UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
***
BRIEFING ON PRA IMPLEMENTATION PLAN
***
PUBLIC MEETING
***

Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, Maryland

Wednesday, October 16, 1996

The Commission met in open session, pursuant to notice, at 2:07 p.m., the Honorable SHIRLEY A. JACKSON, Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:
SHIRLEY A. JACKSON, Chairman of the Commission
KENNETH C. ROGERS, Member of the Commission
GRETA J. DICUS, Member of the Commission
NILS J. DIAZ, Member of the Commission
EDWARD McGAFFIGAN, JR., Member of the Commission

STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:
JOHN HOYLE, SECRETARY
KAREN CYR, GENERAL COUNSEL
JAMES TAYLOR, EDO
EDWARD JORDAN, Director, AEOD
CARL PAPERIELLO, Director, NMSS
NORMAN EISENBERG, Senior Advisor, Performance Assessment, NMSS
ASHOK THADANI, Associate Director for Inspection and Technical Assessment, NRR
GARY HOLAHAN, Director, Division of Systems Safety and Analysis, NRR
THOMAS KING, Deputy Director, Division of Systems Technology, RES
JOSEPH MURPHY, Special Assistant, RES

P R O C E E D I N G S
[2:07 p.m.]

CHAIRMAN JACKSON: Good afternoon. I am pleased to welcome members of the Staff to brief the Commission on the status of the PRA Implementation Plan.

The PRA Implementation Plan was first issued in August 1994, and the Staff provides quarterly written updates and briefs to the Commission semiannually.

Previous written updates on the status of activities in the PRA Implementation Plan were provided to the Commission in March and June of this year. The Commission was last briefed on the plan in April of this year. The plan is intended to be a management tool that will help ensure the timely and integrated agency-wide use of PRA methods and technology in the Agency's regulatory activities.

During today's briefing, the Staff will cover its recent accomplishments, policy issue recommendations, key technical and process issues, and its plan for future activities. I am particularly interested in hearing about progress on the PRA regulatory guides and standard review plans, as well as how these activities are being informed by pilot applications. I am also interested in cross-office integration, and my fellow Commissioners and I are looking forward to your briefing today.

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

If no one has any additional comments, Mr. Taylor, please proceed.

MR. TAYLOR: Good afternoon. With me at the table from several offices is Norm Eisenberg, Carl Paperiello from NMSS, Ed Jordan of AEOD, Ashok Thadani and Gary Holahan from NRR, Tom King, and Joe Murphy from the Office of Research. I think this represents a good cross-section of people who are working on this particular area.

I would like to preface the presentation, and I think Ashok will bring this up again, that in order for licensees to use PRA and regulatory applications, the design basis and configuration management issues at their plants must be resolved. In other words, the plant design bases must be clearly known and maintained. The plant must have been constructed in accordance with the design basis, and the plant must be configured and operated in accordance with our NRC requirements and license commitments.

With those opening thoughts, I will ask Ashok Thadani to continue.

MR. THADANI: Thank you, Jim.

May I have viewgraph No. 1, please?

Good afternoon. We thought it was probably useful to go through fairly quickly some of the background

information, and I will do that, hopefully, quickly.

Then Tom King from the Office of Research will pick up on the recent accomplishments, as well as discussing some of the key technical and process issues and the types of questions that we need to make sure we can address.

Part of these key technical issues are also some policy matters, and then Gary is going to go over the four key policy issues, as well as the next activities that we are going to embark on in the next few months.

May I have the next viewgraph, please?

I know most of you know all of this information, but again, the final policy statement was published over a year ago, and following the policy statement, it was clear that we needed to have a more detailed set of task schedules that needed to be laid out, and with the special focus, as you indicated Chairman Jackson, it was to accelerate development of regulatory guides and standard review plans as part of the activities.

The Staff has been providing quarterly progress reports to the Commission and a semiannual briefing on the progress that we have made as we go forward.

In the March '96 status report, we identified four policy issues, and in the SRM that came out in May of 1996, the Commission asked the Staff to provide its recommendations to the Commission on each of the policy

issues.

Last week, we had the last update report, and that does get into the issue of where we stand on a number of activities in the Implementation Plan, and there is a special discussion of each of the policy issues.

In addition to that, there is an attachment in the last update which does identify the type of technical process issues that we need to make sure to address.

May I have the next viewgraph, please?

We keep having to remind ourselves that the policy statement has certain constraints and boundary conditions that we have to keep in mind as we go forward, and it is hard to capture everything on one chart, but I think this chart does capture some of the important aspects of what is in the policy statement.

The desire, clearly, is to use probabilistic safety assessments or risk assessments, use them in all of our regulatory activities, and the key there was all, but then there are qualifiers, obviously, with those applications.

Certainly, as long as the methods are appropriate, the database is there to support decisions in those areas, and two important elements are that the decisions were not to be based on risk analysis alone; that they had to complement the traditional deterministic considerations as

well. The idea, then, was to integrate the deterministic and probabilistic considerations before making any final decisions on regulatory matters.

An issue that had to be dealt with was the issue of uncertainties, not just the uncertainties that one can quantify and develop distributions, but there are issues that are very difficult to quantify as a matter of fact.

So specific focus had to be given to maintaining defense in depth; that is, preserving the barriers that are

there, multiple barriers.

The next element was very important to make sure that when the policy statement went out that the industry did not misunderstand the statement itself; that licensees had to meet all current rules and regulations, even if there were rules and regulations which may have low safety significance, but the idea there was that if there are insights from risk assessments that point out that some other requirements may not be properly in tune in terms of risk significance, that the process would be to first change the requirements and not presume that they didn't have to meet the requirements.

The second part, and this is the one that Mr. Taylor mentioned, is that the risk assessments are not very useful if they don't really represent the plant itself. If the documents don't reflect the plant design and the risk

assessment is based on those documents, then, clearly, the risk assessment doesn't really represent the plant. To what degree depends on the differences between the actual plant configuration design procedures versus what is in the documents. So that is an important element that needs to be recognized, and it is clearly a lesson that we have learned from some of the millstone activities.

The third bullet there refers to in June of 1990, the Commission gave us guidance through an SRM, indicating that we ought not to be using the Commission's safety goals and the subsidiary objectives, which relate to core damage, frequency, and containment performance; that we ought not to be using these on a plant-specific basis, but they should be used in generic matters for things like future rulemaking activities and so on.

One of the policy issues that you will hear about later on is, in fact, should we use these objectives on a plant-specific basis, but we will come back to that issue when Gary gets into those policy issues.

The next viewgraph, please.

This really highlights that the PRA can make a pretty significant role in regulatory activities, and this chart is really representing a reactive program in a very broad scope manner.

As our resources go down, there are budgetary

constraints. With time, it becomes even more and more important to focus our activities in areas that are more important to safety. So the idea here is to show that the scope can be pretty broad in terms of where these techniques can be applied.

The reason for that is if one were to use these techniques in conjunction with our deterministic assessments, the end results are going to be much better decisions, much more effective safety decisions. There would be obviously much more effective use of resources, both in terms of the Agency resources, but also in terms of the industry resources. So, again, this chart supports the major thrust of the policy statement that we should, in fact, go forward and apply these approaches in our regulatory activities.

CHAIRMAN JACKSON: Before you go ahead, can you give us some sense of the status of licensees' implementation of accident management strategies?

MR. THADANI: Yes. I will give you just a general sense.

Many of the licensees, as you know, most of them have completed individual plant examination. As a result of the IPEs, they had identified a number of procedural enhancements that could be made, and by and large, the ones that they identified, they have gone forward, but the broad

scope accident management program that we have been working on with the industry for some time, which really goes into not only in terms of prevention of accidents, but also following core damage events, what are reasonable things to do, and all the way into communication with different groups. That is broadly included under what we call the accident management program.

The industry through the owners group, they have done essentially all of the technical work. There are minor issues that need to be dealt with on the BWR plants, but by and large, much of the technical work is completed, and the utilities now are going to be converted that information, which is generic, a fair amount of good technical assessment, converting them into their plant-specific either

emergency operating procedures or guidance for technical support groups, which would be called upon to provide guidance in case of an accident.

The schedule currently calls for all the licensees implementing accident management by December of 1988. Some of the licensees would have implemented accident management early '98, and very few late '97. Most of them in 1998, and the last ones, end of 1998, would have implemented accident management.

Could I have the next viewgraph, please?

As I have said, the policy statement is to

incorporate all activities, which meant that it was very important to capture these activities in detail, and that is where the Implementation Plan comes in.

In the plan, which is very comprehensive and broad scope, there are a number of tasks. I forget the exact number, but certainly over a hundred distinct activities are involved.

From those tasks, some of which we have not met the schedule or we think we won't be able to meet the schedule, there will be some delays, but the highest priority we have given is to regulatory guides and the standard review plans. There, the schedule was to get drafts completed by the end of this year, and that is, in fact, the schedule we're still on.

You will hear about where we are in terms of the pilot applications. There have been some delays in the projected completion dates for pilot plans.

One reason for delays is resources, but I think that is a smaller reason. The larger reason has been trying to do a fairly thorough job, which means a fair amount of information that is needed from individual pilot participants, and in some cases, it has taken longer to get answers to some questions, but nevertheless, the key point is that we are getting sufficient information from these pilots, so that we can, in fact, go ahead, get the reg guide

and the standard review guide out for public comment, and finish up the pilots perhaps even during that comment period.

The scope of the Implementation Plan goes well beyond what NRR does, of course. It includes a number of activities that AEOD is involved in, NMSS, and of course, Office of Research has been working with NRR on some of these activities I have already described.

Now, unless you have other questions, I was going to go to Tom King, so he can get into the real substance of the issues.

MR. KING: Thank you, Ashok.

What I wanted to cover was to briefly summarize the recent accomplishments since the last status report in June, and then to discuss the review process and the key technical and process issues that have come out of developing the reg guides and SRPs to date.

If I could have Slide 6, please.

Slide 6 summarizes the recent accomplishments. The first bullet talks about the draft reg guides and SRPs, but I think what I will do is when we get to Slide 7, we will talk about that in more detail.

We are continuing to review the industry-initiated pilot applications, as Ashok mentioned, the pilot applications in four areas, ISI, IST, QA, and tech specs.

It involves seven or eight plants that are participating in the pilot process. We expect to complete those reviews and send to the Commission a recommended decision over the next two to eight months, starting in December with the tech specs and then through June of next year with ISI and IST.

CHAIRMAN JACKSON: To what extent have those industry-initiated pilots informed the development of the guidance documents that you are talking about?

MR. KING: They have provided input. We have gone through and taken our list of issues that we have developed in drafting the reg guide and SRP and looked at the pilots as to how they were addressing those to get some feedback, and we have actually gotten some feedback that has been incorporated.

CHAIRMAN JACKSON: And it is somewhat of a lag, also, you are saying, relative to when the final outputs of the pilots will be available. Is that a fair statement?

MR. KING: I am not sure.

CHAIRMAN JACKSON: Well, what I am saying is, do

you feel you have gotten all out of the industry-initiated pilots that you can relative to how it propagates into the development of the guidance documents?

MR. KING: I suspect we will probably. As they continue to respond to request for additional information, we will continue to learn some more.

CHAIRMAN JACKSON: Okay.

MR. HOLAHAN: I can remind you that I believe at the last Commission meeting, we presented a matrix identifying 10 or a dozen issues and which ones we learned stuff from on the various pilots and a couple of areas where we needed to do more work.

CHAIRMAN JACKSON: And those ones where you have identified that you have learned some things from the pilot, is that what you mean when you say these things have or --

MR. HOLAHAN: Yes, yes.

CHAIRMAN JACKSON: -- what you have learned has been incorporated in these guidance documents?

MR. HOLAHAN: Yes.

MR. KING: Yes.

CHAIRMAN JACKSON: Okay.

MR. KING: The backup viewgraphs to the package you have has some more details on the pilots in terms of the plants and the schedules and so forth. I wasn't going to cover those specifically.

The third bullet talks about the IPE and IPEEE. We are continuing to review in both of those areas. We currently have 19 IPE reviews to go until we are complete. We expect 16 of those 19 to be done by December. Three will probably carry over until next year, probably spring or so. Those are three where we have had problems with the IPE, and

we have requested that parts of it basically be redone. We are waiting for a resubmittal.

CHAIRMAN JACKSON: Let me ask you a question. These IPEs are essentially PRAs; is that correct?

MR. KING: Yes.

CHAIRMAN JACKSON: Will you be coming out of that review with some assessment of how strongly coupled they are to the design basis or how well known the design basis is for those plants relative to what these IPEs, in fact, are showing?

MR. KING: Not through the IPE program. We are not doing that. We are not trying to go back and confirm the design basis through the IPE program. We would expect licensees in doing their IPE actually reflect the as-built and operated plant. We have not checked that.

CHAIRMAN JACKSON: Mr. Thadani, you look like you must say something.

MR. THADANI: No. I think that is the answer.

As you know, we have 50-50 4F letters out now, and depending on what results come out as a follow-up to those letters, there may be an action that we may have to follow.

CHAIRMAN JACKSON: Okay. I've got you.

MR. KING: The IPEEEs, we have 24 of those under review. None have been completed at this point that we would expect early next year that they would start coming

out, the staff evaluation reports on those.

The other thing I want to mention on IPEs is that we have prepared an insights report. A copy was sent to the Commission last week. We have also been going to the regions and briefing them on the insights coming out of the IPEs, both the generic insights and the plant-specific insights, so they can factor them into their inspection programs and other interactions with licensees. So that is continuing to go on.

CHAIRMAN JACKSON: I hate to keep dwelling on the same thing, but let me ask you this question. Based on what you may get out of the 50-50 4F responses, the letter responses, are you going to do some juxtaposition of any sample of the IPEs, what comes out of that to have some sense? In a sense, these insights are based on acceptance as is, right?

MR. THADANI: That is correct.

CHAIRMAN JACKSON: So is there going to be any kind of a sampling?

MR. THADANI: If certain plants are identified which may, in fact, have differences, then I think we would go back to those plants --

CHAIRMAN JACKSON: And review the IPE?

MR. THADANI: -- and ask them --

CHAIRMAN JACKSON: To review.

17

MR. THADANI: -- to address those.

CHAIRMAN JACKSON: Redo.

MR. THADANI: Yes.

CHAIRMAN JACKSON: I got your point.

MR. THADANI: Yes.

CHAIRMAN JACKSON: Thank you.

MR. KING: The fourth and fifth bullet really address the proposed Reliability Data Rule. AEOD conducted a public workshop in June and received a number of comments. They are continuing to look at those and work on resolution.

In parallel, I understand industry recently submitted some sample data to demonstrate a proposed voluntary alternative to the data rule.

CHAIRMAN JACKSON: Let me ask if I may, Mr. Jordan --

MR. JORDAN: Yes.

CHAIRMAN JACKSON: -- where do things stand with regard to our review of that sample data?

MR. JORDAN: We have a dataset that represents the data elements from the safety system performance indicator that INPO uses, and we are applying those data elements into our reliability data scheme. We are still in the process of assessment to identify what elements might be needed in order to assure that we have training level system reliability.

18

CHAIRMAN JACKSON: Okay.

MR. KING: And the backup viewgraphs have some additional information on the Reliability Data Rule.

CHAIRMAN JACKSON: Okay.

MR. KING: And finally, AEOD has completed development of PRA training guidance document, NUREG BR0228, and that was issued in July. They have also developed a prototype PRA for a technical managers course, which they had a dry run on several months ago and I understand will be available, be offered to the Staff in the next several months.

If I could have Slide 7.

CHAIRMAN JACKSON: I hate to do this to you, but given that this PRA training guidance document has been completed, how is it being used?

MR. JORDAN: Okay. I can answer that. It is the basis for managers identifying appropriate courses for staff members. So it is a road map in order to provide the right level of qualification for staff members.

CHAIRMAN JACKSON: So it identifies some qualification level and associated training program for a given function in a job that someone has?

MR. JORDAN: Correct. That is correct. So it identifies the various levels of qualification and then the scheme of courses that, of course, can be looked at with

19

respect to that individual's experience, education, and training to pick the right courses.

MR. KING: Slide 7, please.

Slide 7 gives a little more detail on the regulatory guides and standard review plans that are being developed to support risk-informed regulation. The regulatory guides are really the guidance for licensees in terms of what their submittal should contain, and then the standard review plan is guidance for the staff as to how to review that submittal.

Early in 1996, we had put together inter-office teams to draft the reg guides and standard review plans, and the ones being worked on are listed here. We had also put together an inter-office PRA coordination committee to provide some oversight and direction into that effort. Overall, those activities have been working well.

Currently, there are drafts for all of the reg guides and SRPs. The ISI one has slipped three months, as noted in the SECY paper that came up, primarily because of late start on the pilot programs, but the others are underway. They are under various stages of review. We plan to get them to ACRS.

We have also developed a draft NUREG 1602 which is a key reference document in the general reg guide in terms of the standards for a PRA, in terms of the level of detail

20

and quality and so forth.

CHAIRMAN JACKSON: So you have laid that out?

MR. KING: That has been sent to ACRS for review.

We have had numerous interactions with industry on both the pilots and generic topics, as well as ACRS. We have had a number of meetings with them. We have the next one coming up on October 31st and then another one after that on November 21st where we will be reviewing the reg guides, the SRPs, the draft NUREG, and the issues that are coming out of these things.

If we could move on to Slide 8.

Slide 8 shows the review process around which the reg guides and SRPs are being developed, which we are trying out on the pilot activities. It is a six-step review process that we have defined to try and provide some consistency and structure to the evaluation and review, and we would expect licensee submittals and the Staff review would follow these six steps as much as possible.

The six steps are shown on Slide 8, and the feedback loops are shown. We thought it would be useful to put it in this presentation as background because, as we get into the discussion of the technical and policy issues, this will illustrate the sequence of the logic in the evaluation and I think will help in understanding where the technical and policy issues fit in the evaluation process.

21

The steps we believe are consistent with the PRA policy statement, they are set up such that risk assessment complements the deterministic evaluation and defense in depth.

There is a step that specifically was put in on performance monitoring, which is related to one of the policy issues we are going to talk about, and even though there is not a feedback loop shown, if you go through this process, you could end up coming back to step one and redefining the scope of your proposed change, depending on how the outcome of the evaluations were.

If we could go to Slide 9.

Pages 9 through 13 contain a list of what we call the key technical and process issues. These are things that we are addressing as part of the reg guide and standard review plan development, and they were identified as part of drafting the reg guide, standard review plan and interaction with the pilot projects.

I don't plan to discuss all 27 of them, but what I wanted to do is highlight the ones that are related to the policy issues that are going to come up later on in the briefing, as well as any others that are of particular importance.

We thought it would be useful to present these in this briefing because they do provide some key background

22

regarding the six-step review process, as well as the background for understanding the policy issues.

CHAIRMAN JACKSON: Let me ask you, before you go through them, can you say to what extent these questions will be addressed in the guidance documents being developed, and if not, are they dependent upon the Commission addressing the policy issues, and if they are not dependent upon that, how are you working on answers? So it is a three-part question.

MR. KING: All of them will be addressed in some fashion in developing the reg guides and standard review plants.

CHAIRMAN JACKSON: Okay.

MR. KING: We are proceeding on the ones that are related to the policy issues. The path we are proceeding down is consistent with what we are recommending on the position on the policy issues. If the Commission decides otherwise, we will have to revisit those.

CHAIRMAN JACKSON: Okay.

MR. KING: Before I get into some of the example issues, I did want to say a couple of things about how we are using this list.

We put it together for several reasons; one, to help focus attention on the more important items, both Staff and management intention. Two, it is a good way to track

23

progress as to how close we are to getting these things resolved, and three, it does provide, as I mentioned earlier, a systematic way to go through and get some feedback from the pilot plants, ask what the pilot activities -- find out what they are doing and to address each of these things. So it is being used in several different ways.

Also, I want to mention that some of these issues

have sub-elements. We didn't list all of the sub-elements because it would get too complicated.

Also, some of these issues, the answers may have -- there may be several options in the way to deal with some of these issues, and in some cases, we will probably recommend -- go to ACRS with some options, and we may want to go for public comment on some options and make a final decision after we get feedback from the public comment process.

So we are not planning at this point to pick just one option for each one. Where it makes sense to list several options, we would plan to do that.

Our next meeting with ACRS is going to focus on these issues as part of reviewing the reg guide and standard review plant.

Let me start with page 9. These are laid out in accordance with the six steps. Roman Numeral I is step one

on the flow diagram, and I-(a), what information does the licensee need to submit to characterize the change, this addresses right up front the point that Mr. Thadani brought up. Unless a plant knows its current licensing basis and has the plant built and operated in accordance with the risk evaluation and the deterministic evaluation, it may not be very useful. So we want to establish right up front that a licensee has confirmed its current licensing basis and that the plant is built and operated in accordance with it, so that the rest of the analysis is consistent with that.

Issue II-(b), what are the acceptance guidelines for the deterministic evaluation, this is one we have been struggling with quite a bit. Again, the PRA policy statement says PRA is to be used to complement the deterministic evaluation. Deterministic terms like "defense in depth" and "design margins" and so forth are used quite a bit, but when you go to write the standard review plan and a regulatory guide to find exactly what is meant by those things and what are the acceptance criteria, it gets a little tougher. So we have been struggling with this. I am not here to say we have an answer yet, but it is going to be one item that is going to involve a lot of discussion over the next several months.

CHAIRMAN JACKSON: Well, one could argue that that is an interesting statement, but one could also say that

maybe this exercise, then, in developing a PRA framework helps us focus on what we mean --

MR. KING: Yes.

CHAIRMAN JACKSON: -- by defense in depth and design margin.

MR. KING: Yes.

MR. HOLAHAN: As a matter of fact, on that subject, we have an interoffice meeting this afternoon at 4 o'clock to see if we can come a little closer to figuring out exactly what this ought to be.

MR. KING: Slide 10, please.

Item III-(g) and (i) are directly related to two of the policy issues, the policy issues associated with plant-specific application of the safety goals and the risk neutral versus risk increase. (g) is how should the acceptance guidelines be structured, and that gets into issues like what metrics should be used, should it be core damage frequency, condition of containment failure probability, large early release frequency, some other aspect, how do we pick the values to be consistent with the safety goal, considering the fact that we are talking plant-specific application, how do you account for less than full scope PRA.

The safety goal policy statement was fairly clear that the risk that it was talking about was from all aspects

of plant operation, and a lot of the risk analysis that is out there, including the IPEs, are focusing on full power operation only.

CHAIRMAN JACKSON: I have to play the devil's advocate here again. If we look at issue (a), what determines the extent to which risk analysis can be used, did the Commission's policy statement itself address that question?

MR. HOLAHAN: It has.

MR. THADANI: Yes. I think, in fact, that was the very first bullet when I went through.

CHAIRMAN JACKSON: Right.

MR. THADANI: To that extent, it is supported by

methods and data and to be used as complement.

CHAIRMAN JACKSON: So what you are trying to do is pin down in some more quantitative way what that is?

MR. THADANI: More details and what does it really mean, supported by methods and data, what does that mean.

CHAIRMAN JACKSON: I just want to go through a couple of them, not all of them.

MR. KING: Sure.

CHAIRMAN JACKSON: With (b), where you say what determines the required quality of the risk analysis, will the guidance documents answer that question?

MR. KING: Yes.

27

CHAIRMAN JACKSON: Then, my favorite topic is (d), how is uncertainty to be addressed. There are two questions. One is, how has uncertainty been treated in the past, in past uses of PRA insights in the regulatory process. So, if you could give me an answer to that, and then the other one, which is that I note that in your SECY 96-218, the Staff indicates that it intends to use the mean value for comparison with numerical guidelines associated with absolute measures, such as core damage frequency, and this is my favorite topic.

So the question becomes answering how an uncertainty to be addressed, referencing it to how it has been addressed in the past. Does this imply that if you have equal mean values -- this is where the rubber meets the road -- with big differences in uncertainty, would that lead to the same regulatory decision?

MR. KING: Not necessarily.

CHAIRMAN JACKSON: Okay. So can you maybe illuminate or amplify on that a little bit?

MR. KING: We haven't settled exactly on how we are going to treat uncertainty at this point either.

CHAIRMAN JACKSON: Okay.

MR. KING: The Commission safety goal policy said use mean values in assessing against the goals.

CHAIRMAN JACKSON: Do you feel that is enough?

28

MR. KING: In some cases, it is enough, but it does require a full uncertainty analysis be part of the analysis and evaluation by the licensee and by the review by the staff.

MR. THADANI: I think that this is obviously a very tough issue. Mean values relate to where you are able to quantify a number of things and you are able to actually draw some sort of distribution and so on, but there are many elements where the uncertainties are really not quantified, organizational cultural issues, some other things, for example, millstone issues, some of the millstone issues.

So there are areas where uncertainties are not quantified, programmatic weaknesses or problems. So what it really boils down to is when you get an issue where let's say a licensee wants to use these techniques, it seems to me we are going to have to look at that specific issue and try to use some judgment on what are some of those so-called unquantified uncertainties and should we, in fact, use a mean value, then. Maybe not.

So it seems to me that there has to be some balance brought into this process to recognize that we cannot answer all the questions up front, I don't think, but the process should allow those considerations whenever there is an application to be made. So I am hoping that is how we can move forward.

29

CHAIRMAN JACKSON: If you look through this list of A through I, have you identified which ones minimally have to be answered at some level in order to develop realistic guidance documents? Have you answered that?

MR. KING: I think it is all of them. Our intent is all of them.

CHAIRMAN JACKSON: To have some answer?

MR. KING: To have some answer, yes.

CHAIRMAN JACKSON: For all of them?

MR. KING: Yes.

MR. HOLAHAN: Yes.

MR. THADANI: Yes.

CHAIRMAN JACKSON: So, when you say, then, that these draft documents are available, that means that you have some answers to all of them relative to development of those guidance documents?

MR. KING: The drafts have some answers. Whether there is consensus on the Staff regarding those answers is

another question. They are under review.

CHAIRMAN JACKSON: That is what you mean when you say under Staff review?

MR. KING: Yes.

CHAIRMAN JACKSON: I see. Okay. Now I understand.

COMMISSIONER ROGERS: Well, before we leave this,

30

I'd like to just pursue one little aspect of it, and you touched on it a bit, the question of quantitative measures or lack of quantitative measures.

It is kind of my intention that some areas of risk analysis that are being used, particularly in the fuel cycle facilities, are not really being carried out using probabilistic analysis, but they are risk analyses, and it seems to me that we are going to have to deal with that issue of risk analyses which are not really based upon a strictly probabilistic calculation, and nevertheless, do the job in some way.

This may or may not fit into the reactor area. It probably does to some extent, but it may be very important in the nonreactor area.

MR. THADANI: Yes, yes.

COMMISSIONER ROGERS: So I do think that while I am very high on numbers, I do think we have to recognize that there are other ways of analyzing risk that are not strictly based on probabilistic calculations, but nevertheless are something closer or a little bit to the usual traditional deterministic, but nevertheless are a risk analysis rather than a straight engineering calculation of some sort.

I hope somehow we keep that in mind here for those situations where that is the only way to go.

31

MR. THADANI: Yes, indeed. In fact, I was going to say some people don't like to hear this, but I think when you go through the process of risk analysis, the first parts are probably the most robust in the sense of logic models. The event trees and fault trees, by and large, I think, are the most robust.

When you get into quantification is where one has to be cautious, and no matter what application, one needs to look hard, I think.

MR. HOLAHAN: I think in many cases, this is not a go and no-go sort of decision. There are stages, as in the policy statement suggestion is, first, does the state-of-the-art support the kind of issue you are trying to deal with, and I think after that, if the issue is amenable to a probabilistic risk assessment, you still want to choose the proper-sized tool for the job. So, if it is a relatively easy question or, in fact, a qualitative risk assessment, it would convince you that this is a net improvement, and why go through an elaborate uncertainty analysis to figure out how sure are you or how big is that.

CHAIRMAN JACKSON: It strikes me, though, that there is kind of a baseline question that in doing everything that you have just described, you have to address, which is kind of -- let me see if I can articulate it. It is essentially saying how much do I have to know and

32

be bale to quantify to make a judgment here, and if I want to make a judgment somewhere else at some other level, that it requires that much more, and if I can't get that, then the decision-making has to be done a different way.

Now, will the kind of guidance that you are working your way up on allow those kinds of assessments to be made?j

MR. HOLAHAN: Clearly, that is our goal. It is early on in this process to identify what is the proper tool for the given issue. Can you make a certain type of decision with a qualitative analysis? Does it take a quantitative analysis, but not necessarily an elaborate uncertainty analysis, or in some cases, are we making sufficiently complicated decisions that a full scope, full uncertainty analysis is needed?

I think, in each case, what you are trying to do is to say do I have confidence in the decision that I am making.

CHAIRMAN JACKSON: I appreciate what you are saying, and I guess all I am really asking is will the guidance documents be such that one proceeds along a path and comes to come bifurcation point that says I can go further down this PRA path or I can't, and if I can't, then

it kicks over into something else. I mean, that is presumably where you are trying to go.

33

MR. HOLAHAN: We are working on that very subject. As recently as yesterday's meeting, we were going to divide up regions in which more details on certainty analysis was appropriate and where less is needed. That is the kind of thing that belongs in a guidance document.

CHAIRMAN JACKSON: Okay.

MR. THADANI: We had identified in an earlier paper, actually, that generally we were looking at three categories of applications. One was what we called prioritization which is, by and large, NRC activity, and that one could go with something fairly simplified. You don't want to spend a lot of resources to see how to prioritize things, but that you can use better understanding of risk importance to make those kinds of decisions. That was probably the simplest type of application in terms of the quality of analysis.

The next one was where the decision was not really eliminating a requirement, so to speak, but that you are just shifting importance, so to speak, high safety significance and medium safety significance and low safety significance. That would require a certain type of analysis.

Whereas, if you are really completely walking away from what today's requirement might be, then one has to do a very thorough analysis before saying that that makes sense.

34

So those are the categories that we have been looking at, and then, of course, the toughest issue, I think, is the issue of how to deal with uncertainties in all of this.

CHAIRMAN JACKSON: Okay, thanks.

MR. KING: Just to quickly highlight item (i) at the bottom of page 10, should the acceptance guidelines apply to proposed changes individually or as a package, the topic there is when someone comes in with a proposed change, can they group changes together, look at risk changes due to changes, proposed changes in tech specs versus ISI versus graded QA and add them all up and get a net reduction or net increase, whatever it turns out to be, or do we want to limit it to just a single topic. So that is the issue that is being talked about there.

On page 11, issues associated with implementation and monitoring, this is tied to one of the policy issues. This step was explicitly added in the process so that we would use performance monitoring as much as practical to check the assumptions and provide feedback into the evaluation and the changes that were being made.

If assumptions are made regarding equipment reliability or so forth, this is a step that would hopefully check to see whether those assumptions are becoming true, and if not, provide the appropriate feedback into the process.

35

CHAIRMAN JACKSON: Now, a natural question that arises is this. Now we have a maintenance rule that just became effective. Presumably, each one of these questions have to be addressed in implementing that rule for the SSCs that we mean for it to cover. What are the answers to those questions within the context of the maintenance rule, and then how does that flow into this and vice versa?

MR. KING: It may very well be the maintenance rule is accomplishing this for whatever proposed change they are making.

CHAIRMAN JACKSON: Well, I guess what I am trying to say is that it strikes me that that is something you have to come and tell us; namely, how are these four questions being answered within the context of the maintenance rule, and how, then, does that tie back into what you are doing and how is what you are doing affect how these questions are answered.

MR. THADANI: I think that there are two parts that we need to be sure about.

The first part would be depending on what performance criteria one sets up. If those are really related to reliability analyses, so to speak, then, clearly, one has to have some guidance document on how to assess and interpret what has been done.

As far as the maintenance rule is concerned, some

36

licensees may have used some reliability guidelines that may have come out of the PRAs. Some may not have. That was not

strictly necessary under the maintenance rule.

We have initiated our inspections, what we call baseline inspections, under the maintenance rule. As I had indicated to you in the past, I am hoping that by February time frame we will have done enough inspections, 10 or 12 or some number like that, that we can probably draw some inferences and some potentially generic insights.

Our intention is to then step back. What we learn from those inspections would be considered, if it is appropriate for these guides, but that I don't have the answer today as to what we are going to find.

CHAIRMAN JACKSON: Let me, then, say this. I am going to be explicitly asking you this. Since you would be coming back in the March-April time frame to briefing the Commission again, that you come back as part of that brief with answers to these four questions in the context of the maintenance rule --

MR. THADANI: Yes.

CHAIRMAN JACKSON: -- and how that ties into the answers to these questions --

MR. THADANI: Yes.

CHAIRMAN JACKSON: -- within the context of what you are doing --

37

MR. THADANI: Yes.

CHAIRMAN JACKSON: -- because it is very important, okay? Because first of all, we shouldn't be going down a path relative to the maintenance rule that is somehow different than the path we are going down in the overall PRA Implementation Plan.

Two, we say that the maintenance rule is our first example of a risk-informed performance-based rule, and if it is, then it better tie into the PRA framework that we are developing.

MR. THADANI: Yes.

CHAIRMAN JACKSON: And I understand your point about doing these baseline inspections, but since you indicated that sometime after the first of the year --

MR. THADANI: Yes.

CHAIRMAN JACKSON: -- you will have more data, then along around March-April, you should be able to put it together, and you will be further along in these reviews of your reg guides because I think this is very important.

MR. THADANI: It is critical, I agree, and we will do that.

MR. HOLAHAN: I think it serves the same role as some of the pilot applications, but there are differences in the scope and the intent of the maintenance rule versus the general --

38

CHAIRMAN JACKSON: No, I appreciate that, and that is, in fact, what you have to come back and tell us because, in fact, we need to understand how the scope differs.

MR. HOLAHAN: Right.

CHAIRMAN JACKSON: We have talked about this before within the context of the reliability data rule or putative reliability data rule, but it is very important because it is important in terms of consistency in how we do things.

MR. HOLAHAN: Yes.

CHAIRMAN JACKSON: Okay, thanks.

MR. KING: Let me move on to Slide 12, issues associated with integrated decision-making. This is where the deterministic and the probabilistic evaluations come together and a decision has to be made. Again, it relates to what we talked about earlier, what are the deterministic decision criteria. A number of these items are directed toward that.

Let me just mention item (g) at the bottom of the page, the role of 50.109. This actually came out of one of the pilot programs. If the Staff has conducted the review and feels that something else needs to be done over and above what the licensee has volunteers to do, do we have to follow 50.109 to get that in place.

Counter to that or the reverse of that, we have

39

also discussed, and that is a licensee comes in and proposes a change that causes some increase in risk, why shouldn't we apply the backfit rule in a reverse way. Is the cost savings associated with that sufficient to justify the increase in risk? So that is what we have been talking about. I am not here to give you an answer, but that is what that item means.

CHAIRMAN JACKSON: Let me just make one other comments. Aren't B, C, and D on here linked? That is, if one really had a process for addressing uncertainty, then this issue of the extent to which the existing degree of defense in depth should be maintained is more addressable, as well as the issue of the margin of safety.

The only reason I keep bringing this up, you say it to me and I am saying it back to you. Somehow we have got to really get our hand around where we can get our hand around. I will put it that way, get our hands around where we can get our hands around the uncertainty issue, because if we don't somehow get that bullet bit and at least know where we can and cannot do something. I understand we cannot do it everywhere. I don't see how we are going to answer (c) and (d).

MR. KING: Slide 13 has to do with what actually has to be part of the submittal. The documentation needs to be submitted. Do we need the full PRA or just some summary

of what was done that describes in enough detail?

Regardless of whether the full PRA comes in or just some summary information, item C is a process issue. Will our explicit use of risk information and plant-specific decisions now require PRAs to be put on the docket and litigated? It is an item that just remains to be seen at this point.

With that, Gary Holahan is going to talk about the four policy issues.

MR. HOLAHAN: Could I have Slide No. 14, please? The four policy issues that we identified are shown here, the role of performance-based regulations, the use of the safety goals or guidance, the decision process derived from the safety goals on the plant-specific basis, whether increases in risk should be allowed at all or under what circumstances increases are appropriate, and then something of a process question on how should changes in the ISI and IST program be --

CHAIRMAN JACKSON: Mr. Holahan, you know I can't let you slide. How clearly do you feel the Staff knows what performance-based regulation means, how clearly do you feel you know, and what degree of concurrence is there on a definition? If not, how do you go about -- what are you doing to clarify that?

MR. HOLAHAN: Well, I think there is not a

unanimity of understanding as to what the definition of performance-based regulation is.

I have seen lots of different definitions. I think we understand common features that performance-based regulations have.

I remember that we were told that performance-based fire protection requirements are being put in place around the world. So a number of the staff met with the National Institute for Standards and Technologies. They were involved with those things, and I guess they confirmed our view that each country, each application has a slightly different definition, but with some common elements.

So I think we are starting out with maybe buzz words, but we are developing guidance documents which I hope will clarify the situation.

CHAIRMAN JACKSON: Is there a utility, too, and have you been able to garner any input from other types of industries or regulatory bodies that have gone at this? Are we on the cutting edge?

MR. HOLAHAN: Well, I think there are some other areas. We have had some input from the industry. There is an industry white paper on the subject.

A number of recent PRA conferences have identified this as an issue, and so it has been discussed. We

discussed it with the ACRS.

CHAIRMAN JACKSON: But is it all the nuclear people talking to each other as opposed to --

MR. HOLAHAN: I would say, largely, it is. In the fire protection area, obviously, it goes well beyond the nuclear area, but there are probably numerous other industries that we haven't fully tapped.

CHAIRMAN JACKSON: Okay.

MR. HOLAHAN: Can I have Slide 15, please?

The issue on Slide 15 being the role of a performance-based regulation in the PRA Implementation Plan, the Staff identified three options. I guess it is also

important to note that as a result of the strategic assessment, there is, in fact, a paper on the subject which also identifies three, I would say, similar, not identical options.

So the Staff's moving ahead on these options, I think, is also tied to the decision in the strategic assessment arena.

The first option we identified basically is to continue our current practice, and our current practice being what Tom King showed, which, in fact, is to have developed what we called step four, which is as part of risk-informed regulation, actually searching out opportunities for monitoring in a plant application

information that would validate the assumptions that went into a risk analysis or the assumptions that went into a deterministic engineering analysis. So the first option is to continue with that process.

The second option is a bit more aggressive in that it would within the context of the PRA Implementation Plan solicit additional areas in which the industry was interested in pursuing examples.

The third option would, in effect, be to create something akin to the PRA Implementation Plan, which you could name the performance-based regulation implementation plan and collect together all those related topics and sort of give it a life of its own.

Staff has recommended option one, but I think it is fair to say that option one with a leaning towards option two because there is some receptiveness to additional initiatives, and the Staff did send a letter earlier this year to NEI suggesting that at least some additional options as a learning or pilot-type experience would be appropriate.

We have discussed this issue with the ACRS. At the bottom of the page, you will see a quote from their August letter. I think they were definitely very supportive of doing at least what the Staff had recommended; that is, to find a constructive place in each risk-informed decision for a performance-based strategy to be included as a

verification or validation step, but I think the important thing at this stage is that we are going ahead at least with option one, and we need to do that for the development of the regulation guides and the SRPs. If the strategic assessment process should have the Staff to do more, I think it is highly unlikely that it will be asked to do less.

So I think in the context of the reg guide and the SRP, it is fairly clear what we should be doing. What is not entirely clear and is a policy issue for the Commission to decide is how much more should we do.

COMMISSIONER McGAFFIGAN: What was the response from NEI to your letter? Did they have initiatives that they would like to --

MR. HOLAHAN: I don't recall them coming back with a specific example. It seemed to me that it was between the time when they send us a draft of their white paper on performance-based regulation and when they finalized it. So I might say they were at least encouraged enough to go forward and finalize their views. I don't think they have identified specific examples to follow up since then.

MR. THADANI: I think it is important to make a point. The PRA Implementation Plan is really focused on risk-informed activities, and in some cases, where some reliability guidelines are developed or to be used, then the Implementation Plan can give guidance on how one would

assess that.

Frankly, for many systems where you establish very high reliability, steam-generated tubes, reactor and pressure boundary, pressure vessel itself, many of the complements, the expected reliability is very high, and so the performance criterion one establishes cannot be first failure. It cannot be that. It has to be something else. It has to be some engineering consideration that goes in, how much thickness of a pipe, how much thickness can you afford to lose.

PIA can tell you how important that component is, and that is an important part. That is the risk-informed part, but the performance-based part is non-numerical because of what confidence one is trying to ascertain reliability of a component.

That is why I think we need to be very clear on what is it that we mean by performance-based because, in

many cases, going forward in the risk analysis approach cannot answer some of the concerns that we might have. It is that element of performance-based aspect. That would be very difficult for this plan to address. It requires a lot of thoughtful experience and understanding.

Really, that is why we said in our letter to NEI that we need to learn from experience and we need to move a little slower in this area is basically what we said. It is

not to say that we shouldn't go in this direction, but let's make sure where are we going, learn from whatever experience we have as we go forward.

MR. HOLAHAN: I think, as also pointed out in the Commission paper, resources are an important element here. We are trying to maintain an aggressive schedule on the reg guide and the SRP development, and there is a concern of diverting resources from that activity if we take on a little bit more than we can manage all at once.

Can I have Slide No. 16, please?

The second issue relates back to, as Mr. Thadani mentioned, the June 15, 1990 SRM in which the Commission instructed the staff not to use the safety goals for plant-specific purposes, but to use them in a generic decision-making, and that policy was, I would say, restated in the PRA policy statement, but I think it was restated in the context that the Staff needs to come back to the Commission if it proposes to do otherwise than the 1990 directions. I think we have read it not to be an absolute prohibition, but if we develop this to be a worthwhile idea, we need to bring it back to the Commission for Commission's approval to go forward.

COMMISSIONER ROGERS: Well, if I could just say anything?

MR. HOLAHAN: Yes.

COMMISSIONER ROGERS: It seems to me, as I recall, when the Commission first took that position back in 1990, PRA was not a very attractive method of making regulatory decisions around here, and there was considerable resistance to it up until later than that, I believe. So, at that time, the Commission felt that we weren't on very solid grounds in going beyond a kind of generic approach to using the safety goals, but in the meantime, the kind of development of PRA for nuclear applications and the data that have developed have given us a great deal more confidence that you can begin to think about the possibility of using the safety goals themselves in some way for plant-specific applications.

I can't speak for the whole Commission, but it certainly seemed to me that what we were saying there was to open the door to that possibility cautiously and not just say that it is still locked.

MR. HOLAHAN: Okay. In fact, we developed two options. One option would be to develop guidelines for plant-specific decisions and to have those guidelines derived from safety goals and the subsidiary objectives. The second would be to derive plant-specific guidelines, but to try to preserve the generic national average nature of the safety goals by coming up with a scheme for relating an individual plant regulatory decision, the effect it would

have on the nationwide risk.

What we found is that the second approach is in addition to being rather complicated, since one would have to have a full understanding of the risk assessment at all plants to make a decision on any plant, and I think it also raises a number of rather complicated social and policy issues about decisions, about is it appropriate to make a risk decision at one plant where you are averaging out that local effect nationwide.

CHAIRMAN JACKSON: Right. It is a lot harder to raise an industry average than an individual number.

MR. HOLAHAN: Yes. So I think it is fair to say we found the second option untenable.

The first option is very much desirable in the sense that if we are going to use risk assessment in the decision-making process, certainly the output from the individual calculation seems to be a natural part of the calculation to use in that decision process.

CHAIRMAN JACKSON: Mindful of addressing all the issues we have been talking about all afternoon.

MR. HOLAHAN: Absolutely, yes. Yes.

CHAIRMAN JACKSON: Okay.

MR. HOLAHAN: With a full understanding of scope and uncertainties, et cetera, but as we say, without having a locked door.

So the Staff is recommending option one which would be a change in Commission policy.

MR. THADANI: If I might, I think it is important to note this is, in a way, one of the difficulties in pilots because the Staff is pushing to get a lot of information, and in some cases, that means a fair amount of additional work on the part of those volunteer pilot licensees, and that has caused some delays, trying to generate that information or the need, the discussion back and forth as to why is it really needed to generate this information. We will wait and see how it all works out, but currently, we have a number of outstanding questions to those licensees.

MR. HOLAHAN: I think there is also a related aspect to it, and that is, in some sense, the genie is out of the bottle already.

We know that the maintenance rule is being implemented in many cases with licensees using plant-specific risk assessment.

CHAIRMAN JACKSON: That is why I asked you about the implementation and the monitoring part.

MR. HOLAHAN: Yes.

CHAIRMAN JACKSON: That is exactly why you have to have that issue addressed.

MR. HOLAHAN: Yes. And it is clear that licensees are making other day-to-day prioritization and other

decisions based on the results of risk analysis.

So, to confine the Staff to not use a similar approach in plant-specific decision-making, it seems -- I think, as Commissioner Rogers suggested, perhaps that had a basis at the time, but I think that time has gone.

CHAIRMAN JACKSON: We heard you, Mr. Holahan.

MR. HOLAHAN: And the ACRS appears not only to agree with us, but I think they were considerably ahead of us on this issue, encouraging this view for several years, I think.

Can I have the seventh slide?

The seventh slide is really contingent upon the answer to the sixth, and that is, if you are going to use the results of a risk analysis in plant-specific decisions, should those results, in effect, be a proof that no risk change has occurred or only an improvement has occurred, or should increases be made under some circumstances.

I think what is fair to say is this is a policy matter to the extent that explicit changes in risk would be identified and approved because, in an unquantified way, I think it is clear that Staff does through the normal license amendment process, under some circumstances where we feel it is appropriate and the Commission's regulations are met, that we do allow small risk increases.

This would say that in the risk-informed

regulatory context, we would consciously, knowingly, and with some numerical analysis make such a decision. So, basically, the two options that we have identified as to allow small increases under certain circumstances and the regulatory guidance and the review plan would be the guidance document to identify how small is small and what are those circumstances, or we could say no, it is not appropriate, you should use your risk analysis to hold the plant risk at some value where you think they currently are.

We looked at the pros and cons of these options. The Staff has recommended the first to allow increases under certain circumstances. We think that is appropriate. We think we can identify how small is small and what is appropriate. The reg guides will help to balance any small changes with deterministic engineering margins to give us additional confidence that the decision we are making really makes sense.

The ACRS spent some time also reviewing this topic and also agreed with the staff. I would say, as a matter of principle, we haven't brought an example to the ACRS yet as to how those guidelines would be developed.

COMMISSIONER DICUS: I want to ask you a question about this. I don't necessarily disagree at least on the surface with the recommendation, but if you were to, for example, allow a small risk increase on one circumstance and

later there is another circumstance and then later another

one, the way to follow these small risks that accumulated, to have a point in time, you say --

MR. HOLAHAN: Yes.

COMMISSIONER DICUS: -- and you track this and you know this.

MR. HOLAHAN: We will certainly address that issue.

One of the techniques we have considered for that -- and in fact, it is fair to say that the industry in its PSA application guide, I think, has addressed it to a certain extent in saying that a plant would develop a baseline risk analysis and then any changes that it made, either risk increases or decreases, at either a certain time interval or when a next major change would be anticipated, the analysis would be updated, in effect, if they had moved closer to some ultimate goal, that that would be reflected and understood before the next change would be made.

CHAIRMAN JACKSON: At the risk of preaching to the choir, let me just reference Mr. Taylor's beginning comments and Dr. Thadani's comments; that it still tracks back to the licensing/design basis issues because if you don't know what you are building the PRA on and if changes aren't appropriately captured and documented as of now, then it is very difficult to talk about moving forward in terms of

looking at how a risk profile of an individual plant may change; that these are inextricably linked issues. Do you disagree?

MR. THADANI: No, not at all.

MR. TAYLOR: We agree 100 percent.

MR. THADANI: Totally.

In addition to that, I would note that you tasked us, the Staff. The Staff should track cumulative changes for those individual plants. So in the Implementation Plan, we have an activity. Not only do we have expectation that the PRA should reflect the plant design and operation; that the plant should track if they are going to be using that tool -- they need to keep track of cumulative effects, but that the Staff will also be tracking that information.

MR. KING: Commissioner Dicus, in our list of 27 issues, it was item III-(e) on page 10, the issue you brought up. We didn't miss it.

[Laughter.]

COMMISSIONER DICUS: You are on top of it.

MR. HOLAHAN: Let the record show the choir says amen.

Could I have Slide 18, please?

The fourth policy issue was a little different from the first three in that it is more of a procedure and process question than a technical or real technical type

policy matter, and that is where we are considering risk-informed changes in the in-service inspection and in-service testing programs, how should those be treated in the context of the current regulations.

We identified three options. One would be to consider them exemptions to the current requirements in 10 CFR 50.55a. If we were to review these as being quite different from previous changes and the kind of alternatives the Staff has allowed to change in the past, then it would be most appropriate to treat those as exemptions.

The second option would recognize the fact that the regulation currently allows for authorized alternatives in Section 50.55a(a)(3)(i), and the third option would be to defer any such changes until the national consensus standards, the ASME standard process had actually adopted those changes.

We have looked at these options, and we have considered whether the risk information and the kind of decision we would be making would be consistent and appropriate, similar to decisions we have made before, and our recommendation is to treat the code alternatives, to treat the ISI and IST alternatives to the normal code requirements as authorized alternatives under that element of the regulations.

However, we think that carrying those for a long

period of time as authorized alternatives is probably not the clearest and the best approach. So, in parallel with that, we would be working with the ASME to move these alternative approaches into the national codes and make them a part of the -- that would draw them into the normal coverage of the regulations.

MR. THADANI: I might just note again, on that one, the Staff is looking. For example, in ISD, there are two approaches that are being looked at. One approach to sponsor is ASME is the sponsor.

MR. HOLAHAN: I think in that context, if we were to approve both options, then, perhaps, the ASME part would be taken care of because the regulations refer to the ASME code, but perhaps a role change would be appropriate to reference the other methodology.

CHAIRMAN JACKSON: Is this a technical recommendation or a legal?

MR. HOLAHAN: This is really a legal and procedural matter.

CHAIRMAN JACKSON: I mean, this is including the legal staff analysis of this?

MS. CYR: We concluded that, in our understanding of where they have looked at alternatives in the past, that it is an alternative under the 50.55a(a)(3).

MR. THADANI: Correct. Otherwise, we couldn't

proceed under that.

CHAIRMAN JACKSON: But greater clarification would come from this dual path.

MS. CYR: Ultimately to adopt that. Now there will be an approved alternative that the ASME adopted as a consensus standard. Then you would want to reflect that essentially as your main part of your --

MR. THADANI: That is right.

MR. HOLAHAN: And largely, because this was a legal and procedural matter, we did not ask the ACRS to comment on it.

I will cover the last two slides quickly. We have a number of activities over the next six months. We have meetings with the ACRS, October, November, and December. Those are largely focused on the regulatory guide and the standard review plans.

We are still striving to issue the reg guides and the SRPs by December 31st. We have a couple of major activities to go in order to achieve that. I think both the ACRS views and the CRGR in November will be challenges to the Staff to get those out on the current schedule.

We will be continuing our review over the pilot applications, with the IST pilot in March of '97 and the technical specification pilot at the end of this year.

We will be moving over the next six months, as Tom

King mentioned, to complete the IPE reviews. The draft IPE insights report is, in fact, to the Commission, and I guess it will be sent out for public comment shortly.

MR. KING: Yes.

MR. HOLAHAN: I think we already covered the reliability data rule as an ongoing activity.

CHAIRMAN JACKSON: When is that evaluation expected to be completed? When are you going to be completed?

MR. JORDAN: I will ask Pat Baranowsky to give me advice.

MR. BARANOWSKY: I believe we are going to try to have something to the Commission giving the status of that evaluation either late February or early March.

CHAIRMAN JACKSON: So March of '97?

MR. BARANOWSKY: '97, yes.

CHAIRMAN JACKSON: Okay.

MR. HOLAHAN: Of course, having developed the number of new training programs, we will be continuing to use those.

May I have the twentieth slide, please?

This is just a summary of our next commitments to the Commission, with a December update and a briefing plan for next April. I think by the time we prepare the December update, we will have a much clearer view of where we stand

with respect to the regulatory guide and the standard review plan because we will have been through the ACRS and CRGR and we will know how close we are to having a version available for public comment.

CHAIRMAN JACKSON: Okay, thank you.

Commissioner Rogers?

COMMISSIONER ROGERS: Just in the December briefing, do you have essentially a topics list for that yet as to what you think you will be discussing?

MR. HOLAHAN: I think the current plan is we would have briefing -- you mean the Commission briefing?

COMMISSIONER ROGERS: Yes.

MR. HOLAHAN: I think the Commission briefings have been set on six-month intervals.

So, although we would produce an update of the report, right now there is not a --

CHAIRMAN JACKSON: The report comes in three-month intervals. The briefings are six months.

COMMISSIONER ROGERS: Right, but just what will be the emphasis of that?

MR. HOLAHAN: Just looking at the topics that are ongoing, I would say the regulatory guide and the standard review plans would be the dominant issues.

COMMISSIONER ROGERS: When will you be able to talk to us a little bit about how we expect to use PRA in

inspections?

MR. HOLAHAN: I think we could do that at almost any stage since it is sort of in the process. We have heard some progress.

COMMISSIONER ROGERS: Well, I would be very interested in hearing that because the standard review plan is important, but how do we expect to actually employ the use of PRA out in the field, particularly, for instance, with resident inspectors?

MR. THADANI: Actually, we have started to move slowly in that direction.

CHAIRMAN JACKSON: Why don't you speak to it specifically in your briefing to the Commission.

MR. THADANI: We will do that. WE will do that.

MR. HOLAHAN: And there are two or three examples, at least two, in the current Commission paper.

The one thing that I would say, the thing that I am most optimistic about is the senior reactor analyst program where we have taken about 10 of the experienced senior inspectors largely from the field offices and put them in two-year training programs for PRA, and that looks like it is working very effectively. That is a mechanism for getting experienced inspectors with risk insights, putting them back into the regional offices to be the local experts.

COMMISSIONER McGAFFIGAN: I got stuck back on page 13. I kept going back to it. If the answer to VI-(c) is yes, that the licensee's PRA would be put on the docket and subject to litigation, what are the implications of that for this whole effort?

MR. HOLAHAN: Well, at first, it might make the licensees a little bit reluctant to submit those, but I think, in practice, what is likely to happen is not that the whole PRA is subject to litigation any more than every code analysis and every code run shows up in the litigation, but the information that is extracted from it and summarized and is actually in the licensing decision process. Frankly, if that element of the analysis is really what is at least in part convincing the Staff that this is a good regulatory decision to make, then I think it ought to be subject to public scrutiny.

CHAIRMAN JACKSON: Commissioner Dicus, any questions?

COMMISSIONER DICUS: No.

CHAIRMAN JACKSON: Commissioner Diaz?

COMMISSIONER DIAZ: Yes. I just have a comment. When I read these documents, I was sure I was confused. Now your pages 10 to 13 assure me that I have good cause to be confused because there are a lot of good questions in there.

However, looking back a little bit over the

history, to be able to make an informed risk decision, I think we already realize we have got to take a risk, and I think we took a risk with the maintenance rule. Is that correct? Was it something we did that we weren't sure how it was going to come out and we took a risk? And I think that's great.

In all these studies, sometime soon we are going to have to come with another risk. We are going to have to take a risk, and that is going to be an informed risk to implement risk-informed performance-based decision.

Has the Staff identified any particular area where we are closer to a definite answer to say we are going to be able to do this at a definite time? I mean, is any of the multiple series of issues resolved to a point that we can say in a year we can do that or whatever?

MR. HOLAHAN: I think it is fair to say that the

pilot activities are the areas that we are getting the most experienced, and I would say I think we are pretty optimistic in each of those.

Certainly, perhaps with the ICI, in-service inspection area, it requires a bit more technological development than the others, but I think the Staff is optimistic about using these approaches and coming to agreement with the industry on the in-service testing. I think there is very good reason to think that, certainly,

within a year we will be ready to deal with technical specification changes, and I think in the graded QA area, we will come to an understanding of the appropriate uses.

One of the difficulties in that area is it is hard to quantify the value of doing quality assurance, but certainly, the use of risk input in deciding what is more or less important equipment in the plant, I am very optimistic that all of those will be successes.

COMMISSIONER DIAZ: Is the critical path dependent on the database that you have established on how to track that database?

MR. HOLAHAN: I guess I don't see the data role as absolutely essential in the sense that nothing can be done without it.

COMMISSIONER DIAZ: I see.

MR. HOLAHAN: I think it is a very important element. I think it would reduce the uncertainties. It would make it much more practical to be making decisions.

Perhaps you can't make as good and maybe, therefore, you can't make as certain a decision or maybe you need to put in a little extra margin if you don't have as much data, but I am still optimistic that improved decisions can be made.

COMMISSIONER DIAZ: Certainly, if the rule is imposed, we will be able to track it.

MR. HOLAHAN: Yes.

MR. THADANI: Yes.

If I may expand on what Gary has said, Commissioner Diaz, actually we at the Agency are using these techniques today in many of our decisions. In fact, we have a regulation that is called the backfit rule that calls for us to make two determinations before we can impose any new generic requirement.

The first one is that it should lead to substantial improvement and safety, and then we do use the Commission's subsidiary objectives derived from the safety goals and do, do risk analysis to see how the issue might relate to risk before we would go back and do cost benefit analysis, which is the second element of the backfit rule.

As far as we go forward, we are even today using what I would call risk insights to complement our deterministic evaluations and some of the changes that the licensees come in and propose in terms of technical specification changes.

What we do not do today, we do not have fixed numerical criteria or what I would call the infrastructure, the regulatory guide standard review plans, but we do use risk insights in these decisions as we go forward. In fact, it is an important element that we need to consider.

So I want to be sure that you know that we are

actually using these concepts and these decisions, but we just don't have the fixed criteria and we don't have guidance on how far to review these things called quality methods and so on. It is sort of ad hoc today, I would say.

COMMISSIONER DIAZ: I understand.

CHAIRMAN JACKSON: I would like to thank the Staff for what has been actually a very informative briefing on the Agency's PRA activities. Thank you.

We commend you, in fact, for the progress you have made to date in this sometimes difficult area. I know some of you have lost a few hairs along the way, but at the same time, we encourage you to continue to improve the process and to provide appropriate review mechanisms to ensure that PRA is used appropriately in our regulatory processes. Clearly, PRA has become an important tool of the regulatory process, and therefore, we have to strive to enhance the process, when necessary, but to ensure its consistent use where appropriate, and that is where the development of what you call, Dr. Thadani, the infrastructure is very important.

MR. THADANI: Yes.

CHAIRMAN JACKSON: It is also the reason for the

fact that I am explicitly asking you to address the implementation and monitoring issues within the context of the maintenance rule and so forth in the next briefing.

We, the Commission, owe you decisions on the

policy issues as soon as possible; for example, the one we have been discussing, the use of the Commission safety goals for plant-specific applications.

Then, as long as we understand what is really needed or how far one can go in the use of these methodologies for a given decision, then I think we will start out on more solid ground.

So, unless my fellow Commissioners have any further comments, we are adjourned.

[Whereupon, at 3:42 p.m., the briefing concluded.]