10 That's one example that I can cite where prescription in  
11 how you do things is counterproductive not only to wasting  
12 of resources in industry and in the regulators, but also  
13 it's counterproductive with regards to public health and  
14 safety.

15           MR. CAMERON: Thanks, Mark, for that  
16 amplification on it. Anybody else on the dual regulation  
17 issue? Is this the issue that this tension between -- and  
18 not necessary in a negative sense -- but this tension  
19 between the EPA's regulatory regime, the generally  
20 applicable standards and the NRC regime, that that can  
21 exacerbate the move towards the use of performance based  
22 standards by the NRC if the EPA is still in a prescriptive  
23 mode. I sort of got that out of Mark's comment.

24           MR. SPEIS: Let me say something. There are  
25 two sides to the story. When we use risk insights, when

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1 this technology is explored by two agencies, they might be  
2 able to see things eye to eye eventually because they are  
3 looking at the same data, the same issues. But then on  
4 the other side, depending on what standards are set, what  
5 safety goals, it might fall apart right there, if an  
6 agency uses different safety goals than another agency,  
7 then even though they have the same views and they reach  
8 the same conclusions from the technical information and  
9 data, that might not be enough. But then it's also  
10 possible that by looking at the same data and reaching the  
11 same technical conclusions then it might be easier to  
12 reach the same goals, the same safety goals.

13 So that's the hope, that by looking at the  
14 issues technically and exploring the same information that  
15 it might be easier to facilitate agreements.

16 MR. CAMERON: That's a good point, Themis, in  
17 terms of trying to get to harmonization.

18 Does anybody in the audience, including NRC  
19 staff, have any more that they want to add on the dual  
20 regulation business?

21 MR. KNAPP: I do have a question. I think I'd  
22 like to ask Mark more than anybody else.

23 What we've been batting around for the last  
24 few minutes has to do with some of the difficulties, say,  
25 with respect to environmental releases, where EPA sets

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1 generally applicable standards and the NRC is responsible  
2 for implementing those. Those of you who are students of  
3 the interaction know that we have burned a lot of  
4 resources of the two agencies and tried very hard to  
5 reconcile the differing views. I think, Mark, you may  
6 have given us a good example of a problem with this  
7 difficulty of dual regulation.

8 I was curious while you have told us about the  
9 difficulty in dual regulation, you also advocate a  
10 different standard setting group than the NRC, and I'd be  
11 looking for any suggestions as to how you could have a  
12 different standard setting group and while you're at it  
13 avoid the problems that we seem to face when we work with  
14 EPA as a different standard setting group. Do you have  
15 any thoughts on that?

16 MR. DORUFF: I think that to go to risk  
17 informed, performance based regulation you need to have  
18 standards that are uniform, whether you're talking about a  
19 number of different agencies enforcing regulations in the  
20 same area, in this case, radioactive materials, I think  
21 you need to have some independent body that is in a  
22 capacity to establish standards that one agency can use in  
23 a number of different areas, whether it's for ground water  
24 contamination or airborne releases.

25 And at the same time you need to have a single

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1 set of standards to be used by a number of different  
2 agencies. I think you need to have the standards  
3 established before you can really effectively implement a  
4 risk informed, performance based set of regulations.

5 Does that answer your question?

6 MR. CAMERON: I guess I have a question, and  
7 this may bring in Themis and Tom. In this area when you  
8 talk about standards, are you talking about something like  
9 the scoping criteria that were included as an appendix to  
10 this paper? What are you talking about in terms of  
11 standards? I'm not just putting this on you. What are we  
12 talking about in terms of standards for performance based,  
13 risk informed generally? And there's sort of two  
14 different concepts there. Are there any independent  
15 bodies that are working on these types of standards? Do  
16 you want to explain what you mean by standards?

17 MR. DORUFF: Some examples that I can put  
18 forth would be with regard to the comply code of three  
19 million rem per year to an off site member of the public,  
20 dose from radio-iodine; ten for total other nuclides. And  
21 then there's the NRC standards for off site dose which is  
22 100.

23 But then you can look at different pathways  
24 for how an individual would receive that, whether it's  
25 from airborne contaminants or whether it's from direct

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1 external exposure to radiation from a facility. With  
2 regard to the clean up criteria, then you have standards  
3 of 15 milli-rems is the standard currently in the proposed  
4 rule and then the EPA has an additional four milli-rem per  
5 year from water. This is an example where you have  
6 varying different standards that really all involve the  
7 same concern which is doses to the public from either  
8 operating nuclear facilities or from residual  
9 contamination after clean up.

10 MR. CAMERON: You're talking about dose  
11 standards and your comment today about independent  
12 standard setting groups is basically the comment that you  
13 made yesterday that we had a discussion about. I guess to  
14 sort of juxtapose something with that, is there any  
15 validity to this idea of standards, not dose standards,  
16 but standards related to the use of risk informed,  
17 performance based regulation?

18 MR. SPEIS: Let me say something. There are  
19 many facets to this. In the reactor area an important  
20 standard will be to prevent accidents. Here, what was  
21 discussed previously, was what is an acceptable or  
22 unacceptable dose or risk. Of course, the ultimate thing  
23 is to prevent accidents and to prevent the release of  
24 radioactivity. But in working within the frame work of  
25 preventing accidents, you can set goals under the

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1 liability of systems or components. In essence, that's  
2 what the risk informed performance means. We have the  
3 measurements rule, for example, which sets goals for  
4 systems and components and these goals are either  
5 reliability or availability.

6 If you meet them, then you reduce the  
7 probability of accident. Those goals or those performance  
8 measures can be derived either from operational  
9 experience, from statistical data or by calculating them.  
10 And that is the difficulty of entering this area of risk  
11 informed performance, especially the later part, the  
12 performance based where you have to set performance  
13 measures.

14 Again, we don't have enough experience to be  
15 able to set performance measures on everything. That  
16 experience can either be analysis or statistical  
17 information. That's why we're moving very slowly. We  
18 have done this for the maintenance rule. We have revised  
19 one of our regulations dealing with leakage of  
20 containments.

21 And the testing now is done based on good  
22 statistical information instead of being prescriptive as  
23 it was previously. So therefore, we're moving very slowly  
24 and deliberately in those areas till we have information  
25 that is robust, either from analysis or from experience.

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1 That's the preventive side of the risk informed,  
2 performance based approach.

3 MR. CAMERON: Thanks, Themis. That may be  
4 sort of an answer to the concern that Betty Johnson raised  
5 earlier.

6 Let's go to Glen Kelley and then I think we'll  
7 probably be going to lunch.

8 MR. KELLEY: There's an aspect associated with  
9 using risk informed, performance based regulation that  
10 deals with the certainty that the regulator has over how  
11 good the numbers are and how good you can really depend on  
12 what the information is that you're getting out of the  
13 process.

14 In nuclear power plants there's a reasonably  
15 good data base across the industry for lots of material;  
16 however, there are areas we don't have a good data base,  
17 for example, if you had to deal with an area such as  
18 reactor pressure vessels under pressurized thermo-shock.  
19 It turns out we have a very poor data base and it's very  
20 difficult to determine, using a probabalistic risk  
21 assessment, it was hard to characterize exactly what the  
22 risk was, except by taking very conservative evaluation.

23 In the medical field, I would expect that  
24 there's much less data available that would allow you to  
25 sit down and say what are the risks involved and you

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1 probably could not use the similar type of risk assessment  
2 analysis, simple PRA's that you've used. You have to go  
3 to some other kind of methodology like a go-code or some  
4 other kind of method that would have to be developed  
5 because regular PRA's probably aren't well suited for that  
6 measure.

7           There's another area that's a problem and that  
8 is we are, as an agency and all federal agencies, we're  
9 going to be allowed to take less and less information from  
10 those that we regulate in the future. If we're going to  
11 improve on our understanding of risk at the power plants  
12 or medical facilities, etcetera, if we're not allowed to  
13 take additional information or we have to cut back on the  
14 information, that's going to cause us an additional  
15 problem.

16           So these are areas that we're going to have to  
17 deal with and perhaps, Themis, you can talk a little bit  
18 about how we can overcome some of these areas, the lack of  
19 being able to gather the information or the problems  
20 associated with we don't have good methods for calculating  
21 risk in the other non-nuclear power plant fields.

22           MR. SPEIS: I just want to repeat what I said,  
23 that we are moving very deliberately and we want to insure  
24 that we don't lose defense-in-depth. Probably health and  
25 safety is the bottom line. But if you look at the paper,

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1 when we define performance based we say that there are at  
2 least four key elements. The last one says that failure  
3 to meet the performance criteria must not result in  
4 unacceptable consequences. So we have to look at the  
5 data, we have to look at the information and when we do  
6 PRA's we have to do uncertainty analysis. We have to  
7 include the human element, the organizational element and  
8 take all these things into account. That's why we're  
9 moving very deliberately. We still feel that there are  
10 pluses and it's important that all of us move forward,  
11 taking all the cautions into consideration, still take the  
12 minuses and pluses, which are still very important.

13 Mal, maybe you can say something about the  
14 medical area.

15 MR. KNAPP: You might argue, in fact, in a  
16 number of materials areas we have an easier job than you  
17 do in reactors. If we were to calculate risk, you're  
18 absolutely correct, it would be the classic PRA. On the  
19 other hand, in reactors they're looking at probabilities  
20 and consequences, high consequences of low probability  
21 events. In materials they tend to be rather low  
22 consequence, relatively high probability events, where we  
23 have buckets of experience because of the thousands of  
24 licensees out there.

25 So although it would be a different kind of

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1 risk informed work, it might be pretty doable. We do have  
2 a reasonable amount of information on that from our  
3 licensees and from the agreement state licensees.

4 MR. CAMERON: I'm going to go to Betty Johnson  
5 and George, do you want to follow up on Mal's comment?

6 MR. PANGBURN: Just to say that I think a lot  
7 of our experience base in this area is going to be  
8 improving through the nuclear materials events data base  
9 where we'll be pulling information about events, both  
10 medical and other materials, from the agreement states and  
11 from NRC licensees. I think we will be challenged to  
12 develop a risk base on this. I think we're going to have  
13 to work closely with the state.

14 MR. CAMERON: Thanks. That's good  
15 information, George. Betty, did you want to make one last  
16 comment?

17 MS. JOHNSON: I can't get into the whole thing  
18 but I do know that nuclear power plants, one particular  
19 one that I know of, when they are changing fuel the  
20 radiation monitors are turned off. They don't know what's  
21 being released and that's when a lot is released. And  
22 some other things that are related to that. So you don't  
23 always know. You've got to be sure that your basis is  
24 correct.

25 MR. CAMERON: Thanks for re-emphasizing the

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1 point that you made earlier.

2 Kristin, can we go to you for a last brief  
3 comment?

4 MS. ERICKSON: My last brief comment is that I  
5 don't know if we're maybe hitting the obvious in the face,  
6 but we already have a couple of things in the regs that  
7 actually are performance and they're very, very good. One  
8 is the requirement for personnel monitoring, likely to  
9 receive greater than ten milli-rem. That one is a good  
10 one.

11 The other one is the new training, instead of  
12 the horrid old one which was prescriptive. If you're in  
13 the area you have to be trained unless you're escorted.  
14 The new one says if you're likely to receive greater than  
15 100 milli-rem. It says likely to receive. Now, that's  
16 performance. So a poor licensee might have to badge  
17 someone with a lot less and a good licensee might have to  
18 badge almost no one. So those are there already and  
19 they're working.

20 That, along with the incident records that we  
21 all have to keep, those are all some excellent sources of  
22 data with licensees that are doing this risk analysis all  
23 the time already. So those things could help when NRC and  
24 all of us address this issue.

25 MR. CAMERON: Thanks, Kristin. That was a

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1 good discussion. Let's be back at 1:10. That gives you  
2 over an hour for lunch. 1:10 we'll start with low level  
3 waste.

4 Thank you.

5 (Session concluded

6 at 12:07 p.m.)

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A-F-T-E-R-N-O-O-N P-R-O-C-E-E-D-I-N-G-S

(1:13 p.m.)

MR. CAMERON: The papers are in the back of the room. Okay. So if you didn't have a chance to pick them up, they're on the table back there. And the fees paper, the Financial Management Arena, is in the room next door for anybody who wants to listen to that.

(Short pause.)

Okay, everybody. We're going to get started with our discussion of the next strategic arena. And before we get into a presentation by Mal Knapp on low level waste, and I might add that Mal is the Deputy Director of our Office of Nuclear Material Safety and Safeguards.

And he is the sponsor of the three papers that we're going to be discussing this afternoon. And again, we'll proceed with a presentation on low level. We'll have a discussion. We'll go to high level. We'll have discussion. And then we'll finish up with decommissioning.

And then, Jim Milhoan will have a few short words for you at the end of those sessions. I did get one request from the staff though on the risk informed session. And we don't have the slide in front of us, but one of the Commission's preliminary views was, staff

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1 should proceed in the direction of enhancing the PRA  
2 Implementation Plan. And Themis Speis and Tom Hiltz just  
3 requested that either today at some point, and I'll give  
4 you an opportunity to do that, or in your comments, they  
5 would appreciate any suggestions you might have on what  
6 areas may be amenable to treatment. Under the PRA  
7 Implementation Plan, I think we had someone this morning  
8 that talked about, or said that the PRA Implementation  
9 Plan addresses the soft, so-called soft issues. We should  
10 have it address the so-called hard issues. Any comments  
11 along those lines would be useful.

12 But we're going to get into low level waste  
13 now, because I think we have a lot of interest in this  
14 paper. So I'm going to ask Mal to come up and present it.

15 DR. KNAPP: I guess my first question might  
16 almost be to ask Steve Collins how many times he's heard  
17 this paper. I think you may have heard it enough that you  
18 could give the talk as well as I can.

19 I want to be sure to thank Jim Kennedy, the  
20 author of the paper. Although I'm down as the sponsor for  
21 the ones you'll hear this afternoon, each of the authors  
22 was the principal contributor, and they deserve credit for  
23 a lot of the good ideas, the original thinking you see  
24 here.

25 This issue paper has to do with low level

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1 waste and the issue is, what should be the role and scope  
2 of NRC's Low Level Radioactive Waste Program. This paper  
3 comes up at least in part because something in the  
4 neighborhood of two years ago, in response to budget  
5 constraints, the NRC reached a point where in the waste  
6 management areas, one of its programs had to be set aside.  
7 Reluctantly, we chose the Low Level Waste Program.

8           And if we had followed the course, or if we do  
9 follow the course originally intended, the program, which  
10 was at about a dozen or so full-time staff two years ago,  
11 is now somewhere close to five, maybe a little bit higher  
12 than that, would be zeroed out by the end of the century.  
13 That's not to say we wanted to do it. It was simply an  
14 alternative, recognizing that we had principal efforts in  
15 other areas, such as high level waste, uranium recovery  
16 and decommissioning. But in the low level waste area,  
17 most, if not all, of the work was going to be done by the  
18 Agreement States, as has been mentioned earlier in these  
19 two days.

20           We still have considerable misgivings about  
21 this direction, and so we went to the Commission for  
22 further guidance. And we did that about a year ago. And  
23 at that time, the Commission said, this should be  
24 considered as part of our overall strategic assessment as  
25 we look at the risks and the resources for the agency as a

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1 whole.

2           The key factors associated with this issue.  
3 First, as I mentioned a moment ago, virtually all of the  
4 new low level disposal facilities are expected to be  
5 located in Agreement States. And at this time, we  
6 certainly don't expect to receive an application to the  
7 NRC from a non-Agreement State within about the next five  
8 years. We recognize that a problem with siting and  
9 developing a low level waste facility anywhere in the  
10 United States has been the lack of broadly based public  
11 acceptance. In virtually every case, there have been  
12 considerable segments of the community that simply opposed  
13 disposal of low level waste in their area.

14           Another factor, though, is that arguably we do  
15 not have the pressure to dispose of low level waste that  
16 we did, say, 16 years ago, when the original Low Level  
17 Waste Policy Act was created, or five years later when it  
18 was amended. The principal difference is that we have the  
19 Barnwell Site, which is open to all states but one, for  
20 about the next eight and a half years.

21           And our experience with the sites has been  
22 that when they were closed to more than one state,  
23 Michigan is the case in point, for about five years, the  
24 generators were required to store their waste. But we  
25 were not aware of any difficulties of substance that that

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1 seemed to work. So the alternatives of disposal and  
2 management are available today more than they were.

3 And finally, as I mentioned earlier, the Low  
4 Level Program has already been reduced in response to  
5 streamlining and cost reduction efforts within the  
6 government.

7 On this base, we provided the Commission with  
8 six alternatives. The first, assume a greater leadership  
9 role in the national program. Leadership in the national  
10 program, not just the NRC Regulatory Program. We would  
11 say that, for example, that the safe use of nuclear  
12 materials implies their safe disposal. And the NRC has an  
13 obligation, without taking a position on the use of  
14 nuclear materials, to say that it is necessary that if  
15 they are used, they be disposed of safely, and we should  
16 move forcefully in this country to develop new low level  
17 waste disposal capacity.

18 We might do other things if we were to take on  
19 such a leadership role, but we would attempt to try to  
20 help the nation move ahead with low level waste disposal.  
21 I would note that as you see these options, when we get to  
22 the next issue paper on high level waste, you will see  
23 some similarities. So you may think in your comments are  
24 there consistencies or inconsistencies among the options  
25 that you might like to talk about.

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1           The second alternative, assume a strong  
2 regulatory role. In many ways, this would be a return to  
3 the NRC program of two years ago before it began to reduce  
4 it. We would have more technical development than we now  
5 have. We would have more public involvement. We would  
6 provide more guidance, and we would do more research.

7           The third alternative is to retain the current  
8 program. We would probably not phase the program out in  
9 this alternative, but we would reduce it to the legal  
10 minimum, the minimum that the Congress requires the NRC  
11 do.

12           Fourth option, recognize progress and reduce  
13 the program. Argue that we do have a site open in  
14 Barnwell. We have other sites in Washington and in Utah.  
15 That storage seems to be a viable option until more siting  
16 is developed. And that although the Low Level Waste Act  
17 may not have worked as originally intended by the authors,  
18 in fact progress is being made. And the NRC should reduce  
19 its program and change its emphasis to maintenance of  
20 existing sites and ensure that they are being properly  
21 regulated.

22           The fifth option, transfer the program to EPA.  
23 What would be the basis for this? Well, EPA already  
24 regulates the Whip Site for transuranic waste in  
25 New Mexico. They regulate a bunch of RECRA sites. Could

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1 well be that states and others would find that EPA would  
2 be more effective as a regulator than the NRC in this  
3 area.

4 Last option, accept assured long term storage.  
5 NRC has long held as a matter of policy that what  
6 radioactive waste can be disposed of safely, and that it  
7 should be disposed of rather than stored indefinitely.  
8 However, the argument has been made that a disposal site  
9 is a very difficult thing to license because of public  
10 concerns.

11 And that the public would be more comfortable  
12 with a long term storage concept. This would be storage,  
13 say, by a state agency for an indefinite period. It would  
14 be a centralized storage facility which would be  
15 maintained so that the state and the public could watch  
16 it. And the facility might well be built in such a way  
17 that if, in time, it was felt that it could be converted  
18 to disposal, that would be a possibility. This is  
19 advocated as one way to solve the low level waste problem,  
20 and so we wanted to put this up as an option for you to  
21 consider.

22 From these options, the Commission selected  
23 the second, assume a strong regulatory role. This would  
24 return us to where we were in low level waste before we  
25 began the reductions. We have a couple of areas in which

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1 the Commission would particularly like comment.

2 Recognizing that low level waste is not simply  
3 disposal, but it involves handling, processing, storage,  
4 occasionally recycle, should the NRC take a view towards  
5 some sort of uniform consideration of the risks involved.  
6 Rather than to look at these events separately -- excuse  
7 me, these activities separately, should we look at them  
8 together and ask if there are changes in one which would  
9 reduce the overall risk from all these activities.

10 The second question is, how should the NRC  
11 address unauthorized disposal. Some folks call that  
12 midnight dumping. Is there anything in particular that we  
13 should do or that we should be concerned about in that  
14 area?

15 Those are the issues and the views. And I'll  
16 now turn it over to Chip to hear what you think.

17 MR. CAMERON: Okay. Why don't we get right  
18 into views on the options generally, whether you think the  
19 factors have been identified correctly, views on the  
20 Commission's preliminary views in this area. Does anybody  
21 want to start us off on this? Gordon?

22 MR. APPEL: Well, like Mal noted at the  
23 beginning of his talk, he knows that we know what he was  
24 going to say. And I think that Mal knows what we're going  
25 to say because we have said it time and time again in

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1 writing to the Commission on this particular subject.

2           It is no surprise to Mal or anyone in the  
3 Commission that Illinois' view on the NRC's Low Level  
4 Waste Program is that, frankly, we don't find it helpful  
5 and we think that the option, and I can't remember -- can  
6 you put the options up? The option number four is really  
7 the direction the Commission should take.

8           The first three options really, in our view,  
9 are options that are unnecessary and unhelpful, at least  
10 to us in terms of siting and eventually regulating a low  
11 level waste disposal facility. Some examples of that lack  
12 of assistance, in my view, are things that the staff has  
13 pursued over the past couple of years that I think in the  
14 end don't help clarify any real low level waste issues,  
15 but simply largely act as impediments to states doing  
16 their job.

17           The first is the branch technical position on  
18 low level waste performance assessment. We don't think it  
19 was needed. We don't think it ends up providing any  
20 useful information for the states to use. And then on top  
21 of that now, there is the contemplation by the Commission  
22 and Advisory Committee on Nuclear Waste of a 10,000 year  
23 compliance period for low level waste, which, to us, is --  
24 we just don't understand why, first of all, anyone  
25 believes that that's something that can be somehow

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1 certified.

2 And secondly, of what utility is it to anyone.  
3 It tends to imply a warranty to the American public that  
4 somehow we understand that for the next 10,000 years these  
5 facilities will not release radionuclides in amounts in  
6 excess of the regulatory limits.

7 Now, I know that that is not what the staff  
8 describes that to be, but that is what everyone else in  
9 the world will interpret it to be. Part of the 10,000  
10 year and the performance assessment low level waste  
11 positions, in my view, are artifacts of what I think is an  
12 easy trap to fall into. I think that NRC staff in some  
13 ways is falling into the trap of what I call the  
14 transcendentalism of computer modeling.

15 And that's where because it is a convenient  
16 and comfortable thing to do to do computer modeling, that  
17 that's the principal line of evaluation that is pursued.  
18 And it is pursued for its own ends and it is pursued at  
19 the expense of efforts to try and make empirical  
20 observations about low level waste disposal systems.

21 And I don't think I'll belabor that point  
22 anymore, because I just think that it is -- the efforts on  
23 the part of NRC in the low level waste area, though may be  
24 well meaning, I don't think are helping anyone try and  
25 develop a low level waste disposal facility.

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1                   And with that, probably someone else has  
2 something that they'd like to say on the subject.

3                   MR. CAMERON: Gordon, hold on to that for a  
4 minute, because Mal may have some questions for you. And  
5 I would just thank you for being specific about an option  
6 and also backing it up with some specific examples on  
7 that, too.

8                   You want to say something?

9                   MR. APPEL: Let me continue. I'm sorry. This  
10 slide also contains a couple of things that I think are  
11 particularly bad ideas. Transferring Low Level Waste  
12 Program to the EPA is a bad idea, much like transferring  
13 material oversight or related things to the EPA is a bad  
14 idea. Our view of the concept of assured storage is less  
15 than positive. I think it is an effort by some folks in  
16 the DOE community mostly to try and solve the problem of  
17 low level waste disposal by calling it something other  
18 than disposal.

19                   And I just think that's inappropriate, because  
20 what they are proffering as a storage facility looks like  
21 a disposal facility, costs as much as a disposal facility,  
22 would have to be licensed like a disposal facility, and I  
23 don't understand what the difference is.

24                   And there is one point -- I can't remember the  
25 actual point, but if you could go to the slide of the

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1 Commission's views. There's something there I'd like to  
2 address, too. Oh, it's this question of how should NRC  
3 address unauthorized disposal. Is NRC somehow aware of  
4 the occurrence of unauthorized disposal of low level waste  
5 in states or compacts? We certainly are not in the  
6 Central Midwest Compact. And I was just wondering where  
7 that question comes from.

8 MR. CAMERON: Okay. That's -- Mal, if you  
9 could try to address Gordon's last question as well as the  
10 other points that I think you were going to ask him about.

11 DR. KNAPP: All right. If I miss a couple,  
12 catch me up because there were two or three things we need  
13 to talk about.

14 First, with respect to your concerns about the  
15 branch technical position and the 10,000 year. I very  
16 much appreciate hearing those. As you've said, we are  
17 aware of those, and I think your points are well taken.  
18 And how that'll finally come out, I don't know, but we do  
19 hear you.

20 You raise a question in terms of NRC program  
21 that I'd be very pleased to hear about, and you may want  
22 to think about this a little bit. If we go to a minimal  
23 program, say the minimum the law will have us do, I'm not  
24 quite sure how we would define that program. But, for  
25 example, let's talk about the maintenance of a regulation.

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1           We've got a low level waste rig out there.  
2 But things happen. We learn a little more about health  
3 physics. Maybe somebody passes some EPA standard. The  
4 regulations, if allowed to sit on the books and not be  
5 changed and tweaked from time to time, can become pretty  
6 unhelpful. A comment as to whether or not our minimal  
7 program that you advocate should have at least enough to  
8 do the maintenance would be worthwhile. Let's continue in  
9 that theme.

10           Technology changes. I'm not sure that -- did  
11 you say transcendental computerism? I like the term.  
12 That's great.

13           MR. APPEL: The transcendentalism of computer  
14 modeling.

15           DR. KNAPP: Right. I'm glad we have a  
16 transcript. I'm going to use that phrase. I'm troubled  
17 by that, too. And I have found it difficult sometimes to  
18 decide when we were making significant improvements in our  
19 understanding of the state of the art and when we were  
20 into transcendental computer modeling. But the fact is,  
21 we would ask -- I would ask, to what extent should the NRC  
22 put out some resources in the Low Level Waste Program to  
23 stay up with technology or be near the forefront.

24           Now, I appreciate that the last thing we want  
25 to do is destabilize Agreement States who are developing

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1 sites. On the other hand, if we find a fatal flaw  
2 somewhere in our understanding, that's something -- the  
3 question is to what extent should we be on the lookout for  
4 that? If somebody is working on radionuclide transport or  
5 on this that or the other, on inventories in low level  
6 sites, in a minimal program, we would probably spend  
7 relatively little activity keeping an eye out for a fatal  
8 flaw in the current regulatory scheme.

9           The last question on the same issue. As  
10 probably most of you are aware, an issue was raised on  
11 Ward Valley a couple of years ago, where the National  
12 Academy of Science was trying to reach a decision that had  
13 to do with plutonium, and they asked the NRC some  
14 fundamental questions about the development of our  
15 national regulation. We were able to answer those  
16 accurately and in a timely way by virtue of having staff  
17 around who had some of that historical knowledge. Some of  
18 the things about going to a minimal program could very  
19 possibly reduce the number of people able to answer those  
20 questions.

21           So, while I'm not sitting here trying to make  
22 an argument for a program of one size or another, if, in  
23 your final comments, when you talk about a program, if you  
24 would look at it from various aspects, such as keeping the  
25 regulations current, keeping an eye on developing

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1 technology, being in a position to help an Agreement State  
2 if they -- or the National Academy of Science -- if they  
3 run into a technical problem. Are these the kinds of  
4 things that you would see us doing in a minimal program,  
5 or are there more or less? That would just help the  
6 Commission.

7           Now, with respect to your question on  
8 awareness of unauthorized disposal, I think if it occurs,  
9 I think all of us become aware of it about the same time  
10 within days of each other. I'm not even sure I'd  
11 necessarily call it unauthorized disposal. We might in  
12 some cases call it unauthorized loss of control. A bank  
13 in Alaska repossesses a truck and it turns out that it's a  
14 radiographer's truck and he's got two cameras in the back  
15 of it.

16           We're not aware of any incidents. I think  
17 what the basis for this question is, it was a Commission  
18 question directed to the -- for the staff to ask for  
19 public comment. And I think the basis is, in recognition  
20 of the fact that there have been extended periods of  
21 storage, that there may be extended storage in the future,  
22 is there a concern within the public about unauthorized  
23 disposal? Are people aware of problems that we're not  
24 aware of? Are people concerned that we not be handling  
25 them well? We think things are in reasonably good shape,

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1 but we wanted to ask if we have agreement on that.

2 MR. CAMERON: Okay. Gordon, do you want to  
3 respond to any of Mal's questions?

4 MR. APPEL: Yeah. On the scope of the  
5 program, I do think the NRC's efforts relative to  
6 answering the questions on plutonium in the case of  
7 California was an appropriate activity. I, of course,  
8 think that since all of our -- all of the Agreement States  
9 who are in the process of licensing such facilities base  
10 their rules on NRC's rules. I also think that obviously  
11 that needs to be maintained.

12 I guess the aspects of the Low Level Waste  
13 Program that are most problematic to us as an Agreement  
14 State trying to do that job are the efforts that tend to  
15 preempt our own activities. When there is some  
16 prognostication on the part of the low level waste staff  
17 or a contractor to NRC in the area of low level waste  
18 relative to the ultimate performance of a low level waste  
19 facility, whether it's genericized or not, when that  
20 happens in advance of our own views or analysis or it  
21 happens in such a way that the time frame is so far in  
22 advance of what we're doing, that it throws the question  
23 to that issue rather than what it is we're trying to  
24 resolve at the moment.

25 Those are the activities that are most

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1 problematic.

2 DR. KNAPP: Thank you.

3 MR. APPEL: And on the question of  
4 unauthorized disposal, we are not aware of unauthorized  
5 disposal of low level waste being an issue in either  
6 Illinois or Kentucky.

7 DR. KNAPP: I think that's all we were looking  
8 for.

9 MR. APPEL: Okay.

10 MR. CAMERON: Okay. Gordon, before we go to  
11 other people on this, and I think the colloquy between the  
12 two of you has been very good in terms of really focusing  
13 this whole strategic issue. You see some things the  
14 Commission could do in the low level waste area that are  
15 beneficial, but they wouldn't fall within the --  
16 necessarily fall within the greater leadership role, the  
17 stronger regulatory role, or even perhaps the current  
18 program role, but you do see some things that could be  
19 done that would be valuable, but you also see a number of  
20 specific things that really sort of not preempt -- I  
21 forget the word you used -- preempt the states, but make  
22 things problematic for you.

23 MR. APPEL: Yeah. That's correct.

24 MR. CAMERON: Okay. Let's go to you, Thor.

25 MR. STRONG: My name is Thor Strong. I'm with

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1 the Michigan Low Level Radioactive Waste Authority. I  
2 agree with a number of comments that Gordon made. The  
3 degree to which I don't share his perspective may in part  
4 be because Illinois is an Agreement State and Michigan is  
5 not.

6 In particular, I think that his comments on  
7 the performance assessment branch technical position are  
8 right on and, again, in particular, the 10,000 year time  
9 period seems real problematic to me.

10 In terms of a number of other disjointed  
11 comments that I'll make. In terms of the several options  
12 up here in terms of size and scope of the Low Level Waste  
13 Program, I guess I would suggest shooting for something in  
14 between number three, which is retain the current program,  
15 and number two, which is the stronger regulatory role. I  
16 think there just may be the chance that you will see a low  
17 level waste application submitted to you within the next  
18 five years. It won't come from the State of Michigan, but  
19 I think you may see one nonetheless. And I'd like to see  
20 that NRC was able to act on that if and when you get it.

21 In terms of that first option up there,  
22 assuming greater leadership role, I don't think there is  
23 any need to assert any greater leadership, particularly  
24 over Agreement States, but there may be the opportunity to  
25 assert leadership role particularly over other federal

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1 agencies that have very little experience or expertise in  
2 radiological concerns and issues but are trying to assert  
3 them anyway. And I'm specifically thinking of the Ward  
4 Valley situation.

5           And then I have one question that maybe  
6 someone can answer in regard to the assured storage  
7 concept. I agree with much of what Gordon said. I don't  
8 see a great deal of difference between the kind of  
9 disposal facility that Illinois has been envisioning and  
10 we in Michigan were envisioning and in the concept of  
11 assured storage. But I think that it's an option that can  
12 and should be looked at and tinkered with a little bit.

13           The CRCPD, back in March, had requested the  
14 DOE Low Level Waste Program to take a broad look at issues  
15 of, well, technical and legal and economic issues  
16 surrounding this concept of assured storage. And the  
17 folks at the Low Level Waste Program in Idaho were  
18 starting to pursue that. Up until two days ago, I was  
19 planning to attend sort of a scoping session that was  
20 scheduled in Oak Ridge to lay the groundworks for some of  
21 that evaluation. And sort of out of the blue, the rug was  
22 pulled out from under us and that meeting and the whole  
23 session was cancelled. I don't know if somebody can  
24 answer why that occurred or not.

25           MR. CAMERON: Thank you for those comments,

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1 Thor. Before we get into some of the more substantive  
2 questions, does anybody have an answer for Thor on why  
3 that conference or that workshop might have been  
4 cancelled? Does anybody have any information on it?

5 DR. KNAPP: I have none. George? Clare?

6 MR. STRONG: I'm not sure if it was a DOE or  
7 NRC action that had that whole session cancelled, but I'd  
8 like to get some followup on that and see what the deal  
9 is.

10 DR. KNAPP: Well, I wish I could tell you that  
11 I know all the things that go on at NMSS. I'm not aware  
12 of any session planned of any kind by the NRC. My best  
13 estimate, because of the assistance the DOE provides to  
14 developing states, is it was a DOE session.

15 In terms of NRC views, the position we have on  
16 assured storage has not really changed in about the last  
17 six or eight months when the Chairman, I think Acting  
18 Chairman Rogers, wrote a letter on how we felt about  
19 assured storage.

20 And I don't know well enough to quote it, but  
21 in essence, we have certain concerns. For example, if you  
22 have assured storage for an indefinite period, at what  
23 point is it de facto disposal. And how might we best  
24 license it. Would we license it perhaps best under a  
25 storage rig or under Part 61 rig. And I think what we

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1 said at that point was we weren't planning on taking  
2 further action until either we receive some sort of an  
3 application or a petition for rule-making to be able to  
4 address it. That's my recall of the gist of the letter.

5 Since that time, I'm aware of no NRC activity  
6 one way or another on assured storage. And I, frankly,  
7 because of the way our program has been reduced, I would  
8 speculate that we wouldn't have had the resources to send  
9 somebody to this conference.

10 MR. CAMERON: I would be very surprised if any  
11 action of ours would have led to cancellation of a  
12 workshop that was sponsored by someone else.

13 DR. KNAPP: I can go further. Had we taken  
14 the action, I would be aware of it.

15 MR. CAMERON: Or else they're sending you a  
16 message.

17 DR. KNAPP: Yes.

18 MR. CAMERON: Let's sort of go over the  
19 bidding here. Gordon Appel was providing a rationale for  
20 the fourth option here, recognize progress and reduce the  
21 program. Thor Strong agreed with some of the things that  
22 Gordon said, but he supported retain the current program  
23 and sort of moving towards a strong regulatory role,  
24 primarily based on the fact that we can't be assured that  
25 there won't be any license application coming into the

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1 NRC.

2 We also talked about a bunch of these other  
3 options, and maybe it would be good to just sort of get  
4 them off the docket right now. There's a lot on assured  
5 long term storage, and one of the premises behind long  
6 term storage is that there would be a much higher  
7 probability of public acceptability of an assured storage  
8 facility as opposed to a disposal facility. And I guess I  
9 would, besides what we've -- in addition to what we've  
10 heard so far, what do people think of that premise?

11 Is there any validity to the premise of  
12 greater public acceptability because it's a long term  
13 storage facility rather than a disposal facility? I think  
14 Gordon has already pointed out that they look like the  
15 same beast, and I see Thor is shaking his head yes.

16 Does anybody either want to add to that view  
17 or take another view on that particular option? Yes,  
18 Kristin?

19 MS. ERICKSON: Kristin Erickson, Michigan  
20 State University, again. The assured long term storage  
21 idea is not much different from disposal in some ways.  
22 But, it would provide a mechanism whereby an agreed upon  
23 properly built and designed and monitored facility could  
24 be used for a number of years to do two things. One would  
25 be to can storage, which is an excellent waste management

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1 option. In fact, at Michigan State that's what we use and  
2 we have only \$20,000 a year cost for 3,000 cubic feet of  
3 solid low level waste a year and no problems.

4 It can also be used as a mechanism whereby it  
5 could be put in this place until society and technology  
6 come up with a better idea or a better design than some of  
7 the ones that apparently are bothersome to the public or  
8 to the users at this point. It provides an intermediate  
9 site. And it also eliminates the, in our case, 55 sites  
10 that we have in Michigan when we were forced to store.

11 In addition to which, I think that the idea of  
12 recognizing progress and reducing the program is very  
13 short-sighted. Yes, we have an option for disposal for  
14 eight or so years. But that's a very, very fickle  
15 political situation in Bainwell and the North Carolina  
16 feud, so to speak. We don't have any confidence it'll be  
17 there for eight years. And even if it is, eight or nine  
18 or ten years from now we still have to have solutions.  
19 And so, if we just decide that the NRC and we all will  
20 just say there's not a problem right now, let's not worry  
21 about, it's on us before we know it. As we found out in  
22 Michigan, boom, we had no access. We didn't have a lot of  
23 preparation time. And I think we have to keep in mind  
24 that this is a, you know, a long term solution and problem  
25 situation that we must work with.

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1           Now, I will also comment that for the NRC to  
2 assume a greater leadership role in the national Low Level  
3 Waste Program is an excellent idea in my view, because  
4 I've been lucky enough to speak and participate in  
5 approximately 10 or 15 workshops with the DOE Low Level  
6 Waste Management Program, in which the NRC or Agreement  
7 States or compact people were all there, along with  
8 anywhere from 50 to 200 licensees. These were the most  
9 excellent, productive forms, not only for those of us who  
10 manage the waste or presented or for the regulators, they  
11 learned a lot, but also they were good forums for the  
12 licensees. There was a lot of good stuff done. There was  
13 a lot of exchange of ideas, a lot of positive outcome from  
14 those things. And I'd like to see that the NRC could be  
15 involved in those types of things again.

16           MR. CAMERON: Kristin, let me ask you a  
17 question before you resume your seat. And there may be  
18 some misunderstanding, and it wouldn't necessarily be  
19 surprising about what greater leadership role means. One  
20 of the questions that we've asked people is, well, if you  
21 want us to assume a greater leadership role, how would we  
22 do that? Now, to put it in perspective, how some people  
23 view what greater leadership means, someone suggested that  
24 we take a hard position against the storage of low level  
25 waste, which, of course, is right in your back yard, sort

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1 of a deal. But I think that leadership role means trying  
2 to promote, not promote's the wrong word, but to try to do  
3 whatever we could to ensure that disposal facilities were  
4 developed, possibly getting involved more affirmatively in  
5 the Ward Valley situation.

6 But I would like people to talk a little bit  
7 about that first option, too. You seemed like you were  
8 supporting option one and the long term storage option.  
9 But now that you know what the Commission might mean by  
10 greater leadership role, what are your views on this?

11 MS. ERICKSON: I still think that the NRC  
12 should assume a greater leadership role and should speak  
13 out and speak up, not only to licensees, but to the  
14 public, that there are mechanisms for safe storage and  
15 safe disposal of radioactive waste. Where there be low  
16 level, the NRC's inability or unwillingness, don't know  
17 which, to speak this out openly has really derailed a lot  
18 of efforts, has contributed to public mistrust. And I  
19 think that the NRC has the expertise and the knowledge to  
20 be leaders, to enable and facilitate site developments,  
21 licensee expertise and minimization and waste reduction.  
22 That's one of the methods we've used that has just saved  
23 us tons of money by just things that you can do on-site  
24 with no cost, no equipment, just management options. But  
25 many, many licensees aren't even aware of these things

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1 even yet today.

2 And I think the NRC has been in the past and  
3 could again be a leader in those types of issues.

4 MR. CAMERON: Okay. Mal, I think that's an  
5 important variation, perhaps, on what option one is. That  
6 greater leadership role does not have to be narrowly  
7 construed, necessarily narrowly construed to a leadership  
8 role on ensuring disposal, but could be a stronger  
9 leadership role on just getting the facts out to people on  
10 disposal, storage and, you know, that might also fit in  
11 with a option of recognized progress, reduce program. In  
12 other words, maybe the resources that would still be there  
13 could be used in this type of leadership role.

14 But, do you want to comment at all on any of  
15 the things that have been said?

16 DR. KNAPP: Only to revisit what we talked a  
17 little bit about yesterday in public communication. The  
18 agency's concern that without intending to do so it could  
19 create the perception that it has taken on an advocacy  
20 role, which is inappropriate to a regulatory agency. And  
21 I would just put the question to the entire group. If the  
22 agency were to pursue the sorts of activities that Kristin  
23 recommends, is there anyone that would have concern that  
24 we might be taking on a promotional role or that we might  
25 appear to take on a promotional role?

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1 MR. CAMERON: What about Gordon or Thor on  
2 that particular issue? As well as all the rest of you.  
3 Gordon?

4 MR. APPEL: That is a tough issue. As you  
5 know, we walk that line in Illinois all the time, because  
6 that's the way our statute is constructed relative to our  
7 responsibilities as an agency. I'm not sure that NRC has  
8 the statutory authority to act in that fashion.

9 On the issue of NRC needing to maintain  
10 resources in anticipation of reviewing a license, there is  
11 another option for NRC that I'm not sure that you've  
12 considered. And that possibility is that should you at  
13 some time in the future receive such an application and  
14 find yourself not having the resources to conduct that  
15 review yourself, it might be possible for NRC to contract  
16 with an Agreement State in order to conduct that review.  
17 That's sort of a technical assistance request in reverse.

18 MR. CAMERON: I knew you were going to say  
19 that. But still, you know, possible suggestion in terms  
20 of what we might do if we were presented with that  
21 particular option, if it was a slim option. Mark?

22 MR. DORUFF: I just want to make a few  
23 comments. First of all, concerning long term storage, one  
24 thing, or actually a few things that should be considered  
25 when the option of long term storage is considered.

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1           Number one, big difference between long term  
2 storage and disposal is transfer of title of the material.  
3 I would assume long term storage assumes that material,  
4 that waste that belongs to somebody goes somewhere else  
5 and it remains to be their property, their responsibility.  
6 We're very sensitive in the industry to our responsibility  
7 to maintain financial surety for the material that remains  
8 our responsibility, and one needs to consider in a long  
9 term storage situation how financial surety is going to be  
10 maintained and who accepts the long term liability for the  
11 material if the person to whom that material belongs is no  
12 longer a solvent entity.

13           Although long term storage seems to be the  
14 waste management method for a large number of licensees as  
15 a result of the uncertainty of access to disposal sites,  
16 as far as the leadership role is concerned, that's the  
17 option that Amersham and the Council on Radionuclides and  
18 Radiopharmaceuticals prefers. And some ideas of how that  
19 leadership role could be put forth. Number one, the  
20 issues paper has not at all addressed the issue of mixed  
21 waste. And that's one area where NRC could take a  
22 leadership role and try to help resolve this regulatory  
23 incompatibility between EPA and the NRC.

24           And secondly, a leadership role needs to be  
25 taken to focus on issues of national relevance in the

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1 effort to assure the ongoing access of cost effective and  
2 safe low level waste disposal. I also would like to point  
3 out that there was an inaccurate assumption made on page  
4 five, actually page nine of DSI-5, where it says, "A  
5 critical need to develop a new low level waste disposal  
6 capacity over the next few years is not envisioned."

7 I think members of our industry would  
8 disagree. The need is as critical as it ever has been.  
9 It's true volumes have been reduced out of necessity, but  
10 again, now you have a number of people accepting the  
11 practice of long term storage on site because they haven't  
12 been forced to make significant capital investments to  
13 build storage facilities to store their waste. They may  
14 be less reluctant now to pay the spiraling costs of  
15 disposal now that a disposal option is available. There  
16 is no guaranty that the disposal options that are  
17 available now will be available for any foreseeable long  
18 term.

19 Another thing that should be pointed out is  
20 that the recent occasional lack of access has caused a  
21 significant curtailment in the use of some radionuclides  
22 in biomedical research, particularly Carbon 14 Intridium.  
23 I think the recent estimate is that there has been about a  
24 20 percent decline in the use of these important research  
25 tools. And I'm not certain what the resulting loss has

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1 been to society in terms of lack of progress in biomedical  
2 research, but that has been another reason why maybe the  
3 volumes are not what they had been in the past.

4 MR. CAMERON: Okay. That's an important  
5 point. And Clare, could you put up the key factors for us  
6 again? Because I think what Mark is saying is questioning  
7 some of the key factors. And Mal, George, do you want to?

8 DR. KNAPP: I wanted to pursue Mark's comment  
9 briefly. As I understand it, your view is that we do in  
10 fact have a critical need right now for more disposal.  
11 But I wasn't quite sure whether your reason is that the  
12 cost of existing disposal capacity, the perhaps shaky  
13 likelihood that it will in fact remain available for the  
14 next eight to ten years. I wasn't quite sure your driving  
15 reason why we have a critical need right now.

16 MR. DORUFF: I think, well, there are a number  
17 of reasons. The two that you just mentioned and the fact  
18 that also storage is the practice for a large number of  
19 licensees. And the fourth factor would be, again, that  
20 the uncertainty and the associated escalating costs with  
21 disposal has been a major influence in curtailment of some  
22 biomedical research. So I think all four are important  
23 factors. Which is the most critical, I can't really say.

24 DR. KNAPP: And one other thought. Your  
25 recommendation that in NRC's leadership we do something

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1 about mixed waste. I solicit from anybody any suggestions  
2 as to what we can do. I have watched ten staff years  
3 under my direction invested over the last decade to try to  
4 solve that problem. And it's a very difficult problem  
5 resulting principally from the legislation which drives  
6 EPA, the legislation which drives NRC. And we would love  
7 to solve it. And EPA would love to solve it. And anybody  
8 that can come up with suggestions, we'll be happy to hear  
9 them.

10 MR. DORUFF: I appreciate your frustration.  
11 It's been equally frustrating for licensees such as us who  
12 handle the problem on a day-to-day basis.

13 DR. KNAPP: Perhaps more so and, believe me,  
14 as we can come up with ways to solve this, we will, and we  
15 do appreciate your difficulties.

16 MR. CAMERON: George?

17 MR. PANGBURN: George Pangburn, NRC. I just  
18 want to followup, Thor, on your question about the  
19 workshop on assured storage. I talked to Jim Kennedy real  
20 quick, who was also planning to be in attendance there.  
21 His understanding was that the decision to cancel was a  
22 DOE headquarters decision, but we're not exactly sure what  
23 the basis was. You may want to talk to Tony Plumber at  
24 Low Level Waste Program, and he may be able to give you  
25 the background on that.

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1 MR. CAMERON: Great. That was very timely,  
2 George. And I guess the emphasis, again, it was not an  
3 NRC decision to cancel it.

4 While we have the factors up there, in view of  
5 all those factors, do you think that the Commission's  
6 preliminary view that the Commission should take a  
7 stronger regulatory role, option two, do they support  
8 option two? Is there something that we don't know? Some  
9 other factor, for example, Thor's point about another  
10 application coming in. Is that the basis for the  
11 Commission's preliminary views? Does anybody have  
12 anything to say about that?

13 Okay. I take it that no one wants the program  
14 to be given to EPA. Yeah.

15 MR. APPEL: Chip is searching for someone to  
16 come out and say it. The State of Illinois does not want  
17 the Low Level Waste Program that is currently being  
18 conducted by the NRC to be given to the United States  
19 Environmental Protection Agency.

20 MR. CAMERON: Thank you, Gordon. Yeah.  
21 Everybody's raising their hands now. No, that's fine.  
22 Kristin?

23 MS. ERICKSON: Well, I'll comment on that one,  
24 too. As a materials licensee, in talking with a  
25 consortium of big ten and smaller licensees in our region,

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1 we do a lot of brainstorming and pow-wowing, and our folks  
2 both on E-mail, phone and in person. None of us would  
3 like the EPA to be involved in any radiation regulation.  
4 And we'd like them divested from what they do. They are  
5 unreasonable to deal with. They mostly don't know what  
6 they're talking about. We find ourselves giving them  
7 radiation primers when we discuss issues. We find them  
8 giving a different answer to every one of us on the same  
9 kinds of questions. And none of the answers seem to be  
10 based on sound reasoning.

11           Moreover, I even was shocked to hear one EPA  
12 original person who was the HP type state flatly that the  
13 EPA intends to take over the NRC, that the NRC doesn't  
14 know what they're doing, and when I hear things like that,  
15 that is not only wrong, but it is unethical and  
16 unprofessional.

17           I also, and we also know and believe that they  
18 do not use good science in making their rules and their  
19 laws or in the way that they apply those. It's mostly  
20 based on fear, paranoia, concluding things that are, you  
21 know, appear to be one way. Then without using science to  
22 say, okay, therefore, now everything is that way. And it  
23 doesn't matter whether it's underground storage tanks or  
24 whether it's mixed waste or whether it's radioactive air  
25 emissions. It's the same underlying weakness in the way

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1 that they promulgate and enforce that bothers us a lot.

2 And one more comment, and then I'll let you  
3 take this, Betty. I just wanted to bring up one other  
4 thing for the NRC that I have to bring in, because I think  
5 this is the best place to bring it in. And that is the  
6 idea that I disagree with the NRC using draft guidance as  
7 enforceable stuff. And I'm referring to the Ash  
8 Monitoring Guidelines for Incinerations that requires us  
9 to meet 70 PM and Ash for C-14, which cannot be done. And  
10 if a person or licensee renews or amends their license,  
11 they have to then meet this guidance.

12 For that reason, we have not amended our  
13 incineration license to any degree. In fact, we've tabled  
14 it. Now, that goes back to the transcendental computer  
15 modeling, because I was told by one of our regional people  
16 that that's how they came up with that. That was a  
17 computer model. And I'm strongly against that. Moreover,  
18 strongly against promulgating or recommending anything  
19 that can't reasonably be done.

20 MR. CAMERON: Okay. Thank you, Kristin. And  
21 I guess I would just note that there are no  
22 representatives here from the Environmental Protection  
23 Agency to respond to any of the views on that agency.  
24 Betty?

25 MS. JOHNSON: I was going to just write out

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1 comments on this. I agree with much of what Kris had said  
2 originally, but I think one of the things that we're not  
3 looking at, and as I mentioned before, we must look at the  
4 long term health and environmental effects that we're  
5 causing. They're evident other places in the world.  
6 They're evident in the United States right now. We need a  
7 minimization of waste and we need to, and again, you've  
8 got to have the environmental and health of the public as  
9 your concerns and you cannot trust the industry to do.  
10 All you have to do is look at the evidence. We've got a  
11 terrible mess with health problems. I'm sorry. And  
12 places that are going to be radioactive for centuries,  
13 thousands of years.

14           And it just makes no sense to go ahead without  
15 looking at those things. You may not like the EPA, but  
16 the EPA is trying to do the right thing. And I think we  
17 should be looking, and I don't know that the NRC can do  
18 that, but we got to look at reducing the production of  
19 these wastes. We should not be producing these wastes  
20 which are causing long term health and environmental  
21 effects, and we must consult somebody except those that  
22 are producing them, because they have a prejudiced  
23 viewpoint.

24           MR. CAMERON: Okay. Thank you, Betty. Are we  
25 ready for high level at this point? Why don't we go on to

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1 high level then.

2 Oh, I'm sorry. Does anybody have any views  
3 for Themis Speis on the PRA implementation? I think a lot  
4 of our reactor people might have left, although, we do  
5 have a few notable representatives here. I would just  
6 encourage anybody to send some -- any specifics they have  
7 to -- send them in to us on that particular issue.

8 DR. KNAPP: All right. Direction setting  
9 issue number six, high level waste and spent fuel. Credit  
10 goes to the writers, John Austin and Meg Lusardi of MSS.  
11 John focused on the high level waste disposal aspects, and  
12 Meg on the spent fuel aspects.

13 And the issue reads, "In recognition of  
14 current uncertainties, how should NRC approach the present  
15 high level waste situation." Current uncertainties, the  
16 fact that over several years the DOE program, recalling  
17 the DOE has responsibility for developing a high level  
18 waste disposal facility for seeking an NRC license, and if  
19 granted, for disposal of the waste. The DOE budget has  
20 been cut significantly over the last several years. The  
21 NRC budget has been cut in half over about the last three  
22 years.

23 Further, there has been legislation of various  
24 types before Congress for a couple of sessions now which  
25 would do things such as, perhaps, create a standard of

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1 exposure to the public of 100 millirem per year, perhaps  
2 have a single performance objective for a high level waste  
3 disposal facility rather than the defense in-depth  
4 approach which NRC presently has in its regulation, and  
5 which could very well change the direction, and depending  
6 on which bill you look at, could change the emphasis on  
7 monitored retrievable high level waste storage, perhaps in  
8 Nevada, compared to development of a disposal facility in  
9 Nevada.

10           Given these uncertainties, given the issue, we  
11 have some key factors. These were developed sometime ago  
12 by the Department of Energy. I don't want to take too  
13 much credit for them, but the NRC considers that they are  
14 key factors today. The first, the lack of consensus among  
15 the scientific and technical community and interested and  
16 affected parties on the fundamental elements of the  
17 program. Disagreement, the extent of which seismicity at  
18 Yucca Mountain could be a problem, at which the extent of  
19 which volcanism at Yucca Mountain could be a problem.

20           And this goes directly into the second bullet.  
21 The unprecedented nature of geologic disposal. Predicting  
22 the performance of a high level waste geologic repository  
23 for thousands of years into the future is an unprecedented  
24 undertaking.

25           The third bullet. The linkages in the law and

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1 those which may be changing between development of a  
2 monitored retrievable storage facility and the licensing  
3 and construction of the repository.

4 Fourth bullet. As in the low level area,  
5 strong public resistance to the development of a high  
6 level waste disposal facility.

7 And finally, as I mentioned earlier, general  
8 program and budgetary constraints.

9 With these key factors in mind, the Steering  
10 Committee provided a series of options.

11 First, this would be in many ways like the low  
12 level activist option. Here, we could approach Congress  
13 and the administration to refocus the national program.  
14 For example, the licensing decision on a high level waste  
15 repository could very well be the most contentious  
16 licensing action the NRC will undertake. It's possible  
17 that it will not be -- that we cannot reach a conclusion  
18 on this, that it may have to be decided in Congress. If  
19 this is a likelihood, perhaps we should go to Congress now  
20 and say that the decision should be made in the halls of  
21 Congress rather than in front of an NRC licensing board.

22 Perhaps we should go to Congress and suggest  
23 that because of the difficulty the Department of Energy  
24 has had in making progress, it might be more efficient to  
25 privatize the development of a high level waste facility.

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1           There are other things that we could do in an  
2 activist role. Those are simply a couple of alternatives.

3           As a second alternative, rather than to take  
4 an activist role in disposal, we could pursue the  
5 reduction of uncertainty by modifying our own program. We  
6 could attempt to resolve some issues now. If there is a  
7 consensus among NRC, DOE and the affected parties that,  
8 for example, seismicity is not a problem, were such  
9 consensus to be reached, perhaps we can do that in rule or  
10 by stipulation now to get it out of the licensing arena  
11 down the years and simplify the licensing process.  
12 Perhaps we could have an internal review by senior NRC  
13 officials of staff positions to ensure that they do not  
14 contribute to uncertainty when we bring them to DOE, but  
15 to see that they reduce it.

16           The third alternative. Maintain our existing  
17 High Level Waste Program. Right now, that program looks  
18 at DOE's development of the facility. It looks at the  
19 development of our technical ability to conduct a review  
20 when DOE brings in an application. And we focus on ten  
21 key technical issues. That is, we did. With the budget  
22 reductions this year, we are having to focus on seven of  
23 these issues, three will receive minimal attention.

24           The fourth alternative. Take a minimal  
25 approach. I've been with the NRC 17 years, and we have

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1 yet to see a high level waste application. DOE has tried  
2 in many ways and done a hard job, but they have not yet  
3 been able to bring an application to us. Perhaps we  
4 should take the view that a better use of NRC resources  
5 would be to put these people to work on other things until  
6 we are closer to having an actual application in hand.

7           And the fifth option, which in fact could be  
8 done with or among any of the others, take a position on  
9 the storage of spent fuel. Recognizing that it may be  
10 some time before DOE is in a position to accept fuel for  
11 disposal, perhaps we should take a position on how it  
12 should be stored. Perhaps we should say that storage of  
13 spent fuel should occur at a centralized facility.  
14 Perhaps we should say that in view of the fact that we  
15 don't have a final resting place for it, it would be  
16 inappropriate to transfer it to a central facility and  
17 that it should be stored at reactor sites.

18           In any case, it's possible that the NRC should  
19 think about taking a position on what should happen to  
20 spent fuel until DOE is in a position to dispose of it.

21           Those are the options that we provided to the  
22 Commission. In response, the Commission preliminarily  
23 would like to retain the present High Level Waste Program.  
24 But they would like to explore ways of taking a more  
25 active role in resolving issues in the national program.

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1 But as I mentioned, the low level waste is consistent with  
2 NRC's regulatory mission.

3 The Commission particularly seeks public  
4 comment on what additional activities, if NRC were to take  
5 such a role, they might reasonably undertake.

6 They are the preliminary views. Chip, it's  
7 yours.

8 MR. CAMERON: Okay. And I would just  
9 underline Mal's emphasis on resources. Like the last  
10 strategic issues paper, some of the options would either  
11 lead to NRC further reducing its resources voluntarily or  
12 would create a need to increase our resource base.

13 And as Mal noted, the preliminary view of the  
14 Commission is to try to find ways to increase our  
15 leadership role. Now, depending on what ways were  
16 selected, then you could figure out what the resource  
17 implications of that are. But does anybody want to  
18 comment on the high level waste strategic issues paper?  
19 Heather?

20 MS. WESTRA: Heather Westra, with the Prairie  
21 Island Indian Community in Minnesota. Just for your  
22 information, the reservation that I work for is located  
23 right next to a nuclear power plant and a dry cast storage  
24 facility. And the Tribal Council takes the view that dry  
25 cast storage at reactor sites is not safe and is not

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1 without problems. And the view of the Tribal Council is  
2 that the waste is never going to leave, and therefore,  
3 it's considered a de facto repository.

4 One option that you might want to consider,  
5 although it's probably not a very popular one, is ceasing  
6 production of these materials. As we discussed in the  
7 last issue with regard to low level, nobody wants this  
8 stuff and nobody wants the high level waste either.

9 And a question I have is with regard to the  
10 statement that DOE must take title to the waste. Does  
11 anybody have an idea of what that means in practical  
12 terms? Does it mean actually removing waste or does it  
13 mean merely taking title to it at the reactor?

14 MR. CAMERON: Okay. Let's -- we heard another  
15 option expressed, which is minimize, stop generation of  
16 further high level waste or further spent fuel. Your  
17 suggestion on the safety of spent fuel storage. So going  
18 to existing waste that's there, your suggestion about, or  
19 your view, the Tribal Council's view on the safety of dry  
20 storage. Based on that view, can you try to translate  
21 that into one of these options for us? Would it be take a  
22 position on storage of spent fuel, assuming that storage  
23 of spent fuel was centralized away from reactor storage.  
24 Can you try to, and you don't have to answer now. You can  
25 think about that, if you want to, a little bit while we

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1 try to answer the question that you asked, the last  
2 question that you asked. Mal?

3 DR. KNAPP: I'm sorry. Could you restate that  
4 last question so I clearly have it?

5 MS. WESTRA: My question was, in the author's  
6 view, what is the statement, "DOE must take title to the  
7 waste," mean in practical terms, given that there's no  
8 place for DOE to take it to. Does it mean merely take  
9 title to it at the reactor > actually remove it to  
10 someplace?

11 DR. KNAPP: I'm going to call on any of our  
12 legal folks that can answer this better than I can. But  
13 let me tell you my understanding and then ask them to  
14 correct me. I don't think the courts were clear on that  
15 decision. The utilities, in the suit against DOE, said  
16 that DOE was obliged under law to take title, and the  
17 courts said, yes, you will take title. I don't know how  
18 DOE will address that.

19 As a simple logistic matter, I do not believe  
20 it's possible for DOE to take physical possession and  
21 relocate waste in the time period available because there  
22 is simply no site and there are not enough shipping  
23 containers to be able to do that.

24 Now, how DOE would handle it beyond that, I  
25 don't know, but if they were to take title and

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1 responsibility on site, both technical responsibility,  
2 legal responsibility, that's a possibility. But the best  
3 of my knowledge is the actual court decision was not clear  
4 and I've not heard exactly how DOE -- what DOE will be  
5 doing about that. Now, perhaps one of our attorneys knows  
6 more than I about this.

7 MR. CAMERON: Well, I was going to say  
8 something and then Steve was going to contradict it so.

9 DR. KNAPP: Well, good, that'll spice up the  
10 afternoon.

11 MR. CAMERON: But -- I don't know what the  
12 definitive, or if there is a definitive legal answer at  
13 this point. But I know that one of the suggested options  
14 for DOE is that the implication of that decision is that  
15 they could pay the utilities for the storage of the waste.  
16 In other words, DOE takes title, it's on the utilities'  
17 property, they'll be paying -- DOE would pay the utilities  
18 a storage fee. So, think about that.

19 Maybe this would be a good point to address  
20 something that fits under the public communications  
21 initiative. And Heather, I don't know if you want to say  
22 a few words on this, but this is the idea of -- we were  
23 talking about public communication. We talked about  
24 Agreement States' strategic partnering. The issue I'm  
25 going to here is the whole issue of NRC's relationship

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1 with tribal governments which falls in a unique niche,  
2 obviously not an Agreement State, but different than just  
3 the general public. And Heather, do you want to make any  
4 statements in that regard about things that the Commission  
5 might do to enhance public communications with tribal  
6 governments?

7 MS. WESTRA: I think this, with respect to the  
8 options specifically, take a position on the storage of  
9 spent fuel is a good place to start talking about the  
10 NRC's obligation towards Indian tribes or Indian  
11 communities.

12 If you're aware of the President's Memorandum  
13 of May '94, which discusses how federal agencies and  
14 departments should consider Indian tribes in their  
15 deliberations and decisions and how those decisions affect  
16 Indian tribes. I mean, clearly the NRC's decision to  
17 license a dry cast storage facility adjacent to the  
18 Prairie Island community really should have been  
19 considered. It was not. So that's something that I guess  
20 for the future those sort of discussions can happen.

21 But as far as an Indian policy, the Prairie  
22 Island Indian community is very interested in helping the  
23 Nuclear Regulatory Commission develop something, not react  
24 to something. I think this would be something similar to  
25 what one of the state representatives said, in that they

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1 want to be a part of the policy-making process, not have  
2 to react to it or know about it after it has occurred.

3           So I would encourage you to discuss this with  
4 as many Indian tribes as you can, and not just with Indian  
5 organizations like the National Congress of American  
6 Indians. Because I think it's important to deal directly  
7 with the tribes if you're serious about developing a  
8 policy which can be implemented. So I think a lot of  
9 agencies have developed policies, but they're not always  
10 implemented.

11           The issue of spent fuel is one that's really  
12 important to the Prairie Island community. Given that  
13 Yucca Mountain is years away, maybe there'll be some kind  
14 of MRS or some kind of entrance to storage facility in the  
15 future. That's sort of uncertain, I guess. The view of  
16 the Council is, and many of the community members, is that  
17 it's never going to leave.

18           And I guess one other important consideration  
19 with regard to tribes is that this is their homeland.  
20 It's not like regular land owners like ourselves. We can  
21 come and go, but this is the homeland of these people and  
22 they have deep ties to that land. So it's a little bit  
23 different situation.

24           So if you could consider those, that would be  
25 very helpful.

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1 DR. KNAPP: I'd like to note there is a record  
2 that your comments also apply very clearly to a related  
3 issue in the Agreement States paper, where we ask the  
4 question, should we have a formal policy for dealing with  
5 Indian nations. I'm simply saying this so that the  
6 reviewers of this transcript can find it easiest to  
7 relocate this where it will work.

8 And for your benefit, of course, as you look  
9 at that specific question on that paper, we would be very  
10 pleased with any comments, additional comments, you might  
11 have to make on that issue.

12 MR. CAMERON: And that's paper number seven.

13 DR. KNAPP: No. That would be paper number  
14 four, NRC's Relationship with Agreement States.

15 MR. CAMERON: Okay.

16 DR. KNAPP: It's a related issue near the back  
17 of the paper. And just because I do not want to suggest  
18 that Indian nations and Agreement States are in any way  
19 similar, but given that we put a lot of work into  
20 developing policies for dealing with Agreement States, it  
21 raises the issue, should we have an overall policy for the  
22 best way to deal with Indian nations. And we don't at  
23 this time. So we'll be pleased to let this portion of the  
24 transcript there for our consideration and seek comments  
25 from you on that particular bullet.

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1 MR. CAMERON: And also, I think it's worth  
2 noting or just repeating the characterization of the  
3 essence of what the policy might be would be the type of  
4 early interaction with tribal communities that we might  
5 have with Agreement States, although not to use that as a  
6 straight example, because there is a statutory basis. But  
7 early involvement, early interaction, early information,  
8 is that the essence of it?

9 MS. WESTRA: I would say so, because in the  
10 past it's just been, you know, kind of a federal register  
11 notice. It has been considered consultation and, you  
12 know, most Indian tribes, or most governments, I should  
13 say, would not consider that to be full consultation.

14 MR. CAMERON: Great. Thank you very much,  
15 Heather. Do we have any comments on that? Kristin?

16 MS. ERICKSON: As a materials licensee, as a  
17 citizen, as a radiation manager, whatever capacities I can  
18 speak today, I would agree with what Heather said. And  
19 that does, I realize, belong in the Agreement States  
20 thing, but I want to make the comment that too many times,  
21 even as the radiation manager who gets these things across  
22 the desk, it appears as sometimes a ready-fire-aim  
23 approach from the NRC. And then we get it when it's a  
24 done deal. And then we have to try to sometimes not only  
25 shake these things down, but implement things that are

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1 very difficult and unmanageable.

2           A good example of that is the Part 20 revision  
3 where it puts it in black and white, we must use DPM and  
4 microcarries for contamination and measurement, and we  
5 should. But the legal writing didn't exclude the  
6 background. And so I found myself arguing with an  
7 inspector why we shouldn't have to calculate DPM and  
8 microcarry for background. Because it's impossible. And  
9 these kinds of things, I think, as one of the  
10 admonishments I might make for the NRC in general, this  
11 has gone through the thread of all these discussions, that  
12 we talk earlier and better. Communication from licensees,  
13 from the public, from the Indian nations, from the  
14 Agreement States, that would be a huge step forward. And  
15 I know it's already improving, and I'm really glad to see  
16 that. I'd just like to see more of it.

17           MR. CAMERON: Great. Thank you for that  
18 positive ending on that. And let's look at these options.  
19 Again, or let's at least look at the Commission's  
20 preliminary view where they say they would like to explore  
21 taking a more active role in resolving issues in the  
22 national High Level Waste Program. With sort of a caveat  
23 at the end, consistent with NRC's mission, which is an  
24 important caveat.

25           Does anybody have any views on the

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1 appropriateness of the more active role, the feasibility  
2 of the more active role, or specific suggestions on how  
3 the Commission could take a more active role? And of  
4 course, active is sort of, could be viewed neutrally in  
5 terms of what the outcome could be, too. Do we have any  
6 comments on the active role. leadership role? Paul?

7 MR. FARRON: Yeah. With regard to a more  
8 active role, I think this whole issue is really a very  
9 political issue. And while the industry and DOE have been  
10 trying to accomplish quite a bit, I don't know that the  
11 NRC getting involved in this is going to help the  
12 situation. I think actually the NRC should play a more  
13 neutral role and not show a bias one way or the other. I  
14 think they'll get more credibility out of approaching it  
15 that way.

16 MR. CAMERON: Okay. Thanks, Paul. That's a  
17 legitimate view. Do we have anybody else on that  
18 particular issue, the active leadership issue? Kristin,  
19 I'm glad you're here.

20 MS. ERICKSON: Well, it's just a quick idea.  
21 This meeting thus far has been just outstanding. And I  
22 can speak for myself and for Redge, who is on our  
23 Radiation Safety Committee. These kinds of things are so  
24 positive and so productive that I think that's an  
25 excellent way that the NRC could be involved and still be

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1 neutral, still be at the arm's length, still not appear to  
2 be in collusion or promotional, is to organize and present  
3 many of these kinds of forums all around the country in a  
4 strategic location on these kinds of topics and others. I  
5 think this kind of a forum would increase public  
6 awareness, licensee awareness, better communication for  
7 everybody.

8 MR. CAMERON: Now, that's a good point. And I  
9 should note for those looking at the transcript that this  
10 might be also applicable, obviously also applicable to the  
11 public communications strategic issue. I mean, it might  
12 just -- it seems like a simple but perhaps a powerful  
13 tool, is just to have a forum on particular issues. Of  
14 course, within the context of the NRC's regulatory role  
15 might prove useful. So thank you for that suggestion.

16 Anybody else on leadership, on any of the  
17 options that we have? And Clare, could we see the options  
18 one more time, please? Thank you. Mal talked about some  
19 of the suggestions under option one, about refocusing the  
20 national program, congressional certification of the  
21 repository, elimination of the NRC's licensing role and  
22 dialing that down to some sort of a more modest role. The  
23 creation of a quasi-public corporation, such as was  
24 advocated years ago. I think that was also under option  
25 one, wasn't it?

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1 DR. KNAPP: Yes, it was.

2 MR. CAMERON: Let's just go down here.

3 Anybody want to talk to any of the points under option  
4 one, including the wisdom of doing that or the  
5 infeasibility of doing that? Okay. How about the reduce  
6 uncertainty. This idea, as expressed by Mal, would be to  
7 somehow try to close out issues early in the process or  
8 perhaps, somewhat akin to what the DOE program was  
9 supposed to do to take a look at particular issues that  
10 might be a so-called disqualifying condition and try to  
11 close those out early. And that would have some resource  
12 implications, obviously. And whether we have enough  
13 information from DOE to do it, is also another issue.

14 Does anybody have any views on the reduce  
15 uncertainty or the specific methods for doing that? Yeah,  
16 Paul?

17 MR. FARRON: Yeah, sure. Yeah. I think  
18 there's a lot to be gained by reducing the uncertainty.  
19 And I think this is one of the options that at least  
20 partially we would support. And I say partially because I  
21 think you have to closely look at that and separate the  
22 final repository from the centralized interim storage  
23 facility. I think the NRC really needs to read the tea  
24 leaves and see that the final repository is probably down  
25 the road a little bit and that there can be some work done

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1 to support the centralized storage activities. And where  
2 NRC can in the transportation issues, knowing also that  
3 DOE has a lot of obligation within the transportation  
4 issues.

5 So I think this is one of the options that  
6 shows some promise. But like I said, I think you have to  
7 separate the two and prioritize the issues within NRC as  
8 to which ones to go about fixing first.

9 MR. CAMERON: Okay. Good. Thank you for  
10 that. So there's some support for the reduce uncertainty,  
11 which isn't necessarily inconsistent with maintain the  
12 existing High Level Waste Program.

13 DR. KNAPP: That's correct. We could do both.

14 MR. CAMERON: Okay. Any comments on the  
15 maintain the existing High Level Waste Program? Mal told  
16 us his life story about the fact that his whole career  
17 with the NRC he's heard there's going to be a license  
18 application. It never materializes. I guess we're still  
19 waiting for that. And that would be one reason to  
20 maintain the existing High Level Waste Program.

21 Does anybody have any comments on whether  
22 that's a good idea or, you know, counterpose it with the  
23 take a minimal approach to NRC's High Level Waste Program?  
24 Comments on those two options. Ah, Kristin? Do you want  
25 this mike?

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1 MS. ERICKSON: I'm going to beat a path on the  
2 bottom of the thing here, otherwise. I think that the NRC  
3 needs to continue their program and possibly beef it up by  
4 going to the Congress and getting the ability and the  
5 authority to be more involved, because I think the DOE is  
6 really kind of paralyzed right now with their cuts in  
7 funding, with the political problems, with some other  
8 problems. Their staffing has been cut in many, many  
9 locations to where there's just a skeleton crew of people  
10 who will be qualified.

11 And then in the internal problems amongst the  
12 DOE themselves. There have been some tremendously bad  
13 things come out of some of the PR and internal problems  
14 that become external and publicly known that has, you know  
15 diminished what they've been able to do. And I think that  
16 the NRC needs to be involved to the degree that they can  
17 at least externally try to keep things on track if the DOE  
18 is going to do it. And if the DOE can't do it, then the  
19 Congress, the NRC, the nation needs to look at who will do  
20 it.

21 MR. CAMERON: Okay. Thank you again, Kristin.  
22 Mal, did you have anything to say on that? I'm not saying  
23 you need to.

24 DR. KNAPP: No. The only comment is, as I  
25 mentioned earlier, our budgetary realities are severe. We

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1 had a \$22 million a year budget in this area about  
2 somewhere between two and three years ago. This year, we  
3 had \$11 million, and we don't foresee an increase at this  
4 point.

5           That makes holding our own. Frankly, it makes  
6 holding our own impossible. We're having to reduce our  
7 technical basis at the center which we sponsor in Texas to  
8 help us with this. And we foresee further reductions in  
9 the future. But that doesn't mean we can't shift the  
10 focus of what we have, perhaps to reflect some of your  
11 comments. So thank you.

12           MR. CAMERON: And the last issue, storage,  
13 take a position on the storage of spent fuel. We explored  
14 that a little bit in the context of Heather's comments  
15 about the safety of dry cast storage on-site. Should the  
16 NRC be taking a position on -- let me just read in, away  
17 from reactors, centralized storage, into that particular  
18 option. Any views on that? Yeah. Thor?

19           MR. STRONG: Thor Strong from Michigan. It's  
20 sort of a double-edged sword. Specifically in regard to  
21 storage of spent fuel, Michigan has one dry cast storage  
22 site now. And it's been a contentious issue. Of course,  
23 our power plants, our Public Utility Commission, are all  
24 part of the Nuclear Waste Strategy Coalition that's trying  
25 to push the interim storage facility concept.

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1 NRC, it was mentioned earlier the fact that  
2 it's a regulatory agency, that your main focus has to  
3 continue to be regulatory in essence from a standpoint of  
4 assuring that what is done is safe for the public and for  
5 the environment. The degree to which you start advocating  
6 one option over another implicitly, if not explicitly,  
7 affects the public's perception of the other options. For  
8 instance, if NRC starts strongly advocating a centralized  
9 interim storage facility, it at least implicitly says that  
10 the dry cast storage situation at our Palisades Plant is  
11 unsafe. And I, you know, I don't think that would ever be  
12 the intent, but that's what the public would interpret.

13 So even though it's tempting to take strong  
14 positions on particular issues such as this, the NRC has  
15 to, as the basis of its position, go back to its specific  
16 mission and primary mission of just assuring public health  
17 and safety in regard to the management of these materials.

18 MR. CAMERON: Okay. Very good. That's, I  
19 think, a good cautionary note for the Commission to  
20 consider on this particular option. And Mal, would you  
21 say that that reflects the status quo pretty much?

22 DR. KNAPP: I'd say pretty much. I think our  
23 current position, briefly stated, is that obviously we  
24 find at reactor dry cast storage to be safe. If we  
25 didn't, we wouldn't license it. But that we believe there

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1 are certain advantages and economies of skill to a  
2 centralized facility in that if all the waste were in one  
3 place, it would be easier to keep an eye on it and it  
4 would be easier to have a facility available in the event  
5 that a cast for some unforeseen reason got into trouble.

6 So I think we're pretty close.

7 MR. CAMERON: Okay. Any final comments before  
8 we break? I think we've had -- at least we've  
9 systematically gone through all the options. Anything  
10 else on this particular issue? Okay. Well, let's break  
11 til 3:00 o'clock. Come back at 3:00 o'clock and we'll  
12 start on the last issues paper. And it is the last issues  
13 paper. Okay.

14 (Whereupon a recess was taken until  
15 3:00 p.m.)

16 MR. CAMERON: Okay. If everybody could take a  
17 seat, we're going to get started on the last issues paper  
18 in this particular arena and the last issues paper for the  
19 day and for this particular stakeholders meeting and for  
20 all of the stakeholders meeting.

21 And Mal is going to do the honors and then  
22 we'll have discussion on that issue.

23 MR. KNAPP: This is one is direction setting  
24 issue number 9, decommissioning non-reactive facilities.

25 And I'd like to expression my appreciation to

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1 Tim Johnson, the author of this paper.

2 The statement of the issue is, what should be  
3 our strategy? To take advantages of new and different  
4 approaches, to optimize site remediation of the site  
5 decommissioning management plan and other problem sites.

6 A quick word on the site decommissioning  
7 management plan sites. NRC decommissions several hundred  
8 sites each year. Almost always, they happen routinely  
9 without any difficulty. But occasionally there are  
10 problems. As a result of not having had financial  
11 assurance provisions years and years ago, we may have a  
12 licensee that does not have the funds to decommission. We  
13 may have a licensee without the competence to decommission  
14 or a licensee without the willingness to decommission.

15 In some cases, we don't have a licensee. Old  
16 sites that go back a long way may have been discovered by  
17 the NRC, that were once under our regulatory authority,  
18 but where there is no longer a licensee.

19 Right now we have about 50 of these sites,  
20 which we are working on to get cleaned up. We are using  
21 about 50 full-time staff in this job and the job generally  
22 consists of characterizing the site. Finding out what's  
23 there. To that end we have the licensee or responsible  
24 party come up with a plan for characterization. We  
25 approve the plan, and then they characterize the site.

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1           They then give us a plan to remediate the  
2 site. We approve the plan and then they remediate the  
3 site. This is a time consuming and a labor-intensive  
4 business.

5           The key factors include, as I mentioned a  
6 moment ago, that some licensees and responsible parties  
7 are unable or unwilling to do the work. And even with 50  
8 FTE, we are not able to have the sites decommissioned at  
9 the rate that some members of the Congress and that some  
10 segments of the public would like us to do.

11          We have a problem with legal authority. These  
12 sites do not offer a significant health and safety hazard.  
13 In many cases, they are only slightly more radioactive  
14 than background.

15          For that reason, the NRC's legal position can  
16 be very difficult if we try to take aggressive action  
17 against a licensee or a responsible party.

18          Finally, we can have problems and maybe  
19 developing problems in some cases with meeting some of  
20 EPA's criteria, such as the 4 millirem per year  
21 groundwater requirement. This may be difficult and  
22 expensive for our licensees or for responsible parties to  
23 comply with.

24          Given these factors, we came up with an  
25 unusually extensive set of options for the Commission to

1 consider. A total of nine.

2 First would be just to continue the existing  
3 program.

4 Second, we might change the decommissioning  
5 process, the review process. I mentioned a moment ago  
6 that we review a site characterization plan and then we  
7 review a remediation plan. We might change the process to  
8 simply have them remediate and we'll look at the job after  
9 they've completed it. Save the duplicate reviews.

10 We might change the decontamination criteria  
11 and we might change the review standards. For example, we  
12 might go to a criteria similar to that which we now have  
13 for low level waste disposal, which could permit an  
14 intruder to receive 500 millirem a year, compared to the  
15 100 millirem a year, which is in our present proposed  
16 clean-up criteria for an intruder.

17 In terms of review standards, we might use  
18 more realistic scenarios. We might have a licensee take  
19 more credit for such things as institutional controls to  
20 reduce the probability of intrusion.

21 Another alternative is, we can apply the EPS  
22 superfund standards. EPA has a somewhat different  
23 approach than we do. For their sites, they have two  
24 liners and a leachate collection system. They watch them  
25 for 30 years and if nothing happens in 30 years, they're

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1 prepared to assume that they're okay and they do not take,  
2 they presume there will not be intrusion.

3 This is a much less, in some view, in our's,  
4 rigorous way of meeting standards than the NRC has, for we  
5 presume that intrusion may occur and we look for hundreds  
6 and perhaps thousands of years into the future.

7 Another alternative is that for some of the  
8 sites which have source material, for source material to  
9 read things like tailings piles, a very low, large amount  
10 of low activity material, which is very much like some of  
11 the NARM which is out there, which is naturally occurring  
12 materials.

13 Perhaps it should be regulated the same way  
14 that NARM is. NARM is regulated by EPA and the states,  
15 perhaps we should transfer responsibility for some of  
16 these sites which have very similar materials, volumes,  
17 and risks, to EPA.

18 Another option: Focus on decommissioning  
19 cases where we can make progress. If we have a stalled  
20 site, because of lack of willingness of money, transfer  
21 the site to EPA. They have tools at their disposal, for  
22 wrecker sites, which they could use. Excuse me, for  
23 superfund sites which they could use.

24 Another alternative: Move aggressively to  
25 develop some alternatives which would be lower cost. For

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1 example, as I said, some of these sites resemble uranium  
2 mill tailings. Well, perhaps we could that material if it  
3 needs to be moved to a mill tailing site. It would be  
4 similar materials, it could be regulated the same way.  
5 For that matter, it might be regulated the same way at the  
6 existing site.

7           The eighth option: Develop a strong  
8 litigative strategy. Come up with what we need in terms  
9 of decisions and regulations so that we can proceed  
10 aggressively against recalcitrant licensees, despite the  
11 low risks associated with these sites.

12           Last: We could seek superfund authority. One  
13 of the things that makes EPA effective in cleaning up  
14 sites is that they have the ability to attach all  
15 responsible parties, to compel clean-up and to assess  
16 triple damages for such a clean-up effort.

17           These are tools that the NRC might be able to  
18 use to more effectively.

19           From among these options, the Commission  
20 selected a number that they like. I think in general, it  
21 might be that the Commission, its preliminary view, is to  
22 give the staff more flexibility to take on these sites and  
23 better tools to take them on with.

24           They would change the review process, as  
25 mentioned in option 2. They would suggest that they focus

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1 on sites where progress can be made and transfer stalled  
2 sites to EPA. They would have us move aggressively to  
3 come up with lower cost options and finally, they would  
4 have us develop a strong litigation strategy.

5 Now, to speak a little more in detail about  
6 the Commission's views, this option 2, this increased  
7 flexibility where we might not review the standard, excuse  
8 me, might not review the site characterization plan or the  
9 remediation plan. They want, they suggest this be done on  
10 a pilot scale. And in a pilot scale, it should be  
11 selected using volunteers who the NRC thinks would be  
12 capable of carrying on this kind of activity without the  
13 need for us to review characterization plans and  
14 remediation plans.

15 One of the things the Commission is interested  
16 in is, is it the public's view that we should have  
17 workshops with these responsible parties or licensees to  
18 help them better understand their obligations and their  
19 opportunities under this approach.

20 With regard to the sixth option, where we  
21 would transfer stalled sites to EPA, the Commission would  
22 have us be a little more detailed than that. We would  
23 probably consider transferring stalled low risk sites to  
24 EPA. A high risk site we might be less likely to  
25 transfer, or a low risk site which was not stalled, we

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1 might not transfer. And so the Commission would have us  
2 look at various situations we might find a site in and  
3 decide, in some cases, on a case-by-case basis. Which  
4 should be transferred to EPA.

5 And I think in any case, at least initially,  
6 the Commissioners will want the staff to give them an  
7 opportunity to review any proposed transfers we might  
8 have.

9 Those are the options and their preliminary  
10 views and for the last time of the, this effort. With  
11 Chip's help, we'd like to hear your's.

12 MR. CAMERON: Okay. Thanks, Mal.

13 Are there, are those in the audience who are  
14 going to faced with decommissioning of their sites? There  
15 is state government experience here, people who have  
16 actually regulated a decommissioning process. There are  
17 people here who are going to be concerned about the  
18 decommissioning of a particular facility.

19 And Kristin has already given us some thoughts  
20 on the materials licensing decommissioning process that  
21 were also relevant in the power reactor area.

22 Kristin, would you mind repeating that, that  
23 thought for us? Because I think that would be a useful  
24 way to start off, if you don't mind.

25 MS. ERICKSON: Kristin Erickson, Michigan

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1 State University again.

2 On this issue, as I said before, there are a  
3 number of broad licensee SRO's and management teams who  
4 are very concerned about decommissioning. In particular,  
5 some certain phases of it.

6 One is the mechanism by which we must  
7 decommission and in a broad license institutions like  
8 our's, it's a very, very difficult rule that if the  
9 facility is not used for a period of time, then it must be  
10 decommissioned.

11 Our licenses contain many buildings and we  
12 license our entire premises and any activities on those  
13 premises, whether they be our's or some other agency who  
14 has people on our property, we regulate within our  
15 license. We do not write a license amendment to bring a  
16 new building on line, nor to take one off line when it is  
17 no longer used.

18 We do the decommissioning in our own campus as  
19 a part of our LR program when a lab is decommissioned and  
20 do a complete close-out survey of every single square  
21 centimeter of the room, wiping inside sink drains and hood  
22 ducts, if the case might be needed. And we keep records  
23 of that.

24 But when you're decommissioning now buildings,  
25 that becomes a very problematic issue, so that one needs

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1 to be looked at that and that's part of changing the  
2 review process.

3           Along the lines of the decommissioning also,  
4 some of the problems exist, the gray areas of the law.  
5 And we are facing this right now with two huge buildings  
6 with heavy uses historically, that are going to have their  
7 entire ventilation systems renovated. Now what that means  
8 is they're going to rip out all the old hoods, ducts, and  
9 stacks and put in new.

10           Now that is a nasty process to do, especially  
11 when you've got labs still working. We did it in one  
12 building where we fortunately didn't have many RAD users  
13 and so it didn't involve decommissioning. But in these  
14 two buildings, it is going to involve decommissioning to  
15 some degree.

16           And again, this doesn't fall within the  
17 written law as it stands today. And we're going to take  
18 it on as though it is a decommissioned facility, even  
19 though it isn't, it's only a part of the building. But  
20 truly in real intent of the law, it does need to be  
21 decommissioned. I'm not going to let a contractor touch a  
22 hood duct in a building where they're used to be blowing  
23 100 millicurie of tritium and in years past bygone uses of  
24 curium mounts of other long half-life radionuclides. So  
25 there is a potential for contamination. We're going to

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1 have to do it that way.

2 So those things really need to be looked at  
3 carefully.

4 Now, as far as the net would mean, we, to make  
5 it easier for ourselves, could look at changing  
6 contamination criteria and again, that goes back again to  
7 the risk based thing. We think there should be some risk  
8 based rules and criteria for what has to be commissioned  
9 and decommissioned. How do we document it? What kind of  
10 effort we and the NRC have to put into that.

11 And it also could be done on a performance  
12 basis. If a licensee is good at what they do in their  
13 entire program and you know from their whole history that  
14 they are not what you call the shaky, sleazy kind of  
15 licensee, then they should be given the credit to do these  
16 projects on their own and let the NRC check it afterwards  
17 through their inspection and review process. And of  
18 course be available for questions.

19 Regulating source material, according to NARM  
20 and NORM, that's not a bad idea either. We all have a  
21 problem right now, all of us broad licensees, with our  
22 uranium thorium source material. These things that are  
23 ordered without regulation and they come into the source  
24 material definition of part 40.

25 But now we're all stuck with these things

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1 because they are now, kind of could be called mixed waste  
2 because of the chemical uranium or thorium.

3 So we have these jars and jars of this stuff  
4 sitting in our waste buildings, all of us, that we know we  
5 could dispose without regard to regulation or radiation,  
6 but we don't do it because in good conscience, we don't  
7 know what to do with it.

8 The other option of applying U.S. EPA  
9 superfund standards, I'll make a humorous comment on that.  
10 You've got the slow stalled sites, if you use that as a  
11 threat, the stalled sites will go into warp year. Because  
12 if they think they're going to go to EPA, I'll be they'll  
13 get going again. EPA is not a desirable option for any  
14 licensee.

15 Again, not because the EPA doesn't have the  
16 right motive, but because they aren't good with what they  
17 do with respect to radiation. It's very, very difficult  
18 to work with them.

19 So those are my comments on that and as far as  
20 decommissioning is concerned overall, the, the amount of  
21 work that these rules triggered on our campus alone were  
22 absolutely horrendous. Even in the decommissioning  
23 funding plan assurance requirement. We had to change our  
24 entire licenses, how we wrote it, and managed it, in order  
25 to avoid having to go into a huge, huge plan with what we

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1 would do if we ever decommissioned MSU's license.

2           So I think these things really need to be  
3 reexamined and I think you need to involve the licensees  
4 in the process and hopefully some of those who have  
5 already gone through some of these or who are facing it  
6 now.

7           Thank you.

8           MR. CAMERON: Great. Thank you very much,  
9 Kristin. You talked to a number of options and talked  
10 from real world experience on them.

11           Do we have anybody else who? Mark.

12           MR. DORUFF: Again, speaking on behalf of  
13 Amersham Corporation and counsel on radionuclides and  
14 radiopharmaceuticals.

15           First points I'd like to make concerning NRC's  
16 assumptions and projections, I think the NRC has done a  
17 very good job in their assumptions and projections for  
18 internal and external factors in the issues paper.

19           We agree with the assessment that the NRC has  
20 made. Specifically that both licensee and NRC resources  
21 should be used effectively in the decommissioning process.

22           We also agree that the issue of groundwater  
23 protection remains open with EPA and needs to be  
24 addressed. We agree with the NRC position that an overall  
25 does limit, provides sufficient protection without a

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1 specific and separate limit of 4 millirem per year for the  
2 groundwater pathway.

3 It's also important to consider legal  
4 constraints and limited resources in decommissioning  
5 efforts and there's a continuing need to coordinate NRC  
6 regulatory actions with both agreement and non-agreement  
7 states and to address agreement state compatibility  
8 issues.

9 The option that our industry endorses is a  
10 combination of 2, 3, 4, 5, 6 and 7. Maybe I should talk  
11 more about the objectives that, that should be targeted.

12 Number one, implementing performance  
13 decommissioning review process that provides only a  
14 residual contamination goals. We also recommend that,  
15 that NRC should allow the licensee to proceed without NRC  
16 approval of the decommissioning plan.

17 Change the residual contamination criteria,  
18 but do not adopt the overly restrictive 15 millirem per  
19 year does basis for releasing sites for unrestricted use.

20 We would prefer that the superfund approach be  
21 adopted to lower mediation costs, provide flexibility,  
22 while still providing environmental protection and  
23 protection of public health and safety, but do this  
24 without giving NRC superfund authority to NRC. I'm sorry,  
25 do this without giving superfund authority to NRC and

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1 without transferring jurisdiction of decommissioning to  
2 the EPA.

3 MR. CAMERON: Could we just stop you right  
4 there, Mark, because I think Mal has a clarifying question  
5 for you.

6 MR. KNAPP: I want to make sure that I have  
7 this.

8 There's been a little confusion in this paper  
9 about the superfund approach and the two options. And I  
10 think I want, you intend, when you say the superfund  
11 approach, you're talking about the way that EPA would  
12 regulate it's superfund sites, that is two liners,  
13 leachate collection, 30-year observation, assume no  
14 intrusion.

15 Am I correct in that that's what you meant  
16 here? But as you said, NRC, receive the authority for the  
17 triple damage as the rest of them.

18 MR. DORUFF: Yeah. When you talk about the  
19 triple liner and leachate monitoring, I'm not sure that  
20 that would specifically apply to many, or at least most of  
21 the fescarios in the manufacturing industrial licensees.

22 MR. KNAPP: My apologies, I was using sort of  
23 a shorthand essentially for the EPA standards, but not the  
24 EPA regulatory authorities.

25 MR. DORUFF: Exactly.

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1 MR. KNAPP: And I just want to make sure  
2 that's --

3 MR. DORUFF: That's right, yeah. We, we would  
4 favor the approach, but not the regulatory authority given  
5 to EPA or given superfund authority to NRC.

6 MR. CAMERON: Is that clear to you, Mal?

7 MR. KNAPP: Yes, it is.

8 MR. CAMERON: What Mark is saying?

9 MR. KNAPP: Yeah. Appreciate the  
10 clarification.

11 MR. DORUFF: Okay. I think the NRC should  
12 focus on both progress and risk in making determinations  
13 on the disposition of sites and the recommendation, or the  
14 suggestion at least, that NRC made that seminars and  
15 workshops should be held by the NRC. We think that would  
16 be very useful.

17 We think it's also very important to involve  
18 the public in the, not only the rolemaking process, but  
19 also the decommissioning process.

20 MR. CAMERON Okay. Thank you very much,  
21 Mark.

22 I guess I'd like to ask the state  
23 representatives if they're willing to take this on.

24 In your decommissioning experience, I'm sure  
25 you face a number of same key factors that, that we've

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1 identified.

2           How do you, how do you deal with these, these  
3 factors in your experience? Is there, are there options  
4 that we've identified that you're already using? Or are  
5 there things that we, that we missed the boat on on this.

6           I don't know if, if Gordon or Kathy, Steve,  
7 Paul, Thor, anybody from state government who wants to  
8 give us the benefit of what they do in their state on  
9 decommissioning licensees.

10           Thor?

11           MR. STRONG: I can't really speak specifically  
12 about decommissioning of NRC license facilities. I speak  
13 more from a historical involvement in the superfund  
14 program.

15           And back when I was involved with superfund,  
16 there were an awful lot of technical people and an awful  
17 lot of lawyers, an awful lot of money, but not a lot of  
18 common sense.

19           And the way I read this, this issue paper and  
20 the considerations of the Commission, I, I look at it  
21 pretty favorably. From the standpoint of encouraging some  
22 flexibility in the review process, Kristin's comment about  
23 giving those licensees that are known to be fairly  
24 responsible, giving them the authority to just go ahead  
25 and decommission without having to go through the up front

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1 formal, decommissioning plan and review process, that  
2 sounds good.

3 And, and also I'd encourage flexibility on, at  
4 least to some extent on clean-up standards. The, and how  
5 you meet those standards. The EPA 4 millirem groundwater  
6 standard, to me, as well sounds too, too limiting and  
7 restrictive. If you're meeting an overall objective of  
8 public health and safety, taking into consideration the  
9 site, the site's potential uses, and, and other avenues  
10 such as our restrictive covenants and things like this.

11 So in essence, from the general perspective  
12 that I read this, it looks encouraging to me and I'd  
13 encourage just continuing to look at ways, maintaining  
14 flexibility but meet the overall objective of protecting  
15 the public.

16 MR. CAMERON: Thank you very much, Thor. I  
17 would ask Mal at this point, have we focused on this idea  
18 at all of the, the so-called good performer that Kristin  
19 and Thor talked about and perhaps using some sort of a  
20 short circuited decommissioning process, or maybe that's  
21 the wrong way to describe it. But doing something  
22 differently in regard to, to those licensees?

23 MR. KNAPP: If memory serves, we began to move  
24 in that direction, I think about a year and-a-half ago.  
25 But we did not move as aggressively as this DSI would have

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1 us move now.

2 MR. CAMERON: Okay. So that, that, this idea  
3 is wrapped up in this DSI then?

4 MR. KNAPP: Yeah.

5 MR. CAMERON: Okay.

6 MR. KNAPP: We've been looking at that on a  
7 case-by-case basis. I think we have in a couple of cases  
8 taken advantage of it. I don't know the specifics, but  
9 this would go further and more formally in that direction.

10 MR. CAMERON: Okay. Gordon, do you want to  
11 give us the benefit of your thoughts on this?

12 MR. APPEL: This is Gordon Appel with the  
13 Department of Nuclear Safety. I don't know that I have  
14 much of benefit to offer. Steve Collins of our agency  
15 will provide some more specific comments on the  
16 decommissionings, DSI.

17 But in terms of decommissioning options, I  
18 think that the best thing that NRC can do and what we have  
19 tried to do is maintain a maximum degree of flexibility  
20 that you can, relative to a licensee's decommissioning,  
21 while at the same time making sure you have a standard and  
22 are applying standards that are clearly adequate to  
23 protect the public health and safety.

24 Now we clearly object to the 15 millirem per  
25 year in the EPA groundwater standard, based on the basis

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1 that we've laid out for you in writing. And most of our  
2 experience is in decommissioning of source material sites  
3 and 11A2 material sites.

4 And the, the spectrum of, of the character in  
5 those decommissioning ranges from licensees who are  
6 willing and anxious to conduct the decommissioning and to  
7 go the extra mile, relative to what you would like them to  
8 do, to those that are recalcitrant and need to be put in a  
9 position where they will do the right thing, to those that  
10 are to a certain degree financially pressed by the  
11 prospect of decommissioning.

12 The latter category being, at least in our  
13 view, the most problematic. And we have tried to, and  
14 will continue to try, to work with such licensees so the  
15 site gets cleaned up. And it gets cleaned up in such a  
16 way that hopefully you don't bankrupt the licensee. But  
17 on the other hand, it, it needs to be cleaned up.

18 So at some point, you need to make a very  
19 difficult decision about whether you're going to move the,  
20 what should be a relatively straightforward  
21 decommissioning project, into, out of the regulatory  
22 agenda and into the court agenda.

23 But I don't have any specific, I mean, it  
24 isn't any different, it isn't any less difficult for you  
25 all than it is for us. We are trying to prevent the most

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1 problematic class of licensees from expanding, if you  
2 will, by, by requiring more and definitive surety for  
3 their licensed materials.

4 But that's the only real advice I frankly  
5 think I could give you in that regard.

6 MR. CAMERON: Okay. Thanks, Gordon. I would  
7 really like to flag that last point that Gordon cited  
8 about the, the problematic sites, which you may have so  
9 many million dollars worth of clean up, but there's only  
10 so much solvency in the company. And do you really want  
11 to drive the company out of business, which would put the  
12 site on the superfund list, perhaps, but at a very low  
13 priority and it's just going to sit there and there's not  
14 going to be any clean up.

15 Within this strategic issue, Mal, or is there  
16 a consideration or are we giving consideration to how we  
17 deal with those types of licensees and whether there's  
18 some sort of triage-type of concept where there would be  
19 clean up priorities set for a particular site and they  
20 would be focused on in terms of directing whatever limited  
21 licensee resources there are to those, to those sites?

22 I mean, is that, is that type of site, which  
23 may be our biggest problem, are we addressing that in  
24 that, in this issues paper?

25 MR. KNAPP: I think we pretty much are. I

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1 mean, that's the type of site that really was the basis  
2 for the creation of the issues paper. It was the  
3 recognition that in some cases we're trying to get water  
4 out of stone.

5           If we apply the decommissioning process we now  
6 have with the various characterization plans and reviews,  
7 remediation plans and reviews, the standards that we have,  
8 the scenarios that we have, that we have people that  
9 simply can't do the job, no matter how willing they may  
10 be.

11           On the other hand, with the flexibility that  
12 we have proposed and in most cases, where the Commission  
13 and its preliminary view would have us, we think that a  
14 lot of these things can be conducted a lot less  
15 expensively.

16           Will we be able to have every one come out a  
17 winner? That's not clear. But it's not impossible  
18 either. We'd certainly make a lot of progress.

19           Again, it's, some of these sites we're talking  
20 hundreds of millions of dollars to relocate relatively  
21 benign materials, which are still slightly higher than  
22 background.

23           Whereas with some of the approaches and the  
24 options, we might wind up with such things as an approach  
25 similar to uranium recovery, we would recover the site, we

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1 would restrict the land use. That could be done within  
2 the finances available to the company and yet public  
3 protection would be well provided for.

4 MR. CAMERON: Okay. Thank you.

5 Gordon?

6 MR. APPEL: Yeah. I also could offer you  
7 some.

8 We have also been involved in clean ups of  
9 materials under EPA's superfund process and, and DOE's own  
10 voluntary clean up.

11 And I, based on that experience, over about  
12 the past six or seven years, I can clearly tell you that I  
13 think the Atomic Energy Act, NRC agreement state genre of  
14 decommissioning approaches are much preferential to the --  
15 superfund approach.

16 The, the time required to effect a  
17 decommissioning using superfund approaches, where you go  
18 through and do an RIFS and wait years for the  
19 characterization and the risk assessment and the ultimate  
20 decision relative to the clean up methodology. I mean,  
21 frankly, takes way, way too long.

22 And in, in one instance that we were involved  
23 in, frankly, the amount of money that was spent on that  
24 aspect of the process, getting to the point of deciding,  
25 a) did it need to be cleaned up and what the clean up

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1 methodology was going to be, cost ten times more than the  
2 actual clean up.

3           It, and it's obvious why, I mean, to us it was  
4 pretty readily apparent that this situation could have  
5 been remediated for, you know, about a million dollars.  
6 Ultimately that what got spent on it was about \$12  
7 million, but most of that was in process, leading up to  
8 deciding to clean it up as opposed to actually cleaning it  
9 up.

10           And, and the way the EPA and their process is  
11 structured, there is very little direct involvement on the  
12 part of EPA as regulator in actually overseeing the  
13 physical clean up itself. And there's more than one layer  
14 of contractor in there that does that for them and  
15 frankly, the contractor's interests are not necessarily  
16 those, I mean, the contractor's interests are directed at  
17 what is in their contract. If their contract is to  
18 dispose of cubic yards of dirt, they will do that,  
19 independent of whether or not the requisite amounts of  
20 radioactive material go along with it.

21           And, and you know, there's, everybody who is  
22 involved in this, is actually involved in these things  
23 understands that everyone makes mistakes. All I'm saying  
24 is I think it's much more likely to happen under the EPA  
25 environmental protection scheme, than it is under the

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1 agreement state scheme or the Atomic Energy Act, NRC  
2 agreement state scheme, because we have a lot more and  
3 closer involvement in those things.

4 MR. CAMERON: Great, thank you for that,  
5 Gordon. And I think that that applies to a number of  
6 options that caution that we might have left that are  
7 related to the superfund program.

8 Steve?

9 MR. COLLINS: Your question as I, Steve  
10 Collins, with the Illinois Department of Nuclear Safety.

11 Your question, as I understood it, was to  
12 broaden, I'm not sure exactly what you're going to get it,  
13 so I'm going to make a few statements and you can follow  
14 through if you want more specifics.

15 And by accordance, we've got a lot of  
16 experience on several different sites, coming under every  
17 category you've got.

18 So the Department and the agreement states,  
19 other agreement states, generally agrees with the  
20 Commission's preliminary views, a combination of a  
21 modified option 2 plus option 6, 7, and 8 is a way to go.

22 Even if the part, program for option 2 is  
23 successful, we still have serious reservations about  
24 applying that option generally. And what we mean there is  
25 for, for, you need to have a whole lot of flexibility and

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1 a lot of licensees to do a lot of things for buildings,  
2 for decontamination of things like that.

3 When you get into a situation where you've got  
4 soil contamination, there you need to take a little bit  
5 slower, fully characterized type approach, to make sure  
6 you do it and do it right the first time.

7 But when it comes to decontaminating a  
8 building, whether it's lab at a university or a reactor  
9 sort of thing, certain parts reactor at least, there's  
10 more flexibility to just let the licensee figure out the  
11 best way to do it within an evaluated health and safety  
12 plan and radiation safety plan and with agreed upon  
13 criteria or criteria that has been set by the regulatory  
14 agencies, as to say, how clean is clean.

15 Once you get that criteria set, make sure  
16 their workers are working under a good health and safety  
17 plan. Get out of the way and let them do the work,  
18 basically. Do your regulatory job ensuring worker  
19 protection and ensuring that it's cleaned up to the right  
20 level and that there's not effluence generated. And they  
21 will figure out the most economical way to do it. And,  
22 and you don't need to be involved in that. That'll  
23 certainly reduce their cost and your's.

24 And some of the details of the NRC approach  
25 versus the EPA approach. Is, NRC is already far ahead

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1 there. But even more progress can be made.

2 I think Gordon covered the other principals.  
3 If you want to follow through with specific questions on  
4 any type of, like I said, we, from our experience, we can  
5 give more information.

6 MR. CAMERON: Okay, good. That was, that was  
7 very useful. That sort of performance, performance based  
8 approach, I guess you would, you would call it. Makes a  
9 lot of sense.

10 Betty, did you want to say anything? I didn't  
11 know whether you had a comment at this point or not.

12 MS. JOHNSON: Not at this point. You know.

13 MR. CAMERON: Do you want to say this into the  
14 mic or do you want to decline?

15 MS. JOHNSON: --

16 MR. CAMERON: Okay. Okay. Good, I didn't  
17 know whether you did or not, I just wanted to make sure we  
18 didn't miss you.

19 Anybody, anybody else at this point? Any  
20 questions for the states, from NRC staff, in terms of how  
21 various were, were accomplished at all?

22 MR. KNAPP: I don't think so. I think I've  
23 followed the comments pretty well and a couple of good  
24 ideas I don't think we've had before. So I don't have any  
25 specifics.

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1 MR. CAMERON: Okay. Yeah, Mark.

2 MR. DORUFF: -- for NRC. Could you tell us a  
3 little bit about the current status about the proposed  
4 rule on the decommissioning criteria?

5 MR. KNAPP: Let's see. That's been out for  
6 some time. As I recall, I think it was proposed in what,  
7 August of '94. We got in a stack of public comments.

8 As you may recall, that was 15 millirem a year  
9 with the idea that you could have something which you  
10 could, where if you restricted the land use, you could  
11 have as high as 100 millirem to an intruder, in the event  
12 the institutional restrictions failed.

13 And we tentatively had the EPA groundwater,  
14 loosely called the 4 millirem, it's actually a little more  
15 complicated than that, groundwater protection.

16 We got a series of comments, as you can  
17 imagine, we got comments on both sides. Some said 15  
18 millirem was too high, some said it was too low. We've  
19 been giving that a lot of thought.

20 EPA has been giving a lot of thought  
21 themselves to putting out a standard and what we would  
22 like very much to do is to work with EPA and they'd like  
23 to work with us and promulgate their standard at the same  
24 time, or about the same time we promulgate our regulation.

25 We are still working on that and that's about

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1 all I can tell you at this time. I do know that the  
2 agencies are communicating, but I can't say any more about  
3 it than that.

4 MR. CAMERON: Okay. Thanks, Mal.

5 Any last minute, not last minute, but any  
6 final comments out there on this paper or, or anything  
7 else?

8 I guess I'd just like to say thank you to all  
9 of you. It's a pleasure to facilitate a meeting with a  
10 group like you who are very, very active and very  
11 constructive. And I think it's been a productive meeting  
12 and I'll just ask Jim Milhoan to come up and say some  
13 final words to us.

14 MR. MILHOAN: Thank you, Chip.

15 I do want to thank all of you that have  
16 attended this two-day meeting and all of the public  
17 meetings that we've had on this very important subject.  
18 We've had a wide range of attendance at the meetings, both  
19 organizations and individually.

20 I know it's been two long days but we've had  
21 extremely important issues that we've covered. And I  
22 think we've had some very high quality comments.

23 And I thank, I thank you all and this  
24 concludes --

25 (Whereupon, the meeting was adjourned at 3:43 p.m.)

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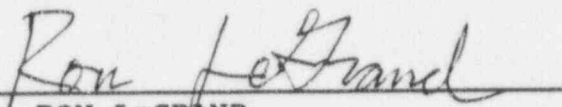
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