

ORIGINAL

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON PRA IMPLEMENTATION PLAN
PUBLIC MEETING

Location: Rockville, Maryland

Date: Wednesday, September 2, 1998

Pages: 1 - 100

ANN RILEY & ASSOCIATES, LTD.

1025 Connecticut Avenue, NW, Suite 1014

Washington, D.C. 20036

(202) 842-0034

1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3 ***

4 BRIEFING ON PRA IMPLEMENTATION PLAN

5 ***

6 PUBLIC MEETING

7 ***

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.
18

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

12
13
14
15
16
17
18
19
20
21
22
23
24
25

ANN RILEY & ASSOCIATES, LTD.
Court Reporters
1025 Connecticut Avenue, NW, Suite 1014
Washington, D.C. 20036
(202) 842-0034

P R O C E E D I N G S

[10:05 a.m.]

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

The PRA implementation plan was first issued in August 1994. Maybe the name needs to change to risk-informed regulation implementation plan. The plan is intended to be a management tool that will help ensure the timely and integrated agencywide use of PRA methods and technology in the agency's regulatory activities.

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

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

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.

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

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

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.

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

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

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

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?

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

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?

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.

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

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

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

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

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.

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

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 --

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.

25 COMMISSIONER MCGAFFIGAN: Okay.

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

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

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

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

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.

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

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

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

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

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

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.

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?

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

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

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.

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

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

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.

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

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

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.

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.

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

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

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

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

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

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?

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

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.

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.

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

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

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

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

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

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

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

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

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

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

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

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

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?

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

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.

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

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.]

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

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

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 conservatisms 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

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.

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

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?

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

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.

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

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

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

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 do
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 --

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

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

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,

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

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.

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

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

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.

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

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.

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

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

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.

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

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

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.]

CERTIFICATE

This is to certify that the attached description of a meeting of the U.S. Nuclear Regulatory Commission entitled:

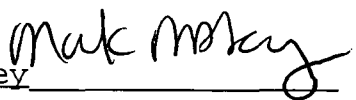
TITLE OF MEETING: BRIEFING ON PRA IMPLEMENTATION PLAN
PUBLIC MEETING

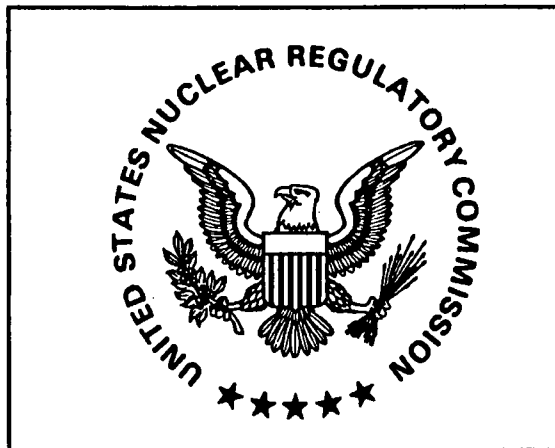
PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Wednesday, September 2, 1998

was held as herein appears, is a true and accurate record of the meeting, and that this is the original transcript thereof taken stenographically by me, thereafter reduced to typewriting by me or under the direction of the court reporting company

Transcriber: Martha Brazil

Reporter: Mark Mahoney 



PRA IMPLEMENTATION PLAN UPDATE

Ashok C. Thadani, Director
Office of Nuclear Regulatory Research

Gary M. Holahan, Director
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

Charles E. Rossi, Director
Safety Programs Division
Office for Analysis and Evaluation of Operational Data

Michael F. Weber, Deputy Director
Division of Waste Management
Office of Nuclear Material Safety and Safeguards

Mark A. Cunningham, Chief
Probabilistic Risk Analysis Branch
Division of Systems Technology
Office of Nuclear Regulatory Research

September 2, 1998

OUTLINE

- **Introduction**
- **Summary**
 - **Challenges (staff and industry)**
 - **Responses to challenges**
- **Nuclear Reactor Regulation**
- **Regulatory Research**
- **Analysis and Evaluation of Operating Experience & Training**
- **Nuclear Material Safety and Safeguards Regulation**

INTRODUCTION

- **Staff completed several activities, *however*,**
- **Staff receiving numerous complaints, examples:**
 - **Staff review of submittals too lengthy**
 - **Duplicative RAls (request for additional information)**
 - **Lack of technology transfer within/among offices**
 - **Question seriousness of staff to become “risk-informed”**
- **Staff and industry faced with several challenges**
- **Initiatives implemented with staff to address the challenges (and complaints)**

CHALLENGES FACING THE STAFF

- **Provide a risk-informed and performance-based regulatory framework**
 - ⇒ ***Modify agency processes and programs to be more risk-informed***
- **Provide adequate priority/resources across and within offices**
 - ⇒ ***Assign responsibility, resolve issues and allocate adequate resources to efficiently implement and accomplish risk-informed activities***
- **Provide clear guidance to staff and industry**
 - ⇒ ***Provide necessary “tools” to efficiently implement/support risk-informed regulation***

CHALLENGES FACING INDUSTRY

- **Provide sufficient information in submittals to support application**
- **Provide priority of needs (e.g., submittals) to the staff**
- **Solicit formal staff input during development of industry programs (e.g., PRA certification)**
- **Complete PRA standards that can support risk-informed activities**
- **Decrease response time in support of staff questions**

STAFF RESPONSE TO CHALLENGES

Providing a Regulatory Framework:

- **Re-establishment of PRA Steering Committee (SC) with representatives from AEOD, NMSS, NRR, OE, OGC, Regions, RES)**
- **Establish industry counterparts**
- **Change agency programs and processes to be more risk informed (e.g., inspection, enforcement and assessment, 50.59, research)**

Providing Adequate Priority/Resources:

- **Re-establishment of PRA SC**
- **Establishment of Risk-Informed Licensing Panel (NRR, OGC, RES)**
- **Increase priority and management attention to risk-informed submittals**

Providing Clear Guidance:

- **Update and supplement regulatory guides and SRPs after pilot plant reviews and further development of methods, data and guidelines**
- **Support development of PRA standards**

NUCLEAR REACTOR REGULATION REGULATORY FRAMEWORK SUPPORT

- **Conduct ongoing interaction with industry and public**
 - **July 22 Workshop**
- **Develop options for rulemaking to implement risk-informed regulation**
- **Change agency processes and programs (e.g., inspection, enforcement, and assessment, and 50.59) to be more risk-informed**

NUCLEAR REACTOR REGULATION

PRIORITY/RESOURCES

- **Established Risk Informed Licensing Panel**
 - **Streamline the review of risk-informed licensing actions**
 - **Provide guidance on policy implementation to NRR staff**
 - **Composed of four NRR Division Directors (DSSA, DE, DRP, and DRPM), one RES Division Director (DST), and one OGC Asst General Counsel**
- **Determine scope and depth of licensee analyses and staff review**
- **Appointment of lead project manager for coordination of risk-informed, performance-based licensing actions**
- **Database for tracking risk-informed licensing actions**

NUCLEAR REACTOR REGULATION CLEAR GUIDANCE

- Issued standard review plan (SRP) Chapter 19, General and supporting SRPs (Inservice testing (IST) SRP Section 3.9.7, Technical specifications (TS) SRP Section 16.1)
- Inservice inspection (ISI) SRP for trial use
- Issue draft and final graded quality assurance (GQA) inspection guidance
- IST pilot: Completed safety evaluation report (SER) for Comanche Peak
- TS pilots: Completed safety evaluation of licensee amendments for extended allowed outage times for ECCS equipment and emergency diesel generators
- GQA pilots: Completed SER for South Texas
- ISI pilots and topical reports: Westinghouse Owner's Group, Vermont Yankee, Surry, ANO 2, and EPRI
- NEI Task 0 Pilot: ANO hydrogen sampling time
- Completed AP-600 PRA review

REGULATORY RESEARCH

REGULATORY FRAMEWORK SUPPORT

- **Support changes to inspection, enforcement, assessment and 50.59**
- **Support longer-term changes to Part 50**
- **Chair PRA steering committee**
- **Support interaction with CSIS**
- **Interact with NEI on whole plant study**
- **Evaluate effectiveness of station blackout and ATWS rules and unresolved safety issue**

REGULATORY RESEARCH PRIORITY/RESOURCES

- **Prioritize research programs (develop general process for making research program more risk-informed as well as focus on potential for burden reduction)**
- **IPE/IPEEE Program:**
 - Completed reviews of all IPEs (met with TVA to resolve IPE on Browns Ferry 3)
 - Issued NUREG-1560, "Individual Plant Examination Program: Perspectives on Reactor Safety and Plant Performance"
 - Completed preliminary reviews of all IPEEEs received
 - Issued preliminary insights report on IPEEEs
- **Simplified Plant Analysis Risk (SPAR) Program:**
 - Completed preliminary Level 1 (full power, internal events) SPAR models
 - Initiated enhanced Level 1 SPAR models
 - Initiated Level 2 (LERF) SPAR models
 - Completed preliminary assessment of external events and low power shutdown to support development of SPAR models

REGULATORY RESEARCH CLEAR GUIDANCE

- Issued regulatory guides (1.174, 1.175 (IST), 1.177 (TS), and 1.176 (GQA))
- Issued regulatory guide 1.178 (ISI) for trial use
- Lead agency support for PRA standards/certification
 - ASME draft standard (Level 1/2, full power, internal events (excluding fire) scheduled to be ready for public review and comment, December 1998
 ⇨ *has not been through consensus process* ⇨
 - ASME initiated process for fire, external events, and low power shutdown
- Update safety goal policy statement
- Provide necessary research in PRA, examples
 - Human reliability analysis
 - Fire risk
 - Aging effects into PRAs
 - Low power shutdown risk
 - Quality assurance impact on risk
 - Digital I&C risk

ANALYSIS AND EVALUATION OF OPERATING EXPERIENCE & TRAINING *REGULATORY FRAMEWORK SUPPORT*

- **Continue risk-based analysis of reactor operating experience in support of regulatory framework changes**
 - **Issued ANPR to modify 10 CFR 50.72 and 50.73**
 - **Issued NUREG/CR-5500, Volume 1, "Reliability Study on Auxiliary/Emergency Feedwater System: 1987-1995"**
 - **Completed preliminary analysis of 1997 ASP events (6)**
 - **Developed specification for reliability and availability data system (RADS)**
 - **Issued CCF database, analysis software, and NUREG supporting documents on CD-ROM**

ANALYSIS AND EVALUATION OF OPERATING EXPERIENCE & TRAINING *PRIORITY/RESOURCES*

- **Resources identified to complete risk-based analysis of reactor operating experience in developing risk-based performance indicators**
- **Issued contract for RADS**
- **Respond to comments and publish final report:**
 - **NUREG/CR-5500 Vol 2, Westinghouse Reactor Protection System Unavailability**
 - **NUREG/CR-5499 "Rates of Initiating Events at Commercial Nuclear Power Plants: 1987 through 1995"**
 - **NUREG/CR-5496, "Evaluation of Loss of Offsite Power Events at Nuclear Power Plants: 1980-1996"**
- **Issue contract for risk-based performance indicator development (11/98)**

ANALYSIS AND EVALUATION OF OPERATING EXPERIENCE & TRAINING

CLEAR GUIDANCE

- **Provide staff PRA training**
 - Resident inspector at each site (PRA Technology and Regulatory Perspectives course (P-111))
 - 200 NRR technical staff during FY 1998 (PRA Basics for Regulatory Applications course (P-105)); another 200 in FY 1999
 - 2/3 of agency technical managers by the end of FY 1998 (PRA for Technical Managers course (P-107)); additional courses will be provided in FY 1999

- **Risk-monitor software**
 - Integrate into reactor technology and PRA training curricula
 - Support staff understanding of configuration management, importance of plant operations to the risk profile of plants
 - Tool to gain insights regarding industry use of risk-informed applications

NUCLEAR MATERIAL SAFETY AND SAFEGUARDS RECENT COMPLETED ACTIVITIES

- **Completed plan for developing a framework for using a risk-informed approach to regulate nuclear materials (SECY-98-138)**
- **Issued draft Regulatory Guide to implement License Termination Rule (July 1998)**
- **Completed staff working draft of site-specific rule for high-level waste disposal at Yucca Mountain and briefed ACNW (July 1998)**
- **Completed draft proposed rule for fuel cycle facilities as amendment to Part 70 (July 1998)**

NUCLEAR MATERIAL SAFETY AND SAFEGUARDS NEW INITIATIVES AND PLANNED ACTIVITIES

- **Complete scoping effort in support of plan for risk-informed approaches to regulate nuclear materials**
- **Demonstrate methods for assessing risk of industrial gauges**
- **Complete technical basis for risk-informed and graded regulation of byproduct material**
- **Issue appropriate screening values for surface contamination to implement License Termination Rule**