

1 UNITED STATES OF AMERICA  
 2 NUCLEAR REGULATORY COMMISSION  
 3 \*\*\*  
 4 BRIEFING ON PRA IMPLEMENTATION PLAN  
 5 \*\*\*  
 6 PUBLIC MEETING  
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8  
 9 Nuclear Regulatory Commission  
 10 Building 1  
 11 11555 Rockville Pike  
 12 Rockville, Maryland  
 13 Wednesday, September 2, 1998

14  
 15 The Commission met in open session, pursuant to  
 16 notice, at 10:05 a.m., the Honorable SHIRLEY A. JACKSON,  
 17 Chairman of the Commission, presiding.

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 19 COMMISSIONERS PRESENT:

- 20 SHIRLEY A. JACKSON, Chairman of the Commission  
 21 EDWARD McGAFFIGAN, JR., Member of the Commission  
 22 NILS J. DIAZ, Member of the Commission  
 23  
 24  
 25

1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

- 2 MARK CUNNINGHAM, RES  
 3 ASHOK THADANI, Director, RES  
 4 HUGH THOMPSON, Deputy Executive Director for  
 5 Regulatory Programs  
 6 GARY HOLAHAN, NRR  
 7 CHARLES ROSSI, AEOD  
 8 MICHAEL WEBER, NMSS  
 9 LAWRENCE CHANDLER, Deputy General Counsel  
 10 JOSEPH GRAY, Deputy General Counsel  
 11 JOHN C. HOYLE, Secretary  
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1 P R O C E E D I N G S

2 [10:05 a.m.]

3 CHAIRMAN JACKSON: Good morning, everyone. I am  
 4 pleased to welcome members of the NRC staff to brief the  
 5 Commission on the status of the PRA implementation plan.

6 The PRA implementation plan was first issued in  
 7 August 1994. Maybe the name needs to change to  
 8 risk-informed regulation implementation plan. The plan is  
 9 intended to be a management tool that will help ensure the  
 10 timely and integrated agencywide use of PRA methods and

11 technology in the agency's regulatory activities.  
12 The Commission recently received the last written  
13 update on the status of activities in that plan,  
14 SECY-98-186. The Commission was last briefed on the plan in  
15 October of 1997. During today's briefing the staff will  
16 cover its recent accomplishments, the status of key  
17 activities, and challenges that the staff and industry are  
18 facing in providing a more risk-informed and as appropriate  
19 performance-based regulatory framework.

20 Many activities and initiatives within the PRA  
21 implementation plan are directly related to and responsive  
22 to issues raised recently by our various stakeholders. As  
23 such, my colleagues and I are looking forward to your  
24 briefing today, in particular, your recent accomplishments  
25 and plans to continue to improve NRC's programs and

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1 processes in a risk-informed manner.

2 I understand that copies of the viewgraphs are  
3 available at the entrances to the room.

4 Do any of my colleagues have any opening comments  
5 they wish to make?

6 If not, Mr. Thompson, please proceed.

7 MR. THOMPSON: Thank you, Chairman Jackson,  
8 Commissioners.

9 As you said, this is an agencywide effort, and you  
10 can see by the representation that the briefers today  
11 represent both NRR, NMSS, Research, and AEOD.

12 At the table is Ashok Thadani, who is the Director  
13 of Office of Research; Gary Holahan, who is NRR's Director  
14 of the Division of Safety Systems Analysis; Mark Cunningham,  
15 who is Research's Branch Chief of the Probabilistic Risk  
16 Analysis Branch; Charles Rossi from AEOD, who is the  
17 Director of Safety Programs Division; and Mike Weber, who is  
18 NMSS's Deputy Director for the Division of Waste Management.

19 I think you laid the foundation for the day's  
20 briefing very well, and I'll just turn it over to Mr.  
21 Thadani, who will provide the overall summary of the more  
22 significant challenges and initiatives, and then each office  
23 will discuss individual initiatives and near-term  
24 expectations.

25 CHAIRMAN JACKSON: Thank you.

5

1 MR. THADANI: Good morning.

2 May I have viewgraph number 2, please.

3 Chairman, as you noted in your opening remarks, we  
4 do have a number of challenges in front of us, so the issues  
5 that have been raised by various stakeholders, we thought in  
6 terms of our briefing today we would change the traditional  
7 approach we have used in this briefing and focus more  
8 attention on some of those problems and what we're thinking  
9 about doing, some of the actions we've already taken, and  
10 what else we'd be doing to address some of these concerns.

11 And I'll briefly go over some of the initiatives,  
12 and then NRR and Research will provide additional details.  
13 AEOD and NMSS would follow up by providing status of where  
14 they are in terms of their activities.

15 May I have viewgraph number 3, please.

16 As I said, while we have completed a number of  
17 activities, and you'll hear some of those later on, we  
18 thought it was appropriate to focus in on some of the tough  
19 issues and what are we going to do about them. Right up  
20 front we have industry in particular has raised a number of  
21 concerns in various forms through workshop discussions,  
22 communication by letters and so on, and as well as at some

23 meetings. We've tried to put them down in certain specific  
24 categories.

25 First of all, the concern is that it takes too

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1 long for the NRC to complete its review of industry  
2 submittals. Second, that the staff is asking some of the  
3 questions which had already been responded to earlier in the  
4 development process of guides and so on. And this really is  
5 also related to transfer of technology between Research and  
6 NRR, and we're going to do something about that as well.

7 And finally there is this observation on the part  
8 of the industry that in some cases the staff doesn't seem to  
9 be thoroughly dedicated to this concept of risk-informed  
10 regulation and moving forward in that arena.

11 I would also point out during my initial summary  
12 briefing that I think there are a number of issues not only  
13 that the staff has to deal with but I think there are  
14 issues, challenges that the industry has as well that need  
15 to be considered. And I'll briefly summarize what I think  
16 those are.

17 And then I will go through and indicate specific  
18 initiatives that we've already taken and how they're related  
19 to some of these concerns on the part of the industry.

20 CHAIRMAN JACKSON: Let me ask you a couple of  
21 questions, quick questions, and then get to this initiative  
22 issue. You know, your status report indicates that the  
23 staff is anticipating an increasing number --

24 MR. THADANI: Yes.

25 CHAIRMAN JACKSON: Of risk-informed licensing

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1 submittals. But at the same time, you know, that same  
2 status report indicated that Arizona Public Service --

3 MR. THADANI: Yes.

4 CHAIRMAN JACKSON: For instance recently informed  
5 the staff of its intention to withdraw Palo Verde as a  
6 risk-informed in-service testing pilot plan. And so the  
7 question is, you know, is there a dichotomy here, or is  
8 there some -- and this is going to be a question that has  
9 many parts, so would you listen carefully -- you know, or is  
10 it representative of some kind of growing pains or learning  
11 curve or is there something more fundamental.

12 So -- and the fundamental question really is do  
13 you feel that the complaints are legitimate and  
14 well-founded, and you talk about initiatives to address the  
15 challenges, but here we, you know, have, I understand, and  
16 the Commission has seen them, that many of the risk-informed  
17 reg guides and standard review plans currently are being  
18 published in final form. And so a natural question relative  
19 to "new initiatives" is if the industry and the staff adhere  
20 to the guides and reg guides, should that not help to  
21 alleviate at least some of the current concerns, coupled  
22 with management oversight through the assurance of a timely  
23 staff review at least on our side with only focused requests  
24 for additional information coupled with quality submittals  
25 by the industry guided by these reg guides.

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1 I mean, I guess that's the real question that I  
2 have, you know, if we have them and they are on the one hand  
3 somewhat allegedly drawn from the pilots but are meant to  
4 guide reviews, are they in fact being used as they were  
5 intended to be used, and how can they, and if they aren't,  
6 why haven't they helped to address some of these issues.

7 MR. THADANI: I'll try and address that, and I'm

8 sure my colleagues will also want to provide their views.

9 First of all, it seems to me that just about  
10 everything you said relates to this issue. First guides,  
11 standard review plans would clearly help if they are  
12 followed fully, number 1.

13 Number 2, I think that at least for the  
14 foreseeable future, which may be a year or two years, I'm  
15 not sure exactly the length of period, it's very clear to me  
16 that we have to manage very closely the process that we're  
17 going through, and you touched upon the focus questions, the  
18 rounds of questions, the timeliness.

19 In my view the guides, the standard review plans  
20 in conjunction with some of the initiatives that I will talk  
21 about such as the role of steering committees, such as the  
22 role of risk-informed licensing panel, and the interactions  
23 with the industry, I believe they're all necessary.

24 CHAIRMAN JACKSON: Well, I guess the fundamental  
25 question I have is are the guides being used or not. Are

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1 they being used by the industry? Are they being used for  
2 the review plans by us? And if so, you know, what impact  
3 are they having, and if not, why are they not?

4 MR. THADANI: I believe the guides are largely  
5 being used.

6 CHAIRMAN JACKSON: Okay. So if they are, why do  
7 we have these problems?

8 MR. THADANI: The problems, if you look at this --

9 CHAIRMAN JACKSON: Is it a management oversight  
10 issue?

11 MR. THADANI: Yes. A lot of problems relate to  
12 timeliness, same questions being asked, more of the  
13 management process type concerns. I think there are other  
14 issues that relate I'll touch upon such as the issue of  
15 standards. I think there are a number of issues that will  
16 help us get there.

17 CHAIRMAN JACKSON: Right.

18 MR. THADANI: I think they're --

19 CHAIRMAN JACKSON: In the least the generic reg  
20 guide and standard review plan there was some implication  
21 relative to PRAs and what they needed to look like.

22 MR. THADANI: Yes, there are. And there are some  
23 issues there.

24 CHAIRMAN JACKSON: All right. So let me hear from  
25 Mr. Holahan, and then I think Commissioner McGaffigan is

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1 signaling that he had questions.

2 MR. HOLAHAN: Mr. Thadani has touched on a number  
3 of issues that I would agree with. I think it's a complex  
4 question and a little bit of a complex answer. The industry  
5 has been frustrated by the length and complexity of reviews.  
6 I think we are taking a number of steps to streamline those,  
7 and certainly having the guidance documents in place I think  
8 is a major step in that direction. We've taken other  
9 initiatives like the steering committee and the licensing  
10 panel to get directly to issues and try to move them along  
11 for the review process.

12 But I think these are only partially what the  
13 industry is interested in. It's pretty clear from our  
14 discussions on graded QA, on ISI, and on IST that the  
15 industry is also searching for opportunities to make changes  
16 without NRC being involved in the review process. And so  
17 whether it's adoption of an ASME code that would allow  
18 licensees to implement a change without NRC review or it's  
19 an interpretation of the existing QA regulations to allow

20 them to make let's say more limited changes, what I see is  
21 the industry searching out those examples where they can do  
22 things without review and approval.

23 So I'm not surprised to see a utility sort of  
24 backing off an IST or an ISI initiative, and I suspect in  
25 terms of volume of activities most of NRC's review and

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1 approvals in the future will probably be related to  
2 technical specifications, where it's quite clear that NRC  
3 needs to be directly involved in a review process. But  
4 where there are other codes or other mechanisms for  
5 minimizing or even eliminating the NRC reviews, I see the  
6 utilities and industry as a whole, you know, searching out  
7 those opportunities.

8 CHAIRMAN JACKSON: Actually, I don't know if this  
9 really pertains, I mean, because it's a couple of viewgraphs  
10 down the line, but I noted that, you know, one of the  
11 challenges you had facing the nuclear power industry was the  
12 completion of PRA standards --

13 MR. HOLAHAN: Um-hum.

14 CHAIRMAN JACKSON: That can support risk-informed  
15 activities --

16 MR. HOLAHAN: Um-hum.

17 CHAIRMAN JACKSON: And then I noted a comment --  
18 there was a question in terms of this ASME task group that's  
19 been set up to develop PRA standards, and there's some  
20 question regarding the scope and quality of the group's work  
21 and even its impact on what our staff feels is the  
22 desirability of our representative continuing to support  
23 that work.

24 Can you speak to that a bit, and if it's relevant  
25 to where we are in the discussion?

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1 MR. HOLAHAN: I think I'd like Mark to --

2 MR. THADANI: Let me touch on it, and then, Mark,  
3 if you can also provide up-to-date status. I'll give you my  
4 understanding.

5 On August 19 we received draft standard that  
6 includes -- considers internal events only. As you know,  
7 this is a phased approach. Later on they'll include  
8 external events.

9 The two areas of concern that the staff has, one  
10 has to do with the Level 2 portion, which is containment  
11 response source term into containment, containment response  
12 part. The second part has to do with applications portion,  
13 where there seems to be significant deviation from our  
14 regulatory guide. And we -- the staff, Mark Cunningham and  
15 Mary Drouin in particular, has been working trying to get  
16 these issues resolved, and our goal is to sit down and try  
17 and settle these issues fairly quickly and not let it  
18 linger. But I would like for Mark to add to that in any  
19 specifics.

20 MR. CUNNINGHAM: Yes. As you indicated, in the  
21 paper we were -- at the time the paper was written we were  
22 very concerned that it was not going to be a timely -- as  
23 timely a standard as we had hoped. I think we've gotten  
24 more optimistic since the time of the paper.

25 The two issues you talked about of scope and

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1 quality, as Ashok mentioned, it's a phased approach, and one  
2 of the things we were concerned about was, okay, when do we  
3 begin dealing with some of these other tough issues like  
4 external events and things like that.

5           There was a meeting of the -- the first meeting of  
6 the Committee on -- the ASME Committee on Nuclear Risk  
7 Management, on which I serve, and one of the issues there  
8 was let's develop a schedule for going on with the next part  
9 of this.

10           And there is a representative from Southern  
11 California Edison that's chairing that task group, separate  
12 task group, and I am on that, and we want to pursue, okay,  
13 when do we start on the next parts. Because we recognize  
14 there's some tough, tough issues out there too, but we need  
15 to get started on it.

16           On the quality, Ashok mentioned some of the  
17 concerns we have, and we have a new draft. We still have  
18 concerns, we still have comments on it, but I think we're  
19 looking more positively at it today than we did two months  
20 ago. There's still a lot to be done yet. It's an extremely  
21 ambitious effort to develop the level of detail that would  
22 be in this standard and make sure that it's all tight and  
23 consistent in and among itself. But I think again we're  
24 more optimistic, but there's a long way to go yet.

25           CHAIRMAN JACKSON: Did you have any comments?

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1           MR. HOLAHAN: No, I think Mark covered it.

2           CHAIRMAN JACKSON: Commissioner McGaffigan.

3           COMMISSIONER MCGAFFIGAN: My original question was  
4 going to be, and I think you're going to get to it as I look  
5 at the viewgraph, so I won't linger on it, but the reg  
6 guides themselves we put out, they may and hopefully will  
7 lead to some stability, but we also said we're going to  
8 update them.

9           And so if I were from industry and there were  
10 parts of the reg guide resolution process that I didn't  
11 like, I probably would in my submittal still try to get my  
12 point of view across and challenge the staff that you're  
13 going too far. I think there are a bunch of issues of that  
14 sort that are embedded in this process as you go forward.  
15 So am I right that the stability may only come once we get  
16 Rev. 1 of these reg guides out and we get through this  
17 learning process?

18           MR. THADANI: I think there will be improved  
19 stability, I think, and that's why this -- the initiatives  
20 that I will talk about, while I think they're very  
21 important, we can't -- in many cases I don't think we can  
22 wait or continually be updating these reg guides. We need  
23 to have interaction going, identify and agree on what the  
24 issues are, and let the next update of the reg guide  
25 incorporate those changes. But we can't wait.

15

1           COMMISSIONER MCGAFFIGAN: Right.

2           MR. THADANI: Until the reg guide.

3           MR. HOLAHAN: I don't really see Rev. 1 as a big  
4 milestone in the future.

5           COMMISSIONER MCGAFFIGAN: Okay.

6           MR. HOLAHAN: I think what will bring more  
7 stability to the process is clearer expectations on our part  
8 and on the utilities' part, and I think that will come with  
9 experience of implementing the existing guides. Because I  
10 think maybe there will be minor changes in the future, but I  
11 think the biggest question is what do the existing guides  
12 really mean in practice as applied, and I think we're  
13 beginning to figure that out through experience. And I  
14 think experience will bring stability to the process.

15           CHAIRMAN JACKSON: Is there any kind of regular  
16 communication channel or forum that you're building into the

17 process either with NEI -- but I think in terms of the  
18 actual use of the reg guide with owners' groups or the plant  
19 operators to --

20 MR. THADANI: Yes.

21 CHAIRMAN JACKSON: Where lessons learned can be  
22 shared?

23 MR. THADANI: Yes, and I'm going to cover --  
24 actually I think this is very good, because you are focusing  
25 in on the areas where we're trying to make sure we do, and

16

1 I'll go ahead and address that now and not wait until later.

2 CHAIRMAN JACKSON: Then I'll -- go ahead, I'm  
3 sorry.

4 MR. THADANI: We have put together the steering  
5 PRS steering committee which includes as you know the NRR  
6 Research, AEOD, NMSS, Enforcement, and OGC. And we have  
7 laid out the charter for the steering committee, and the  
8 steering committee will interact with the industry.

9 I have had discussions with NEI, and NEI will have  
10 a counterpart group that will be chaired by Ralph Beedle,  
11 and we would -- plans are to meet once a quarter to make  
12 sure that if there are any significant issues that we deal  
13 with them.

14 Then below the steering committee we have what we  
15 call risk-informed licensing panel, within the agency,  
16 membership, Gary chairs that group from NRR. Membership is  
17 largely NRR division directors and one division director  
18 from Research, Tom King, who is the vice-chair. They also  
19 have some specific charter in terms of what they are going  
20 to be doing. And that includes regular meetings with the  
21 industry. And I have discussed that --

22 CHAIRMAN JACKSON: Is there a counterpart --

23 MR. THADANI: Yes.

24 CHAIRMAN JACKSON: That's being --

25 MR. THADANI: Steve Floyd is the counterpart from

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1 NEI for that. I've discussed both those activities with  
2 NEI. And I would expect more frequent meetings there, and  
3 that the steering committee with Beedle and appropriate  
4 chief nuclear officers as part of the industry group will  
5 meet quarterly.

6 CHAIRMAN JACKSON: I'm encroaching on Commissioner  
7 McGaffigan's question here, but I'm really interested, you  
8 know, he did raise this question about the ongoing revisions  
9 to those reg guides. Are you going to be able to meet at a  
10 level where there really can be a sharing of lessons learned  
11 in terms of people who actually use these things?

12 MR. HOLAHAN: Yes, yes, I think clearly the intent  
13 is to involve not just NEI as a coordinating organization  
14 but the utilities at the level that are really implementing  
15 the documents.

16 CHAIRMAN JACKSON: Okay.

17 COMMISSIONER MCGAFFIGAN: The second question that  
18 comes from a comment Mr. Holahan made and we may not get  
19 back to, I thought it was interesting that industry is  
20 looking for relief on where they can make changes on their  
21 own, and I know that the staff has changed its view on the  
22 NEI petition on QA and is going to grant that petition, as I  
23 understand it, in a paper that's forthcoming, in part at  
24 least. And Mr. Holahan also said that he sees in the future  
25 that our main resources on review are going to be used in

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1 the tech spec arena. You may be assuming more success and

2 50.59 space than is warranted at the moment, but let's  
3 assume that success.

4 How do we in our rulemaking -- some of this is  
5 going to involve rulemaking, giving up things that are  
6 relatively low priority, that consume our resources and  
7 licensee resources. I regard that as risk-informed even  
8 though it may not ever involve anybody grinding on a PRA,  
9 because we're using our risk insights to say that some of  
10 these areas just aren't worth the review.

11 But how do we get there? Aside from granting at  
12 least in part, and I'm interested in what the staff means in  
13 part, this NEI petition on QA, we're working on 50.59, are  
14 there other areas that they're pushing on where there's some  
15 hope that we can scale back the review, because the review  
16 just isn't producing much?

17 MR. HOLAHAN: I'm not prepared to talk about the  
18 QA example.

19 COMMISSIONER McGAFFIGAN: All right.

20 MR. HOLAHAN: But there are a number of other  
21 activities. What we've recently committed to is giving the  
22 Commission an options paper by January that looks at various  
23 approaches to in effect risk-informing the whole of Part 50.  
24 In that context one of the options has been put forward by  
25 NEI. They've recently shown us an approach in which they

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1 would ask for 51 rule changes and have three plants act as  
2 pilot applications for those and actually implement such  
3 changes under an exemption process. That's sort of one  
4 approach that's been put on the table.

5 The staff is looking at a number of other  
6 alternatives. I think these are obviously, you know,  
7 important policy matters for the Commission to be involved  
8 in. So the approach that we've laid out is to pull together  
9 these various ways in which the regulations could be  
10 risk-informed, and put them before the Commission, kind of  
11 in a two-stage process.

12 CHAIRMAN JACKSON: Well, let me just say something  
13 about that for a minute. I think you owe it -- you have a  
14 responsibility to the Commission that you don't just say do  
15 you want your egg sunny side up --

16 MR. HOLAHAN: Um-hum.

17 CHAIRMAN JACKSON: Or, you know, over easy.

18 MR. HOLAHAN: Um-hum.

19 CHAIRMAN JACKSON: Okay. That the issue becomes,  
20 you know, somehow, you know, the Commission needs to  
21 understand what the implications are of the one or the  
22 other.

23 MR. HOLAHAN: Yes.

24 CHAIRMAN JACKSON: Okay. And so --

25 MR. HOLAHAN: Certainly.

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1 CHAIRMAN JACKSON: With whatever you bring  
2 forward, you know, one has to do that.

3 MR. HOLAHAN: Um-hum.

4 CHAIRMAN JACKSON: And, you know, it should come  
5 out of interactions with NEI, et cetera. But, you know, the  
6 Commission is not here to do your job, and so, you know, you  
7 can't just say sunny side up or over easy. And that's all  
8 it really is.

9 MR. HOLAHAN: I'm afraid none of these will be  
10 easy.

11 MR. THADANI: Let me say two things. First of  
12 all, Chairman, even for the steering committee side, Ralph  
13 Beedle said that the rest of the industry members will be

14 driven by issues and be represented by the industry. So  
15 there will be chief nuclear officers who will participate in  
16 these discussions. So actual people involved in these  
17 efforts will be part of the discussions.

18 I just comment on the NEI issue. We just got  
19 their proposal last Friday, which is quite a bit different  
20 than what had initially been proposed. Both the offices are  
21 taking a hard look at that option, looking at are they  
22 alternatives, what the resource implications would be,  
23 timeliness, we do have a number of initiatives that are  
24 ongoing.

25 We have a senior management meeting with NEI this

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1 Friday. We'll be discussing this issue. We anticipate a  
2 follow-on meeting to get into specifics and alternatives and  
3 what makes sense. So this dialogue hopefully in the next  
4 few weeks will lead to some understanding, and that would be  
5 what we would pull together as part of --

6 CHAIRMAN JACKSON: Do we ever do our own thinking  
7 up front?

8 MR. THADANI: I hope we do. Yes.

9 CHAIRMAN JACKSON: Well, because, you know, when I  
10 was initially in NRC --

11 MR. THADANI: Um-hum.

12 CHAIRMAN JACKSON: I raised some questions about  
13 things like definition of terms important to safety, safety  
14 related, I don't know, there was a panoply that have safety  
15 in them. And I got back a kind of hard response in terms of  
16 well, we tried to, you know, do this in the past, and, you  
17 know, it's too hard, it's across too many regulations, et  
18 cetera, et cetera.

19 Have we done any thinking in the interim --

20 MR. THADANI: Yes.

21 CHAIRMAN JACKSON: In terms of, you know, how one  
22 might go about addressing some of these sorts of issues --

23 MR. THADANI: Yes.

24 CHAIRMAN JACKSON: And particularly in a way that  
25 relates to the risk --

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1 MR. THADANI: Risk-informed --

2 CHAIRMAN JACKSON: In terms of --

3 MR. THADANI: In fact --

4 CHAIRMAN JACKSON: You'll make the regulations?

5 MR. HOLAHAN: In fact, some original staff

6 thinking was presented to the Commission last year in terms  
7 of risk-informing the regulations. It was in the context of  
8 the 50.59 paper. But there were -- of the five alternatives  
9 offered, I think three of them were kind of broad,  
10 conceptual, you know, methods of putting risk information  
11 into the regulatory process. I think at the time maybe the  
12 Commission wasn't ready to pick one of those options, but I  
13 think, for example, you know, rethinking each of those three  
14 options plus what NEI has put on the table is part of this  
15 collection of options to be looked at, and, you know, and  
16 assessed and offered back to the Commission.

17 COMMISSIONER MCGAFFIGAN: But just to follow up  
18 on, you were referring to this proposal from NEI as part of  
19 the pilot activity to change 51 rules and exempt the three  
20 pilot plants, go through an exemption process on each of  
21 those rules for the pilot plants, and we'd see whether we  
22 could justify the exemptions. Is that essentially what the  
23 pilot would be?

24 MR. THADANI: That's the pilot.

1 MR. THADANI: Yes.

2 COMMISSIONER MCGAFFIGAN: The resources to do  
3 that, you said you were going to talk about resources. I'm  
4 worried -- I want this to be successful. I mean, if that's  
5 an option that is real, I want to make sure -- and worth  
6 pursuing, we have the resources to do it. How do we get the  
7 resources in '99 if you all come back and say -- and in some  
8 sense I think it's our job as a Commission to say when this  
9 is so high a priority, if we choose that that we'll find the  
10 resources. But what would it take in '99 to --

11 CHAIRMAN JACKSON: I don't think they can answer  
12 that.

13 MR. THADANI: We can't answer that specifically  
14 what it'll take, but that is in fact what we will owe the  
15 Commission, what the options are, which one we would  
16 certainly recommend an approach and what the implications  
17 are in terms of resources and what other work we couldn't  
18 do, and we'll look at the operating plants to -- in other  
19 words, that's the kind of information we need to put  
20 together to provide to the Commission.

21 COMMISSIONER MCGAFFIGAN: But it's fair to say  
22 that that's probably going to be resource-intensive. If we  
23 choose that option --

24 MR. THADANI: I believe so.

25 COMMISSIONER MCGAFFIGAN: That that is not the

1 pilot that you guys have resourced at the moment, that is a  
2 much more resource-intensive --

3 MR. THADANI: Absolutely.

4 CHAIRMAN JACKSON: But you're talking of coming to  
5 the Commission at a point that's essentially halfway through  
6 the fiscal year or close to that, and I think when you come,  
7 you have to come from the point of view of how it shakes  
8 out --

9 MR. THADANI: Yes.

10 CHAIRMAN JACKSON: Through the operating plan or  
11 the plan --

12 MR. THADANI: Absolutely.

13 CHAIRMAN JACKSON: In terms of the resource  
14 implications. And if the Commission decides that it wants  
15 to adopt one of the options and clearly understands what the  
16 implications are relative to those options, then that's what  
17 will happen. All right?

18 Commissioner Diaz?

19 COMMISSIONER MCGAFFIGAN: I might just add, I do  
20 think that this is a very good development. I mean, however  
21 resource-intensive it may be, it seems to me it strikes  
22 exactly to the Chairman's invitation at the stakeholder  
23 meeting reiterated at the July 30 congressional hearing that  
24 we were going to be open to this sort of proposal and now  
25 we're going to have -- we may have to find the resources if

1 that's the way we're going to go.

2 CHAIRMAN JACKSON: That's right. But it's going  
3 to require some hard thinking on your part, okay, in terms  
4 of, you know, as I say --

5 MR. THADANI: Yes.

6 CHAIRMAN JACKSON: Sunny side up or over easy or  
7 hard.

8 MR. THOMPSON: And this is -- we are really just  
9 at the early stages of this change in --

10 CHAIRMAN JACKSON: Let's hope not.

11 [Laughter.]

12 CHAIRMAN JACKSON: We want to keep some shape  
13 here.

14 MR. THOMPSON: But we are very early in the  
15 elements in this dialogue, and it's going to be important  
16 for us to really understand as well as do our own thinking.  
17 We've talked yesterday amongst ourselves, you know, what are  
18 those things that would make this a success, you know, what  
19 are the questions that we need to have the dialogue with the  
20 industry, because I think it's important for us to if we're  
21 going to put our resources on it that we think it is a  
22 pathway that will be successful.

23 CHAIRMAN JACKSON: I mean, I've looked at the, you  
24 know, preliminarily at the proposal. It's certainly  
25 comprehensive in terms of the panoply of rules and the

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1 panoply of general design criteria, and I guess -- I believe  
2 the Commission needs to have some understanding of how the  
3 one plays off against the other.

4 What is the significance relative to cornerstones  
5 of our regulatory approach, particularly in the general  
6 design criteria arena? Can one be done without the other,  
7 and how does one affect the other?

8 But I do believe the opportunity to provide some  
9 clarity, first of all, with terms, through the panoply of  
10 regulations. And, of course, you know I am a definite fan  
11 of risk ranking various attributes of plant operations, et  
12 cetera, and having a comprehensive scope without these  
13 artificial boxes, and then having whatever we do in  
14 regulatory space, triggered to that kind of ranking. And I  
15 have been working on that since I have been here. And so if  
16 this gives us an opportunity, then I am all for it. But you  
17 have to do your own thinking, but not in the sense of I  
18 don't want to do it. But you have to do your own thinking  
19 and comeback. And that is the real point, that you have got  
20 to think it through.

21 MR. THADANI: Yes.

22 CHAIRMAN JACKSON: Right. Do you have any?

23 COMMISSIONER DIAZ: No, no.

24 MR. THADANI: I may note that I have also had some  
25 discussions with Commissioner Diaz on this same issue of

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1 various terms.

2 CHAIRMAN JACKSON: Right, I know.

3 MR. THADANI: And the need to have some  
4 consistency.

5 CHAIRMAN JACKSON: That is why he is smiling over  
6 here. But you have got to develop your own strawman, you  
7 understand?

8 MR. THADANI: Absolutely. Yes.

9 CHAIRMAN JACKSON: I mean that is my ball game. I  
10 have told NEI this, bring us strawmen. Right. And so they  
11 have brought us a strawman. What is your strawman?

12 MR. THADANI: And that is exactly what we are  
13 doing.

14 CHAIRMAN JACKSON: All right.

15 MR. THADANI: That is exactly what we are doing.  
16 Our intention is to sit down and not just say bring me  
17 another rock. That is not the plan. We have got to move  
18 towards some constructive way to get to what makes sense and  
19 what we can do.

20 CHAIRMAN JACKSON: Well, the constructive way is  
21 for you to develop a strawman.

22 MR. THADANI: Right.  
23 CHAIRMAN JACKSON: And now you know what you --  
24 MR. THADANI: Exactly.  
25 CHAIRMAN JACKSON: As regulators. Right? And now

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1 you overlay these things. And then you go forward.  
2 MR. THADANI: We are putting together exactly what  
3 you say. Our proposed approach and areas.  
4 CHAIRMAN JACKSON: All right.  
5 MR. THADANI: With your agreement, looking at -- I  
6 want to be sure that all the offices have an opportunity to  
7 say -- I could skip page number 4, viewgraph number 4 and go  
8 to viewgraph number 5, because I think we have talked about  
9 these challenges enough.  
10 There are two or three points I do want to make,  
11 and one of them we have already made in terms of the  
12 importance of the standard.  
13 CHAIRMAN JACKSON: Yes, let me reiterate that.  
14 This is more message that I am throwing out beyond those  
15 sitting at the table. This issue has to be addressed. And  
16 if we can't make progress, you know, we can go through a big  
17 rulemaking talking about risk ranking and so forth. We have  
18 got to make progress. But, you know, this is my colleague's  
19 point and he has educated me on that, that point. I don't  
20 know if you have any comments. But I happen to believe now,  
21 the more I have come to understand, that there has to be a  
22 good faith effort on both sides in order to make some  
23 progress.  
24 MR. THADANI: Yes.  
25 COMMISSIONER DIAZ: No, I think it is a dual road

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1 and I think that the industry has to also accept the  
2 responsibility. If they really want to be risk-informed,  
3 they actually have to come and meet half the way. I also  
4 think that we have said many times, it is not a matter of  
5 the staff being serious. I think the staff is always  
6 serious. It is being committed to get this work done so we  
7 can have a more efficient system working.  
8 CHAIRMAN JACKSON: Right. Now, if you want to do  
9 a rulemaking as comprehensive as the one that has been  
10 proposed, --  
11 MR. THADANI: Yeah.  
12 CHAIRMAN JACKSON: -- and I am talking to my  
13 friends from NEI, then you have got to have -- be committed  
14 to what undergirds it. You don't just go out into  
15 cyberspace. And I am committed to this kind of approach.  
16 You have heard me talk about it before. But you have got to  
17 put flesh on the bones. You know, we can't play game,  
18 because it is too important if you are talking about  
19 migrating or regulatory framework. And so -- and I will go  
20 on record on that one.  
21 MR. THADANI: And I think that is one of the  
22 issues that is very important to us, that we have the right  
23 technical base for these decisions, because, otherwise, X  
24 years from now, we would be concerned about what changes we  
25 made and whether they are appropriate or not.

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1 Again, on these issues, challenges that I think  
2 the industry has, they are really sort of similar in nature  
3 in terms of the criticism that -- in many cases, valid  
4 criticism at our performance. I think some of these areas  
5 that relate to quality of submittals, timeliness of response  
6 from the industry to questions, they also apply oftentimes I  
7 think to the industry as well. So our objective here, as

8 part of the steering group, as well as part of the licensing  
9 issues panel, is to make sure that the industry is focusing  
10 their attention on these issues. The goal that they and we  
11 have is the same, more efficient and effective process.

12 I will go on to viewgraph number 6. Okay. Now, I  
13 think this, to me, is an important piece. We have really  
14 talked a lot about it already. I do want -- the three major  
15 areas that we are focusing attention on, regulatory  
16 framework, priority and resources, clarity of guidance, we  
17 have talked about all of these. But the steering committee  
18 charter includes all of these issues and where there is a  
19 need for policy guidance, we come back to the Commission,  
20 get policy guidance once we -- otherwise, we make sure that  
21 the current policy is, in fact, being implemented.

22 And then we get into issues, we will get into  
23 issues of guidance, priority, coordination, resources,  
24 schedule. Interaction with the industry, I talked about the  
25 membership, we have already established that. I apologize

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1 to Louise Reyes because I did not mention that part of the  
2 steering committee is Region 2. Louise Reyes represents the  
3 regional thinking as part of our group.

4 I said we have already established counterparts.  
5 We are -- you will hear a little bit more, and you already  
6 know about this because it is addressed in the response to  
7 your tasking memo, Chairman, that many of the programs and  
8 activities, where we are using risk-informed thinking. So I  
9 won't go into these unless you have questions.

10 The steering committee is also going to be  
11 focusing attention, as I said, in terms of priority and  
12 resources issues. We have also established the  
13 risk-informed licensing panel which will also be looking at  
14 the issues of timeliness, consistency. This panel is more  
15 in day-to-day interaction with the industry and the specific  
16 licensing submittals.

17 CHAIRMAN JACKSON: The nuclear power industry?

18 MR. THADANI: Nuclear power, yes.

19 CHAIRMAN JACKSON: If I was looking in here and I  
20 were one of our other licensees, my feelings would be hurt  
21 even though, you know, we are talking about this, right?

22 MR. THADANI: Yes. Nuclear power, yes.

23 COMMISSIONER MCGAFFIGAN: Could I ask about the  
24 licensing panel? It seems to me that what you are inventing  
25 here is something similar to what was invented, improve

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1 standard tech specs, dry cask storage, AP600, other areas  
2 where we had timeliness goals and where we were trying to  
3 keep the process moving, make sure REIs are appropriate and  
4 not asking for duplicative information, et cetera. Is that  
5 -- is the licensing panel going to establish timeliness  
6 goals for risk-informed licensing actions, and follow,  
7 essentially all of them?

8 MR. HOLAHAN: Yes.

9 COMMISSIONER MCGAFFIGAN: And break ties among,  
10 you know, --

11 MR. HOLAHAN: Yes, exactly.

12 COMMISSIONER MCGAFFIGAN: So that is your intent?

13 MR. HOLAHAN: Yes, exactly.

14 COMMISSIONER MCGAFFIGAN: Are you going to write  
15 all that down?

16 CHAIRMAN JACKSON: Well, it had better be in the  
17 operating plans. Will it be in the operating plans? And I  
18 don't want a knee-jerk answer.

19 MR. THADANI: When you say --  
20 CHAIRMAN JACKSON: Well, do you plan to have  
21 timeliness --  
22 MR. THADANI: Oh, yes, yes, yes.  
23 CHAIRMAN JACKSON: And you are policing the  
24 process relative to those goals?  
25 MR. THADANI: Yes. Yes. If we have goals and

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1 criteria, they have to appear in the --  
2 CHAIRMAN JACKSON: Okay. And so the real question  
3 has to do with this. Is the only way the agency is going to  
4 be timely is to create steering committees each time?  
5 MR. THOMPSON: No, no, no. I think the steering  
6 committees are only for those areas we are kind of plowing  
7 new fields, or need to get in place some processes that will  
8 eventually become our way of doing things. I don't see us  
9 having to have steering committees to be able to -- as a  
10 general practice.  
11 CHAIRMAN JACKSON: So you are doing it for high  
12 hat activities?

13 MR. THOMPSON: That's right. Yes.  
14 MR. HOLAHAN: And also, the way in which we are  
15 doing it, what we are really doing is pulling the line  
16 managers together to put special attention on these  
17 particular issues. But these are the same managers who are  
18 responsible for the other 1200 licensing actions a year.

19 CHAIRMAN JACKSON: I mean because, you know, I  
20 agree that for high hat activities, you perhaps need special  
21 mechanisms to move them along, particularly at an early  
22 stage. But in the end, if we are doing the right job from a  
23 planning and a management point of view, just as with our  
24 licensees, it should be embedded in how the line  
25 organizations do their jobs, even if the activities cross

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1 the boundary lines.  
2 That is not something that needs to come happen  
3 every time there is a steering committee. You know, this  
4 manager here in NMSS and this manager here in Research, they  
5 don't need to be doing that. Right. And so that is a job  
6 as managers that you all need to be held to, and that is my  
7 expectation of you, as Chairman, I mean you all need to be  
8 doing that. And so it shouldn't always be steering  
9 committees. But for the high hat activities, to move them  
10 along.

11 MR. THOMPSON: Right.  
12 CHAIRMAN JACKSON: And so I am just, you know,  
13 playing off of Commissioner McGaffigan.  
14 COMMISSIONER MCGAFFIGAN: I agree with the  
15 Chairman on that. But I do think that it is probably a good  
16 safeguard on these high visibility issues, license renewal,  
17 this sort of thing, to have these sorts of mechanisms.

18 CHAIRMAN JACKSON: Absolutely.  
19 COMMISSIONER MCGAFFIGAN: Extraordinary  
20 mechanisms.

21 MR. THOMPSON: We are in a transitional aspect on  
22 some --  
23 CHAIRMAN JACKSON: We are in violent agreement.  
24 Commissioner.  
25 COMMISSIONER DIAZ: Yes. I was just thinking

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1 that, you know, in how things work, and I was trying to put  
2 simple words in my mind, I am a simple person.  
3 CHAIRMAN JACKSON: Don't trust him.  
4 COMMISSIONER MCGAFFIGAN: Hold your wallet.

5 COMMISSIONER DIAZ: I was trying to figure out  
6 whether the steering committee is actually going to function  
7 like the guru of PRA, you know, as the place where policies,  
8 ideas that follow Commission direction are going to be  
9 directed to the staff. And I look at the licensing panel in  
10 the area of licensing, but they might be a risk-informed  
11 panel sometime as the one that massages this and tries to  
12 get with the interface. The thing that it seems to me like  
13 might be missing in this arena, and it something that, you  
14 know, we all need to consider, is an implementer, is  
15 somebody that actually --

16 CHAIRMAN JACKSON: Who owns it.

17 COMMISSIONER DIAZ: Who owns this and who moves  
18 it. The ombudsman of PRA implementation. You know, what is  
19 the interface?

20 CHAIRMAN JACKSON: Is that you, Gary?

21 MR. HOLAHAN: Well, if we are talking about  
22 licensing actions, I think it is.

23 MR. THOMPSON: Right, it is. Right.

24 CHAIRMAN JACKSON: Okay. So we have identified  
25 that individual.

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1 COMMISSIONER DIAZ: In the licensing.

2 MR. HOLAHAN: In licensing.

3 MR. THOMPSON: In licensing, yes.

4 COMMISSIONER DIAZ: And now we might want to  
5 think, you know, when you guys go through these things, is  
6 there something that maybe the Commission should look at?  
7 Maybe the Chairman should be responsible for?

8 CHAIRMAN JACKSON: Well, I have asked the staff,  
9 and each time there is an initiative, the problem has been  
10 that no one owns it. And that each time there is something  
11 like this, it can't just be steering committee, that someone  
12 has to own it. And that's what I meant about how you  
13 manage, how you do your jobs as managers. That somebody has  
14 to be identified, even if it is across organizational  
15 activity, who owns it and is vested with the authority to  
16 drive the process. If not, then you are not doing your jobs  
17 as managers and, ultimately, you know, I will take a look at  
18 it, as well as the Commission. But in actual performance  
19 expectations basis.

20 MR. THADANI: Yes.

21 CHAIRMAN JACKSON: Right.

22 MR. THADANI: The only point I would like to make  
23 on this chart, because when you look at it --

24 CHAIRMAN JACKSON: Which one are you talking  
25 about?

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1 MR. THADANI: Number 6, I am sorry.

2 CHAIRMAN JACKSON: Okay.

3 MR. THADANI: Is to make a note that a number of  
4 initiatives, NRR has, in fact, underway, as well as other  
5 offices, but, particularly, NRR, that you will hear about.  
6 Which I think would help respond to some of these concerns.

7 Now, let me go to Gary so you can more about some  
8 of the specifics of some of these.

9 MR. HOLAHAN: Well, I am going to follow up in  
10 this context for NRR activities. I think some of this we  
11 have already talked about a little bit.

12 The first thing I would like to emphasize is that  
13 we are having a continuing dialogue with the stakeholders.  
14 As the Commission met at a higher level, we are meeting with  
15 the PRA and licensing community. So we had a workshop on

16 July 22nd with about 150 participants from industry and the  
17 public, and I think the issues out of that meeting were very  
18 similar to the issues that the Commission has heard at the  
19 stakeholder and the Senate hearings, with concerns about the  
20 timeliness of NRC actions where, from the industry's point  
21 of view, they agree with where we want to go, but, simply,  
22 it takes too long and it is too hard to get there.

23 But I think it was important that at the meeting  
24 there were a number of constructive comments. It was not  
25 just a complaining session. In fact, I would say about

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1 three different presentations from different industry groups  
2 recommended some sort of panel or arbitration board to get  
3 issues moving. And, in part, we have put our risk-informed  
4 licensing panel in place, recognizing that need.

5 In addition, I thought it was particularly  
6 interesting that in an eight-hour meeting there were no  
7 comments and no complaints about the risk criteria or the  
8 use of risk information in the licensing process. The  
9 decision criteria and all that we worked on for quite a long  
10 time is not a controversial issue. How to bring together an  
11 integrated decision with deterministic and risk information  
12 is really the difficult process. And seeing that these are  
13 difficult decisions to be made at the reviewer -- at the  
14 branch level, we see this panel as a mechanism for providing  
15 guidance and oversight to the staff and moving things along.

16 I have already mentioned that the staff is  
17 developing options for rulemaking. There are also really  
18 fundamental re-looks at a number of important areas,  
19 inspection, enforcement, assessment, 50.59 being a  
20 particular example in the regulation area where there are  
21 initiatives to put risk information into those processes.

22 I think the one I would like to focus on is, later  
23 this month, there will a four-day workshop to address both  
24 inspection and assessment and we are expecting that to be an  
25 important element in deciding how to bring risk information

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1 into the inspection and assessment processes. That will be  
2 a key issue.

3 I would like to go on to slide number 8, if I  
4 could. With respect to priorities and resources, I think we  
5 have already mentioned the panel more than once. And to  
6 give it a little more than just a name, the panel has met on  
7 three occasions already. It has worked and reworked a  
8 charter to identify how it would function and how it would  
9 relate to line management.

10 CHAIRMAN JACKSON: Let me give you one little  
11 trivial recommendation.

12 MR. HOLAHAN: Yes.

13 CHAIRMAN JACKSON: You are calling yourself a  
14 licensing panel.

15 MR. HOLAHAN: Yes.

16 CHAIRMAN JACKSON: And that has a certain meaning  
17 in a legalistic world. So you might want to substitute  
18 panel with something else. You can pick your choice.

19 MR. CHANDLER: Okay. Not a problem.

20 CHAIRMAN JACKSON: I beg your pardon?

21 MR. CHANDLER: That's not a problem.

22 CHAIRMAN JACKSON: No, it is not a problem for  
23 you. But in terms of clear communication --

24 MR. CHANDLER: For clarity.

25 CHAIRMAN JACKSON: -- to the public.

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1 MR. HOLAHAN: And we have an OGC member of our

2 current panel. Perhaps she can help us.

3 CHAIRMAN JACKSON: You are charged with coming up  
4 with a new name.

5 MR. HOLAHAN: On the panel, we like to assign the  
6 responsibilities for various members to get things done, so  
7 that would be a good assignment.

8 We have met on the NEI Task Zero, which was the  
9 Arkansas request for changing the hydrogen monitoring  
10 requirements. We have worked out a solution to that  
11 problem. We have communicated that to the licensee. I have  
12 in this pile of papers a draft order which will resolve that  
13 issue. We expect next week for the licensee to send us a  
14 letter and a confirmatory order will be issued later this  
15 month. And we think that having this panel in place as a  
16 forum for airing that issue was helpful in moving that  
17 along.

18 We have also looked at the issue of the ISI pilot  
19 activities and their schedule. It was in response to the  
20 industry's desire to have those done more quickly, our  
21 recognition that there are important safety matters  
22 involved. There are occupational exposures and other  
23 reasons why the NRC ought to wish these changes to be in  
24 place as soon as possible. So the panel requested that the  
25 Division of Engineering go back and re-look at its schedule

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1 and see to what extent it can be shorted. And so that looks  
2 like it has been helpful, as well, in pulling those dates  
3 back a little ways.

4 We have also requested and have a draft of an  
5 office letter to clarify the responsibilities among the  
6 technical and the project managers within NRR in moving  
7 licensing activities along.

8 We have also called for a database and a mechanism  
9 for which our normal process for keeping control and  
10 monitoring of activities will tag risk-informed licensing  
11 actions in a special way, so that those can be pulled out  
12 and the schedules and the progress on those can be tracked  
13 simply.

14 One of the things we identified early on was,  
15 although there were a number of complaints about  
16 risk-informed activities not moving along quickly, in fact,  
17 no one had a real list of what those activities were. And  
18 we found that we were, in some sense, having discussions  
19 without having the real list of what activities are we  
20 talking about. So we are much closer to that point now.

21 I would also like to mention that we have  
22 established a lead project manager, which is a mechanism for  
23 coordinating activities among the various project managers.  
24 It gives the project managers for all the reactors a point  
25 of contact where they can be comfortable and understand what

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1 is expected of them when their licensee is looking to  
2 implement the risk-informed activity. So these all look  
3 like steps in the right direction.

4 Can I have slide 9, please?

5 Mr. Thadani mentioned earlier the importance of  
6 guidance and having clear expectations in where we are going  
7 in risk-informed activities. I think this is an area where,  
8 in fact, we have made very significant progress. The  
9 Chairman challenged us a few years ago to put broad and  
10 comprehensive guidelines in place. There has been quite a  
11 lot of activity in that area. The Commission has been  
12 involved. There have been lots of meetings. Draft

13 documents were out for comment last year. And we have come  
14 now to the point where regulatory guides and standard review  
15 plans for the use of risk information have been published.  
16 They are out there and they are being used, both general  
17 documents, as well as specific guidance documents for  
18 in-service testing, technical specifications changes, graded  
19 QA.

20 We have recently issued for trial use the  
21 in-service inspection guidance documents. And we are using  
22 the South Texas implementation of graded QA as a mechanism  
23 for observing that activity and developing guidance  
24 documents for an inspection program, and we expect that to  
25 be done by the end of the year.

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1 We have made significant progress on the pilot  
2 activities. We have completed the Comanche Peak IST pilot  
3 activity. A number of the technical specifications with  
4 respect to diesel generators, safety injection tanks, and  
5 ECCS equipment have issued, and those are moving along more  
6 quickly.

7 The graded QA pilot was completed last year. And  
8 at the moment our focus is on the ISI pilots. And the  
9 reason the dates are not in your slide is, frankly, because  
10 the licensing panel was meeting and trying to optimize those  
11 dates and pull them back. So the dates that Mr. Callan has  
12 recently forwarded to the Commission in the context of the  
13 tasking memo shows that we have pulled those back so that  
14 issuance of completed reviews for Vermont Yankee would be  
15 done in November, Surrey and ANO 2 would be done by the end  
16 of the year.

17 We expect the Westinghouse Owners Group topical,  
18 for which we currently have a draft in place, we expect that  
19 to be done by November. And the EPRI topical, we expect to  
20 complete in the spring. An exact date, I think we are  
21 waiting upon an additional submittal from the licensee, so  
22 that we will set the specific date when we receive their  
23 next information. So the ball is in their court at the  
24 moment.

25 I think these will be significant, not only

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1 reviews in and of themselves, but they will be significant  
2 signals to the industry that the NRC is not committed to  
3 make these changes but is capable of putting those in place.

4 CHAIRMAN JACKSON: Let me ask you this question.  
5 I am told that a representative from South Texas, you have  
6 South Texas, the graded QA.

7 MR. HOLAHAN: Yes.

8 CHAIRMAN JACKSON: SER as having been issued in  
9 November of last year.

10 MR. HOLAHAN: Yes.

11 CHAIRMAN JACKSON: And that this representative  
12 felt -- fairly recently indicated that it had not provided  
13 the expected returns because of so many overlapping  
14 requirements.

15 MR. HOLAHAN: Yes.

16 CHAIRMAN JACKSON: Can you speak to that issue?

17 MR. HOLAHAN: Partially. I have heard that  
18 comment as well. I have spoken to a utility manager from  
19 South Texas. We have arranged a public meeting for  
20 September 15th on that topic.

21 What I understand is, in implementing the graded  
22 QA program, they found that the same equipment that is  
23 covered by QA requirements is also covered by other  
24 requirements, 50.59, for example, and their ability to

25 implement changes, they felt was restricted by other parts

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1 of the regulations, I think in a way that was not  
2 anticipated either by the staff or by the licensee in this  
3 process.

4 I still don't understand the details of why that  
5 has come about. That is why we have asked for the meeting  
6 with the utility. It is conceivable to me that perhaps  
7 their interpretation of these restrictions is maybe overly  
8 conservative. It may be that, in fact, they are not quite  
9 as constrained as they may feel. Or it may be that they  
10 have, in fact, identified some relationship among the  
11 regulations that means that you can't just deal with one  
12 regulation at a time. So I think that remains to be sorted  
13 out. But we see it as an issue. They have raised it in a  
14 number of forums, and I think we need to understand and deal  
15 with that.

16 CHAIRMAN JACKSON: Right. I am encouraged that  
17 you are going to have this meeting in September.

18 MR. HOLAHAN: Yes.

19 CHAIRMAN JACKSON: And that -- I just would like  
20 to reinforce two things with you. One is that it is very  
21 important to have these continual interactions.

22 MR. HOLAHAN: Yes.

23 CHAIRMAN JACKSON: You know, not just on a broad  
24 basis industry-wide, but with those who actually make use of  
25 these things.

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1 MR. HOLAHAN: Yes.

2 CHAIRMAN JACKSON: That is something that is very  
3 important from my perspective.

4 MR. HOLAHAN: Yes. I agree completely. That is  
5 where we get very useful feedback.

6 CHAIRMAN JACKSON: And then the second is, being a  
7 learning organization, and extracting what we can from what  
8 may come out of this, where there may be intersections with  
9 other regulatory requirements, and capturing them relative  
10 to the response the NEI proposal or developing your own  
11 strawman relative to where the panoply of regulations or  
12 regulatory requirements may need to be changed. Because  
13 this is the real life data.

14 MR. HOLAHAN: Yes.

15 CHAIRMAN JACKSON: And so I think it's very  
16 important that we don't kind of have this going on over here  
17 and an activity going on over here where the one can inform  
18 the other.

19 COMMISSIONER DIAZ: I think in expanding on that  
20 point, you know, sometimes we look at regulations like a  
21 flat, you know, level with our hierarchies, and people seem  
22 to think each one of them. I'd be very interested in  
23 knowing from this discussion whether there is a hierarchy in  
24 which you can establish that, you know, Appendix B --

25 MR. HOLAHAN: Um-hum.

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1 COMMISSIONER DIAZ: You know, is more  
2 hierarchically important at what whatever it is and  
3 therefore, you know, by following that, you are actually in  
4 compliance with X, B, and Y. And so that's -- I would be  
5 happy to hear the feedback from that.

6 MR. HOLAHAN: I think that's a very important  
7 issue. I think today we're not in a position to understand  
8 quite how these things fit together. But I think that's an  
9 important topic to cover with South Texas.

10 COMMISSIONER MCGAFFIGAN: Could I ask on the tech  
11 spec area that there are a fair amount of license amendments  
12 that are now going through, or I think I saw one, the Blaha  
13 Weekly Report mentions it seems one almost every week now it  
14 seems. So there seems to be folks in the queue following on  
15 the pilots.

16 In the case of inservice testing, are there people  
17 behind Comanche Peak trying to get relief in the inservice  
18 testing area and filing amendments, graded QA, are there  
19 people coming in behind South Texas. I know inservice  
20 inspection we're still trying to get the first one to work,  
21 but what is the -- how many licensing actions do you have in  
22 or anticipate that would fall in these different categories?

23 MR. HOLAHAN: We've seen very, very few, if any,  
24 follow-on activities for the ISI and graded QA. The number  
25 I have -- I'm looking at a number of about 59 licensing

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1 activities that we're monitoring, and virtually all of them  
2 have to do with technical specifications or inservice  
3 inspection, and I don't see any of them that are IST or  
4 graded QA.

5 COMMISSIONER MCGAFFIGAN: What does that tell us?

6 MR. HOLAHAN: It tells us that licensing review --  
7 I don't think it tells us that the industry's not interested  
8 in risk-informing those topics. I think it's telling us  
9 that the industry is not pleased with the approach and the  
10 amount of effort it's taken to get those first two done. I  
11 think the industry is searching for other alternatives,  
12 either through the, you know, consensus code or through an  
13 interpretation of the existing regulations and through  
14 50.54(a), which will give them a little bit, you know,  
15 increase the ability to make changes in their own processes  
16 without review and approval.

17 So I'm not anticipating a flood of graded QA or  
18 IST reviews. That doesn't mean that there won't be risk  
19 information used in the process, and perhaps the staff needs  
20 to be in a position of inspecting those activities when they  
21 are implemented in the field. But I don't see them as  
22 licensing reviews.

23 COMMISSIONER MCGAFFIGAN: I'd be interested at  
24 some point in you all discussing that in public with the  
25 industry and sort of asking them if they're not going to

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1 follow up on those activities, and we yet nevertheless want  
2 to risk-inform those areas, how are we going to get there.

3 CHAIRMAN JACKSON: Yes.

4 MR. HOLAHAN: Yes, if you remember, we -- at least  
5 in the graded QA area we anticipated that most licensees  
6 would not be looking for license amendments, and that's why  
7 there's no standard review plan for graded QA. We chose to  
8 develop an inspection document, because I think that's where  
9 most of the activity will be. It's a little bit of a  
10 surprise to see that perhaps there won't be many license  
11 amendments for inservice testing, but we'll see.

12 I guess the -- I'd like to make two more points,  
13 if I could, and that is I already mentioned that we are  
14 close to issuing the Arkansas hydrogen monitoring order.  
15 We've also made a decision that other licensees who are  
16 interested in a similar change would be issued relief from  
17 the TMI order, and we're putting in place a mechanism for  
18 doing that quickly. So we're trying to convert what was a  
19 one-plant issue into a generic resolution of an issue.

20 And lastly I'd just remind the Commission that  
21 we've taken what I think was an important step in the AP600

22 review. There was considerable use of risk information,  
23 especially in the area of treatment of regulatory treatment  
24 of nonsafety systems, which I think was a controversial  
25 subject matter, and a recent ACRS letter to the Commission I

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1 think was very favorably -- was very favorable in that it  
2 identified this as a good use of a risk-informed process.  
3 And I think, even though we're not following up with another  
4 review, I think we've laid a foundation here where risk  
5 information can be used to treat other difficult cases.

6 And I'd like to turn it over to Mark if there are  
7 no other questions.

8 MR. CUNNINGHAM: Slide 10, please.

9 The next three slides cover how Research supports  
10 the response to the three challenges that Ashok laid out  
11 earlier on providing regulatory framework and providing  
12 adequate resources and providing clear guidance.

13 Slide 10 talks about our support in the area of  
14 improving the regulatory framework. The first two bullets  
15 indicate that we're supporting NRR in a number of changes  
16 that they're undertaking which were described in your  
17 tasking memo, Chair Jackson, and Mr. Callan's response. In  
18 the areas of inspection and enforcement assessment, 50.59,  
19 and a paper that's coming up on longer-term changes or more  
20 broad changes to Part 50, in a very general sense what  
21 Research is providing there is a couple of things. One is  
22 trying to do some conceptual-level thinking of how best to  
23 bring together risk information into these different  
24 activities, and then providing to the extent that we can  
25 practical examples of how to apply risk information in these

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1 areas.

2 Other things we're doing, as we've indicated  
3 earlier, Mr. Thadani is chairing the PRA steering committee.  
4 We are providing the point-of-contact support with the  
5 Center for Strategic and International Studies. Chairman  
6 Jackson and Commissioner McGaffigan are -- obviously you are  
7 on the steering committee. Mr. Thadani is the contact on  
8 the working group, which I believe is meeting next week to  
9 start to decide how best to pursue that work. And the  
10 steering committee is meeting later this month.

11 Research has the lead on the interactions with NEI  
12 on the whole plant study. This has been talked about a good  
13 bit earlier in the presentation, so I wouldn't presume to go  
14 back into that in much detail.

15 The last point is we have an item to evaluate the  
16 effectiveness of certain rules and unresolved safety issues.  
17 Specifically in the next six months or so we're supposed to  
18 look at the station blackout and ATWS rules and look at  
19 unresolved safety issue A45. What we'll be doing there is  
20 trying to assess what the costs of actual implementation of  
21 those rules in A45 were versus how much gain we had in risk.  
22 We'll be using the IPE results as -- the ensemble of IPE  
23 results to look at the benefit that we've achieved, in  
24 particular using the information we compiled in NUREG-1560,  
25 which is perspectives on the IPEs again to get a measure of

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1 how much gain we've had, for example, in core damage  
2 frequency as a result of the station blackout, that sort of  
3 thing. There is some limited information in the IPEs that  
4 gives us some ideas about them.

5 COMMISSIONER MCGAFFIGAN: Could I ask a question?

6 MR. CUNNINGHAM: Yes.

7 COMMISSIONER McGAFFIGAN: One licensee, and I  
8 forget which one it was, had a nice color viewgraph when he  
9 came in to see me, and it showed their core damage frequency  
10 moving downward in the right direction as a result of  
11 various rule changes. And in their particular case station  
12 blackout, for example, had made a big contribution. In  
13 their particular case Three Mile Island action plan items  
14 had made a minuscule change.

15 I thought that that -- it sounds like what you're  
16 trying to do now is more generalized. If you could  
17 generalize that for the industry, it would sure give us  
18 hints as to where we should back off and where we shouldn't,  
19 station blackout being a classic case of where we shouldn't,  
20 but can you get help from licensees, you know, and just put  
21 out a -- on a voluntary basis, because OMB would probably  
22 kill us if we demanded it, but just ask everyone to give us  
23 that sort of chart, their best judgment as to what the  
24 effect of our rules have been in marching them down in core  
25 damage frequency?

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1 MR. THADANI: I think if I may during the  
2 discussion of research we talked about the importance of  
3 changing our prioritization scheme to bring in burden  
4 reduction as an important element in that. And we do have  
5 initiatives as part of our efforts to meet with the industry  
6 and try to get that kind of information as part of trying to  
7 make sure that if they are targets of opportunity, and I'll  
8 for the moment focus on rules that are really not leading to  
9 much safety benefit and are yet pretty expensive.

10 CHAIRMAN JACKSON: Or ones that are.

11 MR. THADANI: Or ones that are. Exactly. I  
12 agree. I think you touched on station blackout as being  
13 clearly a very important one. Our objective with this  
14 effort under regulatory excellence is to look at both ends.  
15 I'm not suggesting only looking at one end. But that we are  
16 looking at both ends. And yesterday as a matter of fact  
17 there was a workshop in Chicago. There were three parts to  
18 that workshop. One part, and I think, Ernie, you were at  
19 the workshop.

20 MR. ROSSI: Yes, I was at the workshop.

21 MR. THADANI: And one of the issues at the  
22 workshop was to try to get some information from the  
23 industry are there those targets.

24 CHAIRMAN JACKSON: Well, aren't there three  
25 overarching sort of outcomes in terms of the risk-informed

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1 thinking?

2 MR. HOLAHAN: Yes.

3 CHAIRMAN JACKSON: What is it, better safety  
4 decision making, burden reduction, and what was the third?

5 MR. HOLAHAN: More efficient staff use.

6 CHAIRMAN JACKSON: And that coupled with something  
7 I had asked for in terms of looking at the do our rules  
8 achieve their desired outcomes.

9 MR. HOLAHAN: Right.

10 CHAIRMAN JACKSON: I mean, I think that  
11 addresses -- and the point is -- but the pregnant question  
12 is how on a systematic basis do we actually get that input.

13 MR. THADANI: Yes.

14 CHAIRMAN JACKSON: To understand whether either  
15 our initiatives a la the PRA implementation plan or certain  
16 again high-hat rules at least achieve their intended  
17 outcomes. But what I'm hearing is certain specific things  
18 in specific areas, but I think where there's an opportunity

19 is in addition to what you're talking about to try to  
20 systematize how to get information.

21 MR. THADANI: We in fact owe the Commission that.  
22 It's what we had called strategy 5. And that is exactly  
23 what the intent of that strategy was. And I don't remember  
24 the schedule right now --

25 CHAIRMAN JACKSON: I was going to.

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1 MR. THADANI: But we owe you a paper which lays  
2 out the process, and it's sometime later this year, I  
3 believe, but I will check to be sure. And that is an area  
4 where AEOD has the lead and with support from research. And  
5 one piece is -- all I describe to you is one piece, and that  
6 was to get external input to that process. And that was one  
7 of the objectives of the workshop.

8 And the rest of the process does exactly what you  
9 say. It is a systematic way of looking at various sources  
10 of information to be able to pass judgment on which rules,  
11 at least from experience and various studies, to see which  
12 rules may, in fact, be very, very important in terms of  
13 safety and that it is a good thing we have certain  
14 requirements out there. But it will also provide  
15 information on which rules may not be so important, and it  
16 is a systematic process.

17 CHAIRMAN JACKSON: I think the appropriate  
18 statement is, Do our rules accomplish their intended  
19 purpose? And if the intended purpose has to be risk  
20 reduction, safety, et cetera? And it seems to me that is  
21 the way you answer the question.

22 MR. THADANI: Yes. Okay.

23 CHAIRMAN JACKSON: And if they don't accomplish  
24 their intended purpose, then you don't need them or they  
25 need to be changed.

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1 MR. THADANI: Yes.

2 CHAIRMAN JACKSON: Okay. But if they do, and you  
3 are marching down the core damage frequency curve, along the  
4 lines that Commissioner McGaffigan spoke, then that also --  
5 I mean that says something about is the rule achieving its  
6 intended outcome.

7 MR. THADANI: Yes.

8 CHAIRMAN JACKSON: But you need to systematize.

9 MR. THADANI: And those are the metrics and the  
10 strategy 5, incidentally. Yes, indeed.

11 MR. CUNNINGHAM: There are examples in the  
12 utilities where they have that type of information and they  
13 share it with us. Many cases, it is harder to get that  
14 information. We asked, I think, as part of the review of  
15 the draft NUREG-1560, if people wanted to give us  
16 information on how much core damage frequency reduction we  
17 got out of -- they received out of the station blackout  
18 rule, and we have got some information. There is more  
19 information on that than probably the ATWS and any of these  
20 others.

21 CHAIRMAN JACKSON: You know, in the response to  
22 the tasking memo, you talked about having a team approach to  
23 improvements and activities in this area. So as you go  
24 through these bullets on slide 10, you know, how much of  
25 these are being done as research only activities, and how

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1 many of them are as part of actual teams? And then, the  
2 second part of the question, and I always have multi-part  
3 questions, as far as your involvement in supporting changes

4 to inspection, enforcement, and assessment, and 50.59, does  
5 your team include recent field experience, such as the  
6 senior reactor analysts from a region or regions?

7 MR. THADANI: Let me touch on that, and, Mark,  
8 please provide more information, as appropriate. First of  
9 all, it was critical that the team include field experience.  
10 And we have two staffers who have rotated from AEOD who have  
11 had extensive field experience and have been working with us  
12 on these programs. In addition to this support, these  
13 activities are closely linked with the efforts that NRR has  
14 ongoing in this, and that they fit into the overall planning  
15 and schedule of when we want to get to final --

16 CHAIRMAN JACKSON: Why are you all not part of one  
17 team?

18 MR. THADANI: We are. We are.

19 CHAIRMAN JACKSON: No, you are saying linked to  
20 what NRR is --

21 MR. THADANI: No, no, no. We are part of the  
22 team. In fact, the workshops that you heard about, Gary  
23 mentioned earlier, it is the whole group, it is not just  
24 NRI, it is not just Research, it is not just AEOD. It is  
25 the whole group. The workshop will have focus, so within

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1 the --

2 CHAIRMAN JACKSON: I mean one team, led by one  
3 person that has representation from everybody.

4 MR. THADANI: Right. Team led leadership  
5 responsibility.

6 CHAIRMAN JACKSON: Okay.

7 MR. THADANI: The ownership of tasks.

8 CHAIRMAN JACKSON: And does it include senior  
9 reactor analysts? You kind of skirted my question.

10 MR. THADANI: I think it does. I think it does.

11 MR. HOLAHAN: One of the senior reactor analysts  
12 is on my staff. The headquarters has two senior reactor  
13 analysts. The one on my staff --

14 CHAIRMAN JACKSON: But no one from the field? No  
15 one from the Region?

16 MR. HOLAHAN: I believe the mechanism that they  
17 are using, and I could be corrected, the senior reactor  
18 analyst who works for me, who, in fact, he works in  
19 headquarters, but has 18 years of field experience, is on  
20 the team.

21 CHAIRMAN JACKSON: When was he last in the field?

22 MR. HOLAHAN: I believe he is in the field today.

23 CHAIRMAN JACKSON: No, but when was he last in the  
24 field on a regular basis?

25 MR. HOLAHAN: All of the last year he was

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1 providing the support the maintenance team inspections. He  
2 is routinely involved in inspection activities. He is also  
3 --

4 CHAIRMAN JACKSON: I mean I have cautioned you  
5 many times about creating activities that relate to  
6 activities that have to be implemented, or at least  
7 partially implemented in the field, made up of teams that  
8 only have headquarters people. Okay. And so I am going to  
9 reiterate that. Okay.

10 MR. HOLAHAN: I might add --

11 CHAIRMAN JACKSON: And in this area, it is very  
12 important that you take heed of that. And so I will monitor  
13 that, because I don't see how you are going to get there if  
14 you don't involve the people whose job it is, and have an  
15 impact there, if you don't involve the people whose job it

16 is to implement these things.

17 Yes, sir.

18 MR. CUNNINGHAM: I was going to say, starting next  
19 week we have two SRAs in training coming in on assignment to  
20 Research for four months, three months. And their jobs,  
21 they are going to have three jobs, and two of those jobs are  
22 going to be supporting the 50.59 and the inspection process  
23 that we are talking about here, making them more  
24 risk-informed. So we have got two SRAs who are, in effect,  
25 still in the field, they are still in training, but they are

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1 going to be helping us.

2 CHAIRMAN JACKSON: Where are they coming from?

3 MR. CUNNINGHAM: They are coming from Region 3.

4 MR. HOLAHAN: Region 3.

5 CHAIRMAN JACKSON: Okay. All right.

6 MR. CUNNINGHAM: I believe that the team also has  
7 more direct involvement from the regions, I am just not  
8 exactly sure what it is.

9 CHAIRMAN JACKSON: Yes.

10 COMMISSIONER McGAFFIGAN: On slide 10, before you  
11 leave, the only point I would make is if, on Research's lead  
12 with regard to interacting with the NEI and the whole plant  
13 study, you may need to reevaluate that if you go down this  
14 route of 51 exemptions, three plants, 51 rule changes.  
15 That's a whole lot.

16 MR. THADANI: Yes. The thing has changed  
17 significantly and we need to take a lot.

18 CHAIRMAN JACKSON: Okay.

19 COMMISSIONER McGAFFIGAN: Okay.

20 MR. CUNNINGHAM: Slide 11, please. In terms of  
21 resources and resource allocations, one of the things we are  
22 going to be doing is trying to prioritize the research  
23 program to make it more risk-informed. That is, we are  
24 going to develop a general process for including risk  
25 information more directly into the research planning process

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1 and to look at this issue of how research could support  
2 burden reduction activities. Risk is one of the measures  
3 that would be used in this, if you will, a value impact  
4 analysis of risk -- of research programs or some such thing.

5 CHAIRMAN JACKSON: Let me ask a question, though.  
6 You know, over 50 percent of your budget is expended on  
7 responding to user needs identified by other offices.

8 MR. CUNNINGHAM: Yes.

9 CHAIRMAN JACKSON: And so the question I have is,  
10 have the individual offices themselves used risk-informed  
11 principles to prioritize their user need requests? Or is it  
12 a question of the Office of Research, once things have come  
13 in, doing its own prioritization? So there are two levels  
14 at which the risk-informed prioritization can occur. And so  
15 can you give me some insight on that?

16 MR. CUNNINGHAM: I suspect what will happen is, as  
17 we systematize this process and make it more explicit, then  
18 the user offices will see that and be involved in, will be  
19 thinking about it before they come to the Office of  
20 Research. So I think it will work its way back into the  
21 system once we lay it out a little more clearly.

22 MR. HOLAHAN: Historically, NRR has not used a  
23 formal risk assessment process in prioritizing requests to  
24 Research. Obviously, there is some element of risk thinking  
25 that goes into all of your requests, but it hasn't been

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1 formalized in the past.

2 CHAIRMAN JACKSON: Well, I think there has to be a  
3 little more thinking of this because you can do the let me  
4 throw it over the fence process, and then whoever is on the  
5 other side of the fence can do his own ranking. But then  
6 you may come back when the Commission asks, well, why  
7 haven't you done such and such? And you will say, well, it  
8 was Research's fault, because, you know, they decided what  
9 the priority was. But we can't afford to play that game,  
10 and so there has to be -- you know, Research needs to know  
11 what the offices feel based on a prioritization scheme is  
12 really important. And then Research itself has to then try  
13 to sort through that and decide how it is going to rank the  
14 work to get it done.

15 MR. THADANI: Yes.

16 CHAIRMAN JACKSON: Right.

17 MR. CUNNINGHAM: With respect to the IPE and the  
18 IPEEE programs, basically, for all intents and purposes, we  
19 are done with the IPE reviews. We have one last set of  
20 issues, small set of issues associated with the IPE for  
21 Browns Ferry 3. Other than that, which we expect to get  
22 resolved in the next month or two, we are essentially done  
23 with those.

24 A lot of the understanding of what came out of the  
25 IPE program has been embodied now in NUREG-1560, which I

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1 have talked about a couple of times before. What we have  
2 been doing now is reassigning resources from that into other  
3 activities in the office, including the IPEEE reviews. We  
4 are -- further, we are not nearly as far along on the  
5 IPEEEs. We have completed about eight or so SERs. We have  
6 all of the preliminary reviews completed on all the IPEEEs  
7 we have received to date. We have got about, I believe five  
8 to ten more than we haven't received as yet. And so the  
9 resources from IPE reviews have gone into the IPEEE reviews,  
10 as well as into these issues of developing PRA standards and  
11 the 50.59 process we are talking about now, and that sort of  
12 thing.

13 A last element is the development of what we call  
14 SPAR models, which also are called ASP models. The SPAR  
15 models, simplified plan analysis risk models, are intended  
16 to be the models that are used in precursor analyses in the  
17 agency, mostly by AEOD and NRR. We have -- what we have  
18 done over the last few years is developed a set of  
19 improvements to the models that make them much more, at  
20 least site-specific, if not plant-specific.

21 We have a set of 74 models now that are consistent  
22 in nomenclature and level of detail, and that sort of thing,  
23 which are these -- they will be called the preliminary level  
24 one models. They include full power. What we can do now is  
25 analyze events that occur during full power operation and

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1 internal -- from internal initiators, traditional internal  
2 initiators. We have underway --

3 COMMISSIONER DIAZ: I am sorry. The SPAR and the  
4 ASP are the same or they are closely related?

5 MR. CUNNINGHAM: The SPAR models are the tools  
6 that are used in the precursor analyses. We get that all  
7 mixed up ourselves all the time.

8 COMMISSIONER DIAZ: All right.

9 MR. CUNNINGHAM: We have underway --

10 MR. ROSSI: Let me say one thing about those  
11 models. That is an example where NRR and AEOD worked  
12 together to develop a user's need for research and then had

13 interaction to make it very clear to Research what our  
14 office priorities were, which replies to one of your earlier  
15 questions. But that is an example where that was done and  
16 appeared to work quite well.

17 CHAIRMAN JACKSON: Good.

18 MR. CUNNINGHAM: That's correct. And that user  
19 need really drove the other points here in terms of our  
20 priorities within the office and within the branch. We have  
21 developed what we call the -- we have initiated development  
22 of the Rev. 3 models which are going to be a bit more  
23 comprehensive in terms of how the support systems in the  
24 plants are modeled and some other initiating events. We are  
25 just -- we will finish up in fiscal '99 some models for

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1 treating the level two or the consequence part of risk  
2 calculations, or the ASP calculations.

3 We wanted to have, in addition to having the  
4 traditional metric of core damage frequency, or conditional  
5 core damage probability coming out of the ASP analyses, we  
6 also wanted to have something in there that was a measure of  
7 consequences. Because the consequences of core damage  
8 accidents can range considerably. So you wanted to have  
9 some additional measure there to see that implication or see  
10 that effect.

11 Finally, we have completed some feasibility  
12 studies on extending these models into the area of handling  
13 external event initiators such as fires and seismic, and  
14 looking at trying to model events that occur during low  
15 power shutdown conditions. We are planning in '99 to start  
16 more model development to extend the models in those areas.

17 Slide 12 in terms of guidance, Research was  
18 responsible for the development of the regulatory guides  
19 that have been issued over the last well couple of months  
20 here analogous to what Gary was talking about earlier on the  
21 SRPs. Reg Guide 1.174 and SRP chapter 19 have been  
22 published. The notice was put in the Federal Register on  
23 August 20. The others will be published later on this month  
24 with a notice of availability.

25 Reg Guide 1.178 on ISI has been issued for trial

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1 use. Research has the lead for the support to ASME on the  
2 development of PRA standards. We've talked about that  
3 before, so perhaps we could just gloss over it to some  
4 degree. But's it's again -- there's two main things right  
5 now. There's a large effort under way to develop standards  
6 for level 1, 2, full power, internal event initiators except  
7 for fire. That's what was alluded to earlier as incoming.  
8 We have a draft of that -- we received a draft of that on  
9 August 19. We're just now starting the process to define  
10 how to work with ASME and to define how we want to go on to  
11 the other initiators and the other parts of the risk  
12 analysis.

13 We have the responsibility in Research to lead the  
14 modifications, proposed modifications to the safety goal  
15 policy statement. There were a couple of Commission papers  
16 over the last six months recommending that we consider this  
17 further. This is one issue that was actually slipped a bit  
18 in response to the Chairman's tasking memo. So we're I  
19 believe going to have an update or a status report on this  
20 in March of '99 instead of December of '98, and then a full  
21 paper with recommendations in July I believe of next year.

22 And finally we provide research and methods  
23 development in PRA to fill what we consider gaps or weak

24 spots in our ability to use PRA in risk-informed regulation.  
25 I've listed a number of them here. I should say essentially

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1 all of these items are items that are of considerable  
2 international interest. We lead an international -- what we  
3 call the International Cooperative PRA research program,  
4 CPRA. We have representatives from about 17 or 18 different  
5 countries on that. And when we sit down with the people,  
6 we've had two meetings of the steering committee on this,  
7 and we sit down and say what should we be focusing on in  
8 terms of PRA research. There's a strong pattern that  
9 emerges on human reliability, fire, shutdown, digital  
10 systems. Across the world, people who are in the PRA  
11 research business are concerned about those issues. So to  
12 some degree what we're doing here is reflective of what's  
13 going on throughout the world.

14 COMMISSIONER DIAZ: We have not been able to even  
15 tackle the containment as an issue that, you know, should be  
16 there to mitigate the consequence of an accident in PRA  
17 space in any manner that, you know, solves anything? I  
18 mean, is that --

19 MR. CUNNINGHAM: No. I --

20 COMMISSIONER DIAZ: Well, I know that you have,  
21 and I think that I can see it as a priority.

22 MR. CUNNINGHAM: I think that's because we have --  
23 well, there's two things. One is I think we have from a PRA  
24 perspective a better level of comfort, if you will, in our  
25 ability to model the level 2 portions of PRA. The key

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1 issues are phenomenological issues, and those are covered  
2 not so much in CPRA but in the CSAR program that also comes  
3 out of the research program, a different part of the  
4 research, the Office of Research. And that's the group  
5 that's dealing with the nasty issues such as lower melt  
6 progression in the lower part of the reactor vessel and that  
7 sort of thing.

8 So we can -- we feel fairly comfortable that given  
9 that they can resolve the issue reasonably well  
10 phenomenologically that we can handle it in PRA.

11 MR. THADANI: I think that's the distinction Mark  
12 is reflecting more of trying to develop probabilistic  
13 estimates, and not phenomena challenges, loads, and so on,  
14 where you're quite correct, but that should be on the list,  
15 but not necessarily from the point of view of numerical  
16 analysis. But -- and again, that's an area where the  
17 international community has very extensive programs, ongoing  
18 programs.

19 CHAIRMAN JACKSON: This may be more a question for  
20 Mr. Thadani than Mr. Cunningham. You know, for years the  
21 Office of Research has had ongoing programs to evaluate the  
22 effects of plant aging, you know, not necessarily  
23 specifically within the PRA context, but more broadly.

24 How useful or to what extent was this information  
25 being used to support the license renewal process?

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1 MR. THADANI: We'll give you a more complete  
2 answer, but I'll give you my understanding. Office of  
3 Research has prepared a number of reports looking at a  
4 number of reports looking at experience. The one that comes  
5 to my mind right away is on instrumentation, for example.  
6 And those reports have led -- were directly into the license  
7 renewal activities.

8 The area where research has not really looked hard  
9 has been more in the context of are there degradations as a

10 function of time, and if there are, how would they impact  
11 things like risk analyses and so on. Lots of components are  
12 replaced, so the real focus has to be on the long-lived  
13 components, passive long-lived components, not replaced in  
14 particular.

15 I think we -- and I think Mark touched on this --  
16 that we're just beginning to look at that aspect in terms of  
17 risk implications. But for license renewal, the aging  
18 program has provided very useful information. The one I  
19 remember clearly is instrumentation where that was done by  
20 the Office of Research. I believe there are others that we  
21 can provide you some additional information on.

22 There are ongoing programs in aging research which  
23 don't necessarily relate to the license-renewal decision per  
24 se, but they relate to aging issues, for example, cables and  
25 the performance of cables. So there is ongoing research

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1 work in the area of aging, but not necessarily focused on  
2 license renewal. It could be 30 years, 40 years, 50 years,  
3 60 years, what are the effects.

4 CHAIRMAN JACKSON: Okay, so there's been -- the  
5 real answer is that except in the specified area there's  
6 really not been any direct coupling of the aging research  
7 of -- that you've been doing to the aging phenomena and  
8 concerns vis-a-vis license renewal.

9 MR. THADANI: Yes. The coupling made was to make  
10 sure we identify what the concerns were under license  
11 renewal, that we get the responses done by a schedule that  
12 NRR is working on. That's the coupling.

13 CHAIRMAN JACKSON: Okay.

14 MR. CUNNINGHAM: So if there are no other  
15 questions on the research program, I'll turn to Charles  
16 Rossi.

17 MR. ROSSI: The next three viewgraphs summarize  
18 recent and ongoing AEOD activities related to PRA, and I'd  
19 like to have slide 13 first.

20 In the area of risk-based analysis of reactor  
21 operating experience, this slide lists the recent key  
22 products completed by AEOD, and these include issuance of an  
23 advance notice of proposed rulemaking on July 23 of this  
24 year to modify the reactor reporting requirements in 10 CFR  
25 50.72 and 50.73 to make them more risk-informed.

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1 CHAIRMAN JACKSON: How do you think that ANPR is  
2 going to affect the number of licensee event reports?

3 MR. ROSSI: Well, it will drop them -- I don't  
4 know an exact number. I think we have estimated that. But  
5 it will drop them rather than increase them. It will  
6 increase them in some areas, but it will drop the ones that  
7 we feel are reports on non-risk-significant items.

8 And these -- one area that we're dropping reports  
9 on is on missed surveillance tests where when they actually  
10 perform the surveillance they find that the equipment  
11 operates in the way it was supposed to. Those will be  
12 dropped. And there are some other areas where they're  
13 dropped. That rulemaking effort will also increase the  
14 times allowed licensees to make the initial reports.

15 CHAIRMAN JACKSON: In a risk-informed way.

16 MR. ROSSI: On a risk-informed basis; right.

17 CHAIRMAN JACKSON: Okay.

18 MR. ROSSI: We have issued a final report on the  
19 reliability of auxiliary feedwater systems based on  
20 operating experience between 1987 and 1995. We have

21 completed the preliminary analyses of 1997 accident sequence  
22 precursor events. There were six such events in 1997, and  
23 for comparison there were 14 ASP events in 1996 and 10 in  
24 1995.

25 We have completed the development of the

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1 specification for the system that we intend to use for  
2 industry-supplied reliability and availability data to  
3 combine that data along with other operational data to  
4 compute estimates of component reliabilities. And we have  
5 issued a CD-ROM containing the common-cause failure data  
6 base that's been developed from operating experience to the  
7 utilities for their use in PRA analyses.

8 CHAIRMAN JACKSON: Earlier there had been an issue  
9 having to do with the length of time it took to do an ASP  
10 analysis of an operating event in the sense of having that  
11 done in a way that would inform other processes such as  
12 enforcement assessment or even inspection. And has that  
13 time interval for doing ASP been shortened, and what impact,  
14 you know, are the SPAR models or do we anticipate these SPAR  
15 models having on that? Because, you know --

16 MR. ROSSI: Well, we have done some things to  
17 decrease that time. One of the things that we've done is  
18 that as we complete each ASP event analysis we deal with  
19 that individually, send it to the licensee for their  
20 comments, and then we, as soon as we get their comments and  
21 evaluate them, we put it into the PDR and make it available.

22 CHAIRMAN JACKSON: You're wearing out our lawyers.  
23 It's time to end this meeting.

24 MR. ROSSI: That's a difficult thing to do.

25 [Laughter.]

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1 So we have done that, and I believe the new models  
2 will further help us in doing that.

3 MR. CUNNINGHAM: Yes. There's a couple of parts  
4 to the new models again that will be much more systematic in  
5 the sense of -- and consistent between plants so that it'll  
6 be easier to apply the models. In parallel with the  
7 development of the models we're developing software known as  
8 the GEM software which allows -- it's supposed to be kind of  
9 a very user-friendly way of being able to access the models  
10 and make changes in responses to the particulars of the  
11 event and calculate a CCDP very quickly. So I think both  
12 will help.

13 MR. ROSSI: One of the things that we do do in  
14 the --

15 CHAIRMAN JACKSON: So you'll be able to carry it  
16 around and do it on a laptop.

17 MR. CUNNINGHAM: A laptop with NT, with the  
18 Windows NT; yes. You should be able to do it.

19 CHAIRMAN JACKSON: Okay. I mean, because that's  
20 important. This has been a lingering issue in terms of the  
21 timeliness of these ASP -- okay.

22 MR. ROSSI: Other ongoing efforts are shown on  
23 slide number 14. We have issued the contract for the  
24 reliability and availability data system, and we're also  
25 resolving peer-review comments on draft reports for the

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1 three studies that are shown in the viewgraph. We also plan  
2 to issue the contract to develop risk-based performance  
3 indicators this November.

4 Now I would like to make the point that the  
5 risk-based analysis of operating experience in AEOD, we have  
6 an integrated plan for this, and we've had that for several

7 years, and that integrated plan includes system reliability  
8 studies, initiating-event studies, the common-cause failure  
9 data information, and the accident-sequence precursor  
10 analyses, among other things, and each individual product  
11 provides information based on operating experience that we  
12 believe can be used in other agency risk-informed activities  
13 such as in the inspection program.

14 And of course as you know we're going to over the  
15 next couple of years combine all of this information into  
16 risk-based performance indicators, and we'll be working with  
17 the industry in parallel with what we're doing to come to an  
18 agreement in the plant performance assessment process on  
19 performance indicators that should be used. So it is that  
20 integrated program.

21 Yes?

22 COMMISSIONER MCGAFFIGAN: Before he leaves this  
23 slide, I'd -- the NUREG/CR-5499 on rates of initiating  
24 events, the press reports on that, I haven't seen the draft,  
25 I'm sure I could have if I'd asked for it, but the press

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1 reports on it basically said that initiating events are  
2 occurring much less frequently than was assumed in many of  
3 the IPEs. Therefore, core damage frequencies are going to  
4 get a one-time boost in the right direction. They're going  
5 to go downward.

6 MR. ROSSI: That is indeed correct. That is what  
7 we saw, and the draft report's been sent out widely to get  
8 comments on it to make sure that --

9 COMMISSIONER MCGAFFIGAN: How big an effect is  
10 this going to have on a typical IPE?

11 MR. ROSSI: I don't --

12 COMMISSIONER MCGAFFIGAN: I think -- my  
13 recollection is they're about a factor of 3 reduction, with  
14 the exceptions of fire and service water initiating events,  
15 I believe.

16 MR. THADANI: Right. Right. And I would -- I'd  
17 note that there are some AEOD studies, I believe it was, for  
18 example, on the -- I believe it was high-pressure injection  
19 system -- there's some cases where the calculated  
20 availability in the IPEs versus experience may be  
21 optimistic. So there may be some -- I think the AEOD  
22 reports are showing areas of perhaps conservatism in the  
23 analyses as well as some areas where there may be, you know,  
24 some optimistic assumptions as well.

25 This is very important information for various

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1 reasons. As we move towards risk-informed, we want to make  
2 sure we're using the best available information. We're  
3 looking at reassessment of some of the rules and their  
4 effectiveness. We need to use the best available  
5 information.

6 We're going to use AEOD reports as part of that,  
7 and I want to just personally commend AEOD for I think an  
8 outstanding study of aux feed systems, and many other  
9 reports, but aux feed was in my mind an extremely good  
10 study, provides very useful information, not only in  
11 reassessing rules and regulations, but also in terms of  
12 areas that are more important from an inspection point of  
13 view and areas that are not so important.

14 We have a tendency, and I'm one of those too,  
15 sometimes we say well aux feed system is very important.  
16 Well, that's too general a statement. They are parts of  
17 auxiliary feedwater system which are truly very important.

18 There are parts that are not so important in terms of their  
19 contribution to system unavailability.

20 Now I think the AEOD report has really provided  
21 some very, very good operational information. We're going  
22 to use it.

23 COMMISSIONER MCGAFFIGAN: I think that's the  
24 important thing, is to get this information --

25 CHAIRMAN JACKSON: Yes.

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1 COMMISSIONER MCGAFFIGAN: Wherever the chips fall,  
2 and apparently they're falling mostly on the side of  
3 overconservatism, but if they fall the other way, as the  
4 Chairman has said frequently, then we have to deal with that  
5 too and impose additional requirements. But getting this  
6 information that's coming out of these AEOD studies, which I  
7 also commend AEOD for, is very important. And they  
8 shouldn't be sitting on the shelf, they should get into the  
9 NRR rulemaking and other people's programs.

10 MR. ROSSI: We are working very closely with NRR  
11 on the inspection program to suggest ways they can be used  
12 to make the inspection program more risk-informed. That  
13 auxiliary feedwater study is one of the ones that's listed  
14 on slide 13, and that's one of the ones that has been  
15 finalized, and we did send a letter or a memo over to NRR  
16 summarizing the results and how it might be used.

17 CHAIRMAN JACKSON: Actually, following along that  
18 line, I am going to ask you a question about NUREG-5496.  
19 Your report, or at least your status report indicates that  
20 loss of off-site power frequency due to plant-centered  
21 events is a factor of four higher than non-power modes of  
22 operation than during -- at power. Is this statistically  
23 risk significant, and is it mainly due to maintenance  
24 activities?

25 MR. ROSSI: Well, my recollection of that is that

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1 the shutdown ones, what you said about that was correct, but  
2 they tend to be, as I recall, corrected more quickly. And,  
3 you know, I think we sent that information on to the other  
4 offices to make further judgments on it.

5 The other thing that that study did show was that  
6 the contribution of grid-induced losses of off-site power  
7 were very small.

8 CHAIRMAN JACKSON: Exactly. Small. That is what  
9 struck my attention.

10 MR. ROSSI: Compared to the loss of off-site  
11 power.

12 CHAIRMAN JACKSON: So it was more plant-centered  
13 than --

14 MR. ROSSI: More. Right. And it had a lot of  
15 information on durations of weather-related ones and that  
16 kind of thing.

17 MR. THADANI: And, again, this is another report  
18 that is very useful in reassessment of station blackouts.  
19 And we will be using it as part of that reassessment, along  
20 with the auxiliary feedwater system that we talked about.

21 CHAIRMAN JACKSON: Will this data then affect our  
22 implementation guidance under the current proposed revision  
23 to the maintenance rule having to do with looking at  
24 performing safety assessments at all times, including during  
25 shutdown operation?

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1 MR. THADANI: There is an ongoing expectation that  
2 the licensees are supposed to do that. What the experience  
3 and what the impact is, safety impact, and, as you know,

4 there are Parts A2 and A1 of a maintenance rule which hike  
5 up the relative importance. Therefore, management will pay  
6 more attention to certain areas. If that happens for a  
7 specific plant, that is what one would expect they would be  
8 doing.

9 CHAIRMAN JACKSON: And, also, I notice, before you  
10 go into the next slide, this last bullet about issuing a  
11 contract for risk-based performance indicator development in  
12 November of this year. And the question I have is, how does  
13 this play into the ongoing process having to do with plant  
14 assessment, where there is, you know, at least ala the NEI  
15 proposal, is to have a heavy reliance on performance  
16 indicators?

17 MR. ROSSI: That's -- our schedule is fully  
18 integrated with the agency's schedule, and we are  
19 participating with NRR on the plant performance assessment  
20 process. And the intent is for us to have continual  
21 interactions with NEI along the way, so that they know what  
22 we are doing and we know what they are doing and that, as we  
23 progress, we will be able to use results up to a certain  
24 date in the process at that time. And then as we fully  
25 develop our risk-based performance indicators, we intend to

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1 come to closure with the industry on an agreement of  
2 indicators that we can all come to agreement on.

3 CHAIRMAN JACKSON: So the implication is that you  
4 would expect to have these indicators developed by a  
5 contractor on a time frame where they would actually be used  
6 as part of --

7 MR. ROSSI: Yes. Now, that time frame, that  
8 schedule is, I believe, 2000 -- January 2001 for full  
9 implementation, if you just go with our risk-based  
10 performance indicators. But, as I indicated, we are having  
11 the continual interactions with the industry along the way.

12 I will say something about the study. The  
13 risk-based performance indicators require that the key risk  
14 importance system reliability studies be done, the  
15 initiating event studies be done. We have plans for a trial  
16 use along the way that we are working with the industry  
17 through the ongoing things on plant performance, and we will  
18 use whatever we can get as we go along. That is our intent.

19 COMMISSIONER DIAZ: Just as a matter of, again, a  
20 small matter of nomenclature and consistency. Do we want to  
21 call this risk-based?

22 MR. ROSSI: Operating experience?

23 COMMISSIONER DIAZ: Yes.

24 MR. ROSSI: Well, the reason we call it risk-based  
25 is that this is a case where we are truly using numbers.

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1 COMMISSIONER DIAZ: I know. I know. But in the  
2 overall scheme of things, we always try to reserve  
3 risk-based to when the entire issue is really, in a  
4 probabilistic sense, you know, completely risk-based. And  
5 so I was concerned that maybe, although you are right, that  
6 in consistency space, we might be best served by calling it  
7 risk-informed.

8 MR. ROSSI: Okay. Well, we will take another look  
9 at that. What we have assumed today was that we are doing  
10 numbers here that then are used, the numbers are used in the  
11 risk-informed.

12 COMMISSIONER DIAZ: But our lawyers have warned us  
13 that we cannot infringe into risk-based space and,  
14 therefore, you know, I encourage you to look at it.

15 MR. ROSSI: We will take another look at it and  
16 discuss it with the lawyers.  
17 COMMISSIONER MCGAFFIGAN: Just to probe on the  
18 degree of integration, at this workshop that is going to be  
19 held at the end of this month, the four-day workshop on  
20 assessment, will you lay out at that meeting your plans for  
21 what this contract is supposed to achieve and, you know --  
22 MR. ROSSI: We will be fully involved in the  
23 workshop and that is our plan. Yes, we will do that.  
24 COMMISSIONER MCGAFFIGAN: Okay.  
25 MR. ROSSI: I am a little hesitant to say exactly

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1 what we are going to do in terms of discussing our formal  
2 plan, but we have discussed all of this with the industry  
3 already.  
4 CHAIRMAN JACKSON: Nuclear power.  
5 MR. ROSSI: And we are going to continue to do it,  
6 and we are -- beg your pardon?  
7 CHAIRMAN JACKSON: The nuclear power industry. I  
8 remind you Mike Weber is at the table.  
9 MR. ROSSI: Okay. Now, let me go on quickly to  
10 viewgraph 15. We have continued in AEOD to provide PRA  
11 training for the staff. We expect that one inspector from  
12 each site will have completed the PRA Technology and  
13 Regulatory Perspectives course by the end of calendar year  
14 1998. Sufficient courses have been given or planned to  
15 allow 200 technical staff to attend the PRA Basics for  
16 Regulatory Applications course in fiscal year '98, and  
17 another 200 to attend in fiscal year '99. And our  
18 expectations at this point in time is that we expect that  
19 there will be about 180 agency-wide staff that will have  
20 attended this course by the end of fiscal year '98.  
21 CHAIRMAN JACKSON: Let me -- okay, go ahead.  
22 COMMISSIONER DIAZ: I was going to say that, of  
23 course, this is a very important operation, going and  
24 hearing -- training the staff. But I wonder if somebody can  
25 tell me approximately how many expert PRA practitioners do

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1 we have in the NRC? I mean people that actually could go  
2 and do a PRA.  
3 CHAIRMAN JACKSON: That's a good question.  
4 MR. ROSSI: You mean industry hands-on experience?  
5 CHAIRMAN JACKSON: Or just doing training, to be  
6 able to --  
7 COMMISSIONER DIAZ: The capability of doing it?  
8 MR. ROSSI: I don't know how many.  
9 CHAIRMAN JACKSON: Can you do a PRA calculation?  
10 MR. THADANI: We have such a list. We have a such  
11 a list of experts.  
12 CHAIRMAN JACKSON: Are you on it? Are you on it?  
13 MR. THADANI: I think I can do some.  
14 CHAIRMAN JACKSON: Can you do it?  
15 MR. CUNNINGHAM: I would have said I have been in  
16 management too long to be a real hands-on practitioner.  
17 CHAIRMAN JACKSON: Can you do a PRA calculation?  
18 MR. CUNNINGHAM: I can do some PRA calculations,  
19 yes.  
20 CHAIRMAN JACKSON: Hugh?  
21 MR. THOMPSON: I would be very limited.  
22 CHAIRMAN JACKSON: I am going to skip you, Gary,  
23 because the answer had better be yes.  
24 MR. CUNNINGHAM: My answer is I did it once  
25 before, but Mr. Thadani criticized it rather harshly, so I

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1 am not sure if I am qualified either.  
2 CHAIRMAN JACKSON: Mr. Rossi.  
3 MR. ROSSI: I would have limited capabilities with  
4 large uncertainties, I think.  
5 CHAIRMAN JACKSON: Mr. Weber?  
6 MR. WEBER: I have had the training. I could so  
7 some crude calculations. Most of my experience has been in  
8 the materials area, specifically for performance assessment  
9 for high level waste, which is, as you are well aware, the  
10 analog in the waste area.  
11 CHAIRMAN JACKSON: Okay. In the interest of full  
12 disclosure, Mr. Gray?  
13 MR. GRAY: The lawyers could probably do it.  
14 [Laughter.]  
15 CHAIRMAN JACKSON: Mr. Hoyle?  
16 MR. HOYLE: No, Chairman Jackson. And I have no  
17 one on my staff that could.  
18 CHAIRMAN JACKSON: Commissioner?  
19 COMMISSIONER DIAZ: I could do as well as Thadani.  
20 [Laughter.]  
21 CHAIRMAN JACKSON: And Commissioner McGaffigan?  
22 Do you want my answer? Yes, I can do simple PRA  
23 calculations.  
24 MR. HOLAHAN: Can I maybe fill in a little bit? I  
25 would say there are probably two dozen staff members who --

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1 CHAIRMAN JACKSON: That's out of how many staff?  
2 MR. HOLAHAN: -- who could routinely do  
3 development of logic models and actual PRA calculations.  
4 And over the last couple of years, we have actually hired a  
5 number of staff who I would say are real world class experts  
6 who have participated in a dozen or two dozen actual PRAs on  
7 the operating reactors.  
8 COMMISSIONER DIAZ: And are those positions in the  
9 Commission so the expertise can bear on the issues? Or they  
10 in a little corner that -- in which they do these wonderful  
11 things, but we would only see the --  
12 MR. THADANI: I would speak for Research.  
13 Certainly, they are not buried and they are working on what  
14 we think are the high priority issues.  
15 MR. HOLAHAN: I think both NRR and I think a  
16 number of the offices, for example, have senior level  
17 positions with experienced PRA experts who are either  
18 reporting to the branch or division levels to provide not  
19 only expertise but advice at a relatively important level.  
20 MR. ROSSI: We hired two people from industry  
21 within the last year to work on this program that I have  
22 been describing.

23 CHAIRMAN JACKSON: I heard a complaint from a  
24 regional individual who took the PRA, one of these PRA  
25 courses recently, who felt it was kind of boilerplate, and

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1 that it wasn't really up-to-date, it wasn't informed by the  
2 fact that and how the agency intended to use this kind of  
3 capability in licensing and that kind of thing. And so that  
4 is something I would ask you to look at, because the issue  
5 is not to give people, first of all, five-year-old  
6 information if the information needs to have been updated.  
7 And, secondly, if they don't understand what they  
8 are hearing within the context of how the agency either is  
9 or plans to use it in its regulatory programs. And that is  
10 actually where the complaint seemed more to be. Okay.  
11 MR. HOLAHAN: I am little surprised to hear that

12 since, in general, the feedback we get is more positive.  
13 And, certainly, for example, --  
14 CHAIRMAN JACKSON: Well, what your feedback is may  
15 be informed by how informed the individual is about ongoing  
16 initiatives. So if you go in and you don't know a lot,  
17 then, you know, there is a certain amount you are going to  
18 get. But if you happen to know about where these tools are  
19 being used or we plan to use them, then there is a different  
20 reaction. So that is all I am saying. I am sorry.

21 COMMISSIONER DIAZ: And I don't know what the  
22 number should be, I have no idea, but I think that the  
23 Commission, sometime, when you come next time, we should  
24 know what is the solid number of PRA expert practitioners  
25 that we should have, and in what positions, so that their

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1 expertise can be brought to bear.

2 CHAIRMAN JACKSON: Right. Okay. Please go on.

3 MR. ROSSI: Okay. We expect to meet the goal of  
4 having two-thirds of the agency technical managers complete  
5 the PRA for technical managers course in fiscal year '98,  
6 and sufficient courses for the other one-third will be given  
7 in FY '99.

8 Work at the technical training division is  
9 continuing to develop risk monitor software with models to  
10 cover at least four of the reactor designs for use with  
11 simulator and classroom training, and that can also be used  
12 by others in the NRC such as the senior reactor analysts.  
13 And I assume I said -- that covered viewgraph 15. I think I  
14 said that at the start.

15 And that completes what I had to say.

16 CHAIRMAN JACKSON: Next time we will start with  
17 nuclear material safeguards.

18 MR. WEBER: Well, on that note I will briefly  
19 address the other 40 industries or types of uses out there  
20 of materials.

21 [Laughter.]

22 MR. WEBER: In NMSS and the Materials Program, we  
23 are moving forward on a multi-pronged approach in figuring  
24 out to implement and develop the tools necessary and the  
25 guidance necessary to go forward on risk-informed,

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1 performance-based regulation.

2 Most fundamental to that, on the top of slide 16,  
3 is the completion of the plan, really, the strategy for how  
4 we plan to develop the framework for using a risk-informed  
5 approach, including development of the necessary tools and  
6 guidance to regulate nuclear materials.

7 We are a different stage in the process than our  
8 counterparts in the reactor area. Although we have  
9 practiced risk analysis for many years in the performance  
10 assessment area, for example, as the Commission is well  
11 aware, in the larger part of the Materials Program we have  
12 not been so advanced in the use of, certainly, quantitative  
13 risk analysis techniques. And so before we go too far, we  
14 want to make sure that we spend the time necessary and  
15 invest the effort to develop a coherent framework to go  
16 forward on risk analysis.

17 CHAIRMAN JACKSON: Yes. I'm sorry.

18 COMMISSIONER MCGAFFIGAN: It strikes me one of the  
19 challenges you have that the previous two hours of  
20 discussion doesn't have is the variety of stakeholders. And  
21 at times, it came across in the Part 70 briefing we had last  
22 week, the overlap with other agencies. In that case it was  
23 OSHA and EPA. Sometimes it is Transportation, et cetera.

24 So you have a much more complex -- they have an industry  
25 that has been working on PRAs for plant-specific IPES, et

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1 cetera, for two decades. And you have a bunch of folks who,  
2 if you used the term PRA, they would probably think you mean  
3 -- ERA, earned run average, or something.

4 CHAIRMAN JACKSON: Let's be careful.

5 COMMISSIONER MCGAFFIGAN: Not to disparage them.  
6 But just -- in any way, but it is a much more complicated  
7 process for you, isn't it? Outside of high level waste,  
8 where you have a group of people who have been working  
9 similar to the reactor industry on probabilistic models for  
10 at least a decade and a half. So how do you bring those  
11 stakeholders in? Are they as interested in these  
12 probabilistic methods as we are?

13 MR. WEBER: As you might expect, there's a varying  
14 spectrum of interest. Part of it is the sophistication of  
15 the user of the nuclear materials. A lot of it has to do  
16 the risk posed by those materials. Where the risk is small,  
17 the use of quantitative methods like PRA simply -- it is not  
18 there.

19 CHAIRMAN JACKSON: Don't make sense.

20 MR. WEBER: And that is one of our challenges that  
21 we plan to pursue with the development of this framework,  
22 trying to best map the techniques for risk analysis to the  
23 different uses of the material, and that is something that  
24 we hope to come back to the Commission with later this year,  
25 with, you know, here are the results of this framework.

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1 I mentioned a multi-pronged approach. In addition  
2 to working on the strategy or the framework, we are also  
3 moving forward on Commission priorities. For example, the  
4 development of the guidance recently completed by the Office  
5 of Research with input from the other program offices for  
6 the implementation of the License Termination Rule.

7 As the Commission is well aware, that guidance was  
8 approved for a two-year interim use and there will be  
9 extensive interaction with the stakeholders, not just the  
10 user communities but also states, other regulatory agencies,  
11 as you pointed out, Commissioner McGaffigan, EPA, DOE, and  
12 other parties certainly have a large stake in there as we  
13 move forward in a coherent fashion.

14 The Commission is well aware of the work that the  
15 staff has done on the development of the site-specific rule  
16 for Yucca Mountain. Part 63, we believe we are moving  
17 forward with a risk-informed rule in that arena, and that is  
18 due to the Commission later this month. And then the last  
19 bullet, as the Commission is aware from last week's  
20 briefing, the staff developed and provided to the Commission  
21 a risk-informed rule for Part 70 which would apply to fuel  
22 cycle facilities.

23 If you would turn to the next slide, Where do we  
24 go from here? Certainly, a large part of our effort within  
25 our resource constraints will be focused on the development

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1 of the framework. As I mentioned earlier, we are planning  
2 to develop that and complete that by the end of this year.  
3 The task force is up and running and we hope to get a large  
4 amount of interaction there, not just with the headquarters  
5 folks, but also region folks, and our state regulators who  
6 turn out to regulate the majority of the materials  
7 licensees.

8 In addition to the strategy development, we have

9 got work underway in demonstrating methods for assessing the  
10 risk of industrial gauges. The Office of Research is  
11 undertaking this work, and it is a soup to nuts risk  
12 analysis, not just to demonstrate the technique, but also to  
13 give us risk insights. What is the likelihood and the  
14 consequences of the loss of a gauge? What are the impacts  
15 to the steel workers? What is the likelihood, frequency of  
16 occurrence would you would expect to actually melt down the  
17 gauge once it gets to a steel mill? So that will be very  
18 much of us to us across the board.

19 We are also moving on the completion of the  
20 technical basis in the byproduct material use area. We have  
21 a comprehensive survey out to NRC inspectors, license  
22 reviewers, both in headquarters and the region, as well as  
23 the agreement states, on what exactly are the risks  
24 associated with the use of radioactive materials. The  
25 survey is quite lengthy and we hope to compile the results

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1 and use that as the basis for, again, informing us on where  
2 can we get the most return on the investment.

3 If we are going to focus on priorities in the  
4 near-term, what should those priorities be? Where can we  
5 stand to gain the most from a risk standpoint in the  
6 materials area? And that works both ways. You know, where  
7 do you want to increase your involvement, and where do you  
8 want to back off? Because what we are currently requiring  
9 poses an excessive burden.

10 And the last item there is implementing the  
11 screening values. Again, it is part of the development of  
12 the guidance for the implementation of the License  
13 Termination Rule. The staff plans to consult in the near  
14 future with the Commission on this subject because we can  
15 anticipate that there might be some concerns out there as we  
16 go forward with that. And we want to make sure that people  
17 have a full view.

18 We are also coordinating that with the other  
19 agencies that are involved. In fact, as we speak, I believe  
20 the staff is wrapping up a meeting with the ISCORS  
21 Subcommittee on the cleanup and they are trading notes and  
22 exchanging experiences and discussing how do we proceed  
23 collectively, as a federal community, in the development of  
24 meaningful pragmatic guidance for moving on with the cleanup  
25 rules that we have.

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1 There are just a few examples. I guess to sum up  
2 for the Materials Program, we are moving forward. We have  
3 got varying levels of sophistication. We try to map that to  
4 the degree of risk that is involved, as best we know it, and  
5 at the same time we try to quantify what those risks may be.  
6 And we are learning from the experiences of our colleagues  
7 in the Reactor Program. That is one of the reasons we  
8 wanted to the emphasize the development up-front of the  
9 strategy so that we -- if we do move forward, as we move  
10 forward, we move forward in a coherent manner and not in  
11 fits and starts.

12 CHAIRMAN JACKSON: I notice that you didn't  
13 explicitly mention other waste management areas, such as low  
14 level waste.

15 MR. WEBER: Right.

16 CHAIRMAN JACKSON: Is that -- I mean do you not  
17 have not have initiatives in that arena?

18 MR. WEBER: The low level waste program, as it  
19 currently stands, is rather limited from the Commission's  
20 standpoint.

21 CHAIRMAN JACKSON: Right.  
22 MR. WEBER: Most of the work today is being done  
23 out there by the agreement states. We do, however, move  
24 forward in this arena on the development of the low level  
25 waste BTP, as resources permit. Many of the resources that

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1 are working on the development of the guidance for the  
2 License Termination Rule are the same staff resources that  
3 we would --

4 CHAIRMAN JACKSON: You would be working on.

5 MR. WEBER: -- want to rely on and contract  
6 resources for the --

7 CHAIRMAN JACKSON: And when you talk about the  
8 License Termination Rule, you are including in that what has  
9 been the SDMP?

10 MR. WEBER: It is all part of the transition as we  
11 move forward.

12 CHAIRMAN JACKSON: All right. Commissioner.

13 COMMISSIONER MCGAFFIGAN: A couple of questions on  
14 SECY 98-138. One of the areas that you talk about is the  
15 use of PRA techniques and dry cask storage. But,  
16 unfortunately, you also say that the study originally  
17 scheduled has been suspended, and you say, at the end, the  
18 staff believes this study should be resumed when resources  
19 permit. When will resources permit? Because it does strike  
20 me that dry cask storage is an area where some of these  
21 techniques could well be applied, both for reg. reform and  
22 others. But is this a Research study?

23 MR. CUNNINGHAM: Yes, that's correct. I believe  
24 that is in the FY 2000 budget.

25 COMMISSIONER MCGAFFIGAN: FY 2000.

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1 MR. CUNNINGHAM: To restart that.

2 COMMISSIONER MCGAFFIGAN: Why -- we have been  
3 putting a lot of resources into dry cask. What would be the  
4 result of this study? What sort of things might come out  
5 that would help us reform our dry cask regulations or  
6 practices?

7 MR. CUNNINGHAM: The original user request from  
8 NMSS to Research dealt with just trying to understand the  
9 risk of the process of moving fuel from the spent fuel pool,  
10 for example, to a dry cask facility. Where is the risk  
11 associated there? Is it in -- once it is in the cask, is it  
12 a risk, or is it the motion? Is it the movement throughout  
13 the site? And that sort of thing. Trying to get an idea of  
14 are we regulating the right parts of that process. And so  
15 we were trying to develop -- demonstrate a method for  
16 assessing that process for motion of fuel. That was what  
17 was started in FY '97 and suspended.

18 COMMISSIONER MCGAFFIGAN: The other area that I  
19 note in here is Part 71, you point out the regulations there  
20 are mostly prescriptive and deterministic. And that largely  
21 follows because IEA's model regulations are prescriptive and  
22 deterministic, which means there is yet this other  
23 stakeholder, which I guess is all other world regulatory  
24 bodies, that you have to influence. But in that particular  
25 case, the four Becquerel per square centimeter requirement

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1 that is in the IEA model has proven problematic.

2 In Europe recently, I know we historically have  
3 not -- we, in the Department of Transportation, haven't  
4 supported that. But how do we get to a risk-informed  
5 transportation rules and how do influence IEA model so that

6 we don't even up, you know, doing things that really are  
7 pretty close to nonsensical from a risk basis? I mean they  
8 are way, way down in the noise.

9 MR. WEBER: I think the methods that we would  
10 pursue are not unlike those that we would use in the  
11 Reactors Program area, where you do also have international  
12 interest. There was, of course, a comprehensive modal study  
13 done years ago. That addressed different risk aspects of  
14 transportation. I think we had one point -- we still do, I  
15 think, have intentions to go back and revisit that again as  
16 resources permit.

17 If we do that, and you have a comprehensive risk  
18 basis to go to the international community, I think that  
19 stands a chance of having a fair amount of influence on what  
20 some of those decisions might be. As you point out, the  
21 European community has recently really encountered a lot of  
22 controversy associated with this phenomena, a phenomena that  
23 has also occurred in the United States, historically. So it  
24 is something where we have to have the prospect that, coming  
25 forward with a comprehensive, defensible analysis will

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1 eventually influence the ultimate decisions that are made  
2 globally.

3 COMMISSIONER MCGAFFIGAN: Do we have that  
4 comprehensive defensible analysis in the case of Part 71 at  
5 the current time where we could take that to the -- I know  
6 there's a meeting this fall. I know you have some thoughts  
7 as to what we may say at that meeting. But is it a  
8 compelling analysis at the current time?

9 MR. WEBER: I can't -- I'm not really prepared  
10 to --

11 MR. THOMPSON: We'll probably get back to you. I  
12 don't believe that we've probably got such a compelling  
13 analysis on performance-based risk analysis approach to be  
14 able to do that. Traditionally those have been much more  
15 deterministic-type requirements, and I think that's kind of  
16 where the international community is right now.

17 COMMISSIONER MCGAFFIGAN: Deterministic at times  
18 sounds like pick a number out of the air, and if it's  
19 conservative enough and, you know, you can make some cases  
20 achievable, you work to it even if you're in fact working to  
21 microrems per year or something at that point.

22 CHAIRMAN JACKSON: Besides, I take issue with  
23 deterministic. It's never totally deterministic in the  
24 Newtonian sense.

25 COMMISSIONER DIAZ: I guess we're wrapping up.

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1 Well, I just wanted to make a couple of comments. As you  
2 probably know or suspect, I do believe that risk-informed  
3 regulation is one of the key issues that needs to be  
4 resolved in the real short term so we can really have an  
5 agency that is responsive to the needs of the country, and  
6 so I strongly support efforts in this area.

7 I want to say that the last briefing that we had I  
8 didn't end up very happy. You might remember I ended up  
9 sending a series of questions to the staff like does the  
10 staff know that the Commission decided to become  
11 risk-informed regulation, and the answer was yes, we think  
12 the staff knows. The other things the staff committed to  
13 do, well, we apparently believe that some of them do. And  
14 the last question was, you know, can the benefits be  
15 quantified and expressed.

16 I'm a lot happier with the briefing today. I  
17 think there's been a change. I think that like we all know

18 we are really now embarking on how these things are  
19 implemented.

20 And to finalize, I'd like to maybe pick up on  
21 something that Commissioner McGaffigan would say, and what  
22 does PRA mean. And there might be a parallel, you know, a  
23 word for PRA that if you use it together with probabilistic  
24 risk assessment might actually push us in the right  
25 direction. And I call it that PRA should also be conceived

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1 as programmatic resolution of issues. If you put them  
2 together, that certainly will help.

3 CHAIRMAN JACKSON: Let me thank the staff for a  
4 very informative and comprehensive briefing on the agency's  
5 PRA implementation plan. You've obviously made some  
6 significant accomplishments in this area, and in so doing,  
7 as is usually the case, you've identified areas that require  
8 improvement and increased management and Commission  
9 attention.

10 As we've been talking obviously the incorporation  
11 of risk-informed and performance-based initiatives into the  
12 reactor licensing inspection, assessment, and enforcement  
13 program needs to be accomplished in a clear and coherent and  
14 timely manner, and that requires the synergy of programs and  
15 processes as well as the requisite staff training that  
16 you've spoken to. But equally important are the feedback  
17 mechanisms that should allow us to judge the overall  
18 efficiency and effectiveness of our actions, you know, the  
19 outcomes in terms of improved plant safety through enhanced  
20 safety decisions and the efficient use of our resources.

21 In that regard then interactions with our various  
22 stakeholders is very important, as well as our own  
23 self-assessments of the efficacies of our regulatory  
24 requirements and rules. And I look forward to more meat on  
25 the bones in the material safeguards and safety arena, but

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1 again let me caution you to eliminate stovepiping, to really  
2 have teams, and to build risk-informed thinking not only in  
3 the specific quantitative ways we're talking about into our  
4 regulatory process, but into our planning and scheduling and  
5 the building of teams.

6 And so unless there are any further comments,  
7 we're adjourned from this meeting.

8 [Whereupon, at 12:22 p.m., the briefing was  
9 concluded.]

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