UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
OFFICE OF THE SECRETARY
***
NRC STAFF BRIEFING ON
PROBABILISTIC RISK ASSESSMENT
IMPLEMENTATION PLAN
***
PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Building 1, Room 1F-15
11555 Rockville Pike
Rockville, Maryland
Tuesday, September 7, 1999

The Commission met in open session, pursuant to notice, at 9:17 a.m., the Honorable GRETA J. DICUS, Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:

GRETA J. DICUS, Chairman of the Commission
NILS J. DIAZ, Member of the Commission
EDWARD McGAFFIGAN, JR., Member of the Commission
JEFFREY S. MERRIFIELD, Member of the Commission

STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

MALCOLM KNAPP, Deputy Executive Director for Materials Research, & State Programs, NRC
ASHOK THADANI, Director of the Office of Research
TOM KING, Director of the Division of Risk Analysis and Applications in Research
PAT RATHBUN, Division of Industrial and Medical Nuclear Safety, NMSS
MARTY VIRGILIO, Deputy Director of NMSS
GARY HOLAHAN, Director of the Division of Systems Safety and Analysis, NRR
SCOTT NEWBERRY, Deputy Director of the Division of Regulatory Improvements, NRR
SAM COLLINS, Director, NRR
BRIAN SHERON, Associate Director, NRR
KAREN D. CYR, General Counsel, NRC
ANNETTE VIETTI-COOK, Secretary, NRC

P R O C E E D I N G S

[9:17 a.m.]

CHAIRMAN DICUS: Let me apologize for starting a little bit late. It was my fault. I was the late one this morning. I am leaving on travel; I probably will not be able to stay through the whole briefing and Commission Diaz will take over and I appreciate that, but when I have got to go on travel, I have got to stop in the morning and take my dog to the kennel and then I get into this awful traffic and I remember why it is I come in so early, staying out of

traffic.

Well, let us not delay any more than I have already delayed us, so good morning, ladies and gentlemen. I welcome all of you to the Staff's briefing of the Commission on the status of our PRA Implementation Plan. The use of this plan has been an integral part of the agency's transformation into a more risk-informed regulatory framework. It contains not only specific technical activities in which risk-informed initiatives are underway but it also provides a comprehensive structure to evaluate all the programs and processes that are necessary to support a risk-informed regulatory environment.

Much has been accomplished but there is much more to be done, as we all know from activities related to the maintenance rule and review of the IPEEE evaluations to the

development of regulatory guidance and identification and resolution of policy issues involved in risk-informing 10 CFR Part 50.

The Staff has planned a rather ambitious presentation for us this morning, which I think we can get through hopefully in a timely fashion, so therefore do any of my fellow Commissioners have any opening comments they would like to make or any clarifying statements?

[No response.]

CHAIRMAN DICUS: Then with that I believe we are ready to start, so if you would start, Mr. Knapp, we are ready.

MR. KNAPP: Certainly. Good morning, Chairman, Commissioners.

CHAIRMAN DICUS: Good morning.

MR. KNAPP: I would like to begin by introducing the Staff on this side of the table. To my immediate right is Ashok Thadani, Director of the Office of Research; to his right is Tom King, Director of the Division of Risk Analysis and Applications in Research; and to his right is Pat Rathbun, with the Division of Industrial and Medical Nuclear Safety, NMSS; to my left, Marty Virgilio, Deputy Director of NMSS; to his left Gary Holahan, Director of the Division of Systems Safety and Analysis within NRR; and to his left Scott Newberry, Deputy Director of the Division of

Regulatory Improvements within NRR.

The briefing that we are bringing you today will focus principally on the last six months. The last PRA implementation briefing which we presented was in January of 1999. The purpose is to both summarize our accomplishments over the last six months and focus on the major activities which are now underway. This work underway represents a fundamental reassessment of our current programs and practices, not only on reactors but also on materials and on nuclear waste.

We are building on the previous work that we have done and the successes that we have had in risk-informing some of our activities. I think it is important to note that as we continue this work licensees can utilize the existing risk-informed approaches that we have and our work will build on broader applications.

I will now turn the meeting over to Mr. Thadani, who will carry the ball.

MR. THADANI: Thank you, Mal. Good morning. May I have viewgraph number two, please.

As you can see from the outline of the presentation, we do have a number of important issues that

we intend to discuss at this briefing. After a fairly brief description of some of the recent accomplishments including the use of risk information in the Reactor Oversight

Program, we will move on to focus on key elements in terms of what is the status and what are the key issues with risk-informing Part 50 of the regulations, provide the update on status of implementation of the framework for materials regulation, and finally we will discuss the strategy for integrating a number of interrelated issues, and this was one of the concerns that was raised by stakeholders. Let's go to viewgraph number 3, please.

As we stated in the SECY paper itself, SECY 99-211 only briefly discussed work related to risk-informing reactor and nonreactor requirements as well as development of a strategy for risk-informed regulation. While our plant-specific activities have continued we have significantly expanded our broader applications of risk information both in the reactor as well as nonreactor arenas.

For example, between March and June of this year six papers were provided to the Commission and the Supplements Chart Number 1 lists the papers that were provided to the Commission. In addition to that, we have also actively moved forward in our efforts to risk inform Part 50 of our regulations. In this effort of course we are very mindful of the input from the stakeholders.

Many important issues have been raised by stakeholders and briefly GAO noted a need for a strategy to

integrate objectives, safety goals, activities and timeframes in a cohesive fashion. The Center for Strategic and International Studies noted the need for a clear safety philosophy that is consistently applied, and also noted the need for some methods enhancements in risk-informing certain areas.

Industry has provided input. There is fairly specific input in terms of some of the areas that they would like for us to proceed on first.

Public interest groups have noted some of the limitations in methods and pointed out the importance of having a high quality standard and detailed reviews by the NRC of PRAs prior to moving forward with risk-informed regulation.

The Advisory Committee on Reactor Safeguards has, of course, supported moving forward with risk-informing rules, but they have also noted the need to make enhancements in certain selected areas, and they have identified those in the report that they just recently issued which reviewed research programs. May I have the next viewgraph, please.

There are a number of issues, as I said, interrelated issues, and these require management attention. Some of the examples of these issues are the need to develop a strategy for risk-informing Part 50 and other efforts,

feasibility of high level safety principles -- agency-wide safety principles not just reactor, revision of reactor safety goal policy -- we provided a paper on that recently to the Commission as well as nonreactor issues.

The PRA Steering Committee plays a very active role in these efforts. As you know, the committee consists of Directors -- NRR, NMSS, Office of Enforcement. Regions

are represented by Luis Reyes of Region II and OGC participates in these meetings and I chair the meetings.

Our focus has really been on taking these issues and trying to make sure we can see how best to fit all these pieces together. Now today's presentation is going to cover a number of these issues, and next Gary Holahan will briefly summarize some of the accomplishments of the agency in the last six months. Gary?

MR. HOLAHAN: Thank you. I will be very briefly summarizing accomplishment in a number of areas, two items we'll on with additional presentations and those will involve the Oversight Program and risk-informing Part 50. The other areas that I would just like to spend a few minutes on is the Reactor Licensing where we have put in place Regulatory Guides and Standard Review Plans and a number of pilot activities, and now we are really in an implementation phase in which the Staff has been granting license amendments and in some cases exemptions to

regulations I think in areas where we would not have done previously without having the risk assessment tools that we currently have.

These areas are summarized in supplemental viewgraphs two, three, four and five. Basically what they are identifying is eight significant risk-informed licensing actions that have come in over the last six months, predominantly in the area of inservice inspection for reactor coolant system piping, technical specifications, inservice testing for pumps and valves, and also a very significant item during this period that has come in, which is the South Texas Project's request for an exemption to a number of regulations and that activity will serve as a pilot for the risk-informing of Part 50.

A number of items have been completed over the last six months in similar areas. The emphasis has been on technical specifications, ISI and IST. We expect additional -- we have a number of applications under review and we are expecting additional ones on those areas, and what we are seeing is both generic activities where owners groups and EPRI for example are coming into the Staff as well as plant-specific items.

I think from the numbers what we see is there's some significant activity but it is still a small fraction of the licensing activities that the Staff are presented

with, and so we still see that there are a few active licensees and a number of others that have yet to involve themselves in these risk-informed activities.

But still I think it is fair to characterize these as technical matters. They is significant progress because the Staff and the licensees have been engaged in issues which I think we weren't previously capable of dealing with in an efficient manner, and I think we have had sort of proof that these things can done and can be done reasonably efficiently and we are looking for additional examples in the future.

Supplemental Slide 7 shows a list of activities which are now in Research, previously the kind of activities done in AEOD where operating experience is being looked at through a risk-informed perspective, an important study on initiating events, Westinghouse Reactor Protection System Reliability Study, and substantial progress on reliability data in cooperation with INPO. These are all important steps forward in using more risk information in the

regulatory process.

I would also like to note that 12 additional IPEEEs, the Individual Plant Examination for External Events, were completed, and that program is progressing.

An important item that supports a number of these areas is the ASME, ANS and the National Fire Protection

Association standards for the use of probabilistic risk assessment.

The ASME standard is in a draft stage. We expect by the end of the year to see that come out. The ASME standard deals with at-power Level 1 issues. ANS has just started up to deal with shutdown fire and some external events. There was recently a meeting in San Francisco to kick the shutdown activities off.

I think the Commission knows that the ASME standard has been somewhat controversial. There have been a number of comments. I think that document is undergoing some review and I think over the next few months we will have a better understanding of how comfortable the Staff is on how that is sorting out, but that is an important issue for streamlining and for the efficiency of using risk information in the licensing and inspection and oversight processes.

Recently there has been a Commission paper, 99-191, on the safety goal and I think there are a couple of interesting thoughts in that paper. One is the proposal for high level safety goals so that the materials and the reactor activities really are being informed by the same sort of high level insights. I think that is an activity that will take some time but ultimately will help in unifying the Staff's activities.

In the Training area we have I think a solid program.

The staff and technical managers, those courses, the 105 and the 107 courses are in place. They've been supporting the need for training very well over the last couple of years. Those seem to be working.

In the inspection area there's the P-111 course. We are on track to have all the resident inspectors and senior residents through that two-week PRA training course by the end of fiscal 2000, and then by the end of fiscal 2001, all other qualified inspectors. So it looks like the program is in place, and that's moving along well.

In the materials area there have been a number of significant activities, framework for risk-informing NMSS activities summarized in SECY-99-100 and the material review, and later on in the presentation Pat Rathbun will speak to past, present, and future materials programs. So I think I'll leave it at that.

On viewgraph 6 I'd just like to spend a few minutes on one of the major activities in the reactor area, and that is the bringing of risk insights into the reactor oversight program. I think it's fair to say both, it's both a risk-informed and performance-based program, because it makes much stronger use of performance indicators than the previous inspection program.

What I've highlighted here is how risk information is worked into that program, just to remind the Commission this is what was presented back in SECY-99-007 and 99-007A. So we are now in the implementation or in the pilot

implementation phase of using safety cornerstones based on risk principles by using risk-informed and performance-based approaches with performance indicators and inspection insights relating to those cornerstones to identify the safety significance of inspection findings and of performance indicators.

The pilot program is now under way, started back in June. There are still some developments going on in parallel with that, but the process is being tested with respect to testing the usefulness of performance indicators.

The significance-determination process, which is an integral part of, you know, determining how important individual findings are, that's being tested, and I think that the inspection, you know, methods and guidance are out there being tested as well.

So the program is on course, the actual in-field test is being done through November, then there's a period of considering the insights learned from that process, and hopefully we'll be in position to put that program in place in the spring of next year. And if you have any specific questions on the findings to date, I think some of our staff

are here and can cover those. Otherwise we're prepared to go on to risk-informing Part 50.

CHAIRMAN DICUS: Go on.

MR. HOLAHAN: Okay. Scott Newberry.

CHAIRMAN DICUS: Although we may come back and address that question, let's go on now.

MR. HOLAHAN: Okay.

MR. NEWBERRY: Moving on to risk-informing Part 50, I'll cover our efforts on Options 1 and 2 as defined in SECY-98-300. We received an SRM from the Commission on the SECY, and we put together an effort that I'll describe in the next viewgraphs.

My point on viewgraph 7 is not to go through the individual rulemakings that are ongoing right now, which are included in Option 1, but basically we were told in the SRM to proceed on these rulemakings, and we are doing so. The main point is that we're now proceeding in a structured way, coordinating between the rulemakings listed there as part of Option 1 and in Option 2, making sure that we're coordinated as we move out to implement Option 2, that I'll talk about in a minute.

Let's go to viewgraph 8. A few points on how we're tackling the Option 2 aspect of risk-informing Part 50. I think it's fair to say that the effort is being managed and staffed as a high-priority project. A team has

been formed from all divisions in NRR with direct ties to the other offices, certainly Research, OGC, Enforcement, the regions, and NMSS.

Management oversight is provided by the risk-informed licensing panel. This is a panel that's been in existence, has been very beneficial in dealing with all risk-informed licensing matters. It's made up of division management in NRR Research and OGC, and the panel is actively involved in the Option 2 activity, providing oversight guidance on I would say technical, sometimes legal, and even management issues associated with the effort.

Ashok mentioned the PRA Steering Committee previously. He chairs the committee. It's an office-director-level committee that has already met a couple times on risk-informing Part 50, primarily at this point to

provide leadership and coordination and priority assignment of resources. We'll be involving ourselves with that committee as policy issues develop.

The team that's been assigned to this activity and the risk-informed licensing panel members have participated in several public meetings. To date those meetings will continue certainly. Purposes are to work very hard to make our efforts publicly available, and I'll talk about some of the work we've done recently there, and of course to receive

input from our stakeholders. To date I think it's fair to say that NEI with support of four pilot licensees have provided most of the comment input. The pilots are, and Gary has mentioned one, South Texas, and then Arkansas Nuclear I, Fermi, and San Onofre.

Let's go to the next viewgraph.

On viewgraph 9 at the start we intend to provide the Commission a rulemaking plan by the end of October, as requested. We're working hard to do that. On this viewgraph I've listed the primary tasks associated with Option 2.

Just to step back, Option 2, as defined in SECY-98-300, is the change of scope of Part 50 to a risk-informed scope rather than a design-basis-oriented scope of equipment that receives special regulatory treatment. Special regulatory treatment is talked about in that paper, but really refers to the highest order of quality looking at harsh environment or seismic qualification treatments like that. We'll be working with internal and external stakeholders of course and utilize pilot activities and exemptions as appropriate.

The rulemaking plan is now being developed. As I said, it's due by the end of October, and we're in the crunch of pulling issues together and approaches in that rulemaking plan.

I do list on the viewgraph some of the parts of the plan which are important, and I'll talk about them here briefly.

We're looking at approaches for revising the terminology in Part 50. We suggest one in 98-300, and as you dig into it, you find out there could be others that might be more efficient, and certainly effective, not just changing the definitions to safety-related, but perhaps alternate definitions to better define what we're really doing. And then you look at how to weave that into the regulations in a clear and understandable way, and new ideas are coming forward.

Our intent would be to put them in the plan and to solicit, you know, stakeholder input on those approaches, you know, which rules need to be considered in the effort. We suggested some in the SECY. As we dug into it we find that there are more rules that would fall within the scope, and at a public meeting on the 26th of August, we put our first cut at those rules out into the public so that we could receive input as early as possible. Not just the list of rules being important, but how did we determine which rules, what were our criteria. We've identified preliminary criteria for determining which rules would need to be risk-informed. I think it's important to point out that we now think we need to look beyond Part 50 -- Part 21, Part

54, Part 100, and then some of the appendices to Part 50 as

well.

The methodology for reclassifying the equipment based on its safety significance is going to be a very key aspect of the rulemaking. We're looking at that now, and two of the key issues in my view right now would be to what extent can we efficiently take advantage of preliminary work. There's been scoping and screening of equipment done to date as part of other efforts. We need to look to see if we can efficiently take advantage of that work, and of course the review process itself, would each licensee have to, you know, submit this to the staff for review, or could we create a more efficient process for implementation.

As I said, our plan is to get the rulemaking plan to you on schedule the end of October, and we're still working to that date.

MR. HOLAHAN: Can I have viewgraph 10, please.

In SECY 98-300 there were four policy issues identified. The first three of those are being dealt with in an integral manner as part of risk-informing Part 50 and on the same schedule. Policy Issue Number 4 is really being dealt with separately and has a September 30th Commission due date and that is the issue of clarifying the Staff's authority and having guidance for applying risk-informed decision-making in those cases where the licensees have not

asked for and have not submitted risk information.

The Commission was recently sent a paper on the Callaway electrosleeving issue, which also reiterated the need for clarify in the Staff guidance in this area.

So the cases that are of relevance to Policy Issue 4 are ones in which the licensees have submitted information which appears to meet the deterministic regulations but for which there may be some risk implications that the Staff wishes to deal with, and the question is what guidance and what Staff authority exists to do that.

We are currently developing a paper for the Commission, due September 30th. A draft is currently in concurrence. It was shared with the ACRS last month. There was an ACRS meeting earlier this month on September 2nd to get their input. A proposed approach was discussed with both the PRA Steering Committee and the Risk-Informed Licensing Panel.

The general approach that is being proposed and will be sent to the Commission for approval uses the concept of identifying special circumstances. There needs to be some reason why the normal deterministic regulations are not providing the level of safety that was expected or envisioned when the regulation was first written.

This is part of our desire to preserve the presumption that the regulations under normal circumstances

provide adequate protection and simply meeting the regulations is a way of showing that the plant is safe enough and that license amendments ought to be granted.

We have seen that there are unusual circumstances. In fact, we probably think of them as being rare circumstances, under which new methods, new materials, a different approach to an issue is identified, and it is different from what the Staff and I think the Commission had envisioned when a regulation was written, and so there is the possibility that the regulation dealt with the way the Staff would normally, with its existing guidance, would not provide the level of safety that was desired.

In those cases we would go on to first identify

what is special about this case, secondly to use an integrated decision-making process like that included in Reg Guide 1.174, which includes both risk and deterministic insights, to go on and use the guidelines in 1.174 to test, as a screening test of whether adequate protection ought to be questioned or whether it can be assumed for a given case, so this is sort of a one-sided test.

If an application is consistent with the Reg Guide 1.174 guidelines, which is about the same as saying if the licensee had submitted it as a risk-informed initiative it would have been approved, so at that point I think we would assume that something could be approved. But if there are

unusual circumstances and it is outside the guidelines of Reg Guide 1.174, it would trigger the Staff to question whether adequate protection would be preserved in that license amendment, and at that point we would take all the existing information into consideration -- deterministic engineering insights, safety margins, risk insights, the defense-in-depth implications, and also look at anything peculiar to that case -- how long such a condition would be in place, whether there were compensatory actions, what it meant for an individual plant, and we would propose to develop a safety decision based on all of those insights and determine whether at that point a license amendment ought to be granted or not.

Process-wise what we have proposed is to lay this general approach out for the Commission for its approval. If the Commission agrees or for whatever guidance the Commission gives us we would then go forward and modify office procedures, Regulatory Guides, Standard Review Plans to be commensurate with that, and those documents would be taken through the normal stakeholder process. They would be put out for comment, probably have meetings or workshops on those. They would go through CRGR, ACRS and the rest of the process.

For the end of September we will be presenting a paper with a general approach, looking for Commission

guidance.

One of the issues that the Staff has been struggling with somewhat is if or how the concept of cost and cost benefit and the backfit rule can play a role in this process. Normally license amendments are granted completely separate from backfit considerations, but it has been suggested that there may be some usefulness to that concept and how that would work in is still an ongoing thought. It was discussed with the ACRS and we expect to have a position to bring to the Commission by the end of the month.

With that, I think I have said everything on the Slide 11 except perhaps that in this process we have reconfirmed basically what we said in 98-300, which is it doesn't appear that any rulemaking is necessary. The Commission's authority and the Staff's authority to act on risk information in the licensing process exists in the regulations. What we lack is guidance documents on exactly how to do that.

I would like to turn the presentation now over to Tom King to discuss Option 3 of risk-informing Part 50.

MR. KING: All right, thanks, Gary.

What I am going to discussion the next several slides is our efforts related to risk-informing the

technical requirements of Part 50 including the integration

and coordination with the Option 2 work on the scope and some of the key issues that are being faced in this effort.

In SECY 98-300 Option 3 is the study of technical requirements. Our plan right now calls for two products to be developed under this Option 3. The first is our plan to do the study, which we owe to the Commission the end of October of this year.

That plan will be more than just a schedule. What we intend to have in that plan is a summary of the approach we will take in doing the study, which we will discuss when we get to the next couple of slides, the criteria we plan to use for selecting candidates for change, any of the key issues that need to be faced as we go through this study and certainly our schedule.

When we talk about technical requirements we are talking about more than just the regulations. Certainly the regulations have some technical requirements in it but a lot of the detailed technical requirements are contained in Regulatory Guides and Standard Review Plans. They deal with things like analysis methods, assumptions, acceptance criteria, and so forth. All of those are included in the study when we talk about technical requirements.

The second aspect of this work is the study itself. What the study will include is it will identify those area that are candidates for change. It will identify

the scope of the changes that we would recommend, and again that would include regulations or any changes needed to the supporting Reg Guides and Standard Review Plans.

It would provide enough description of the work done to establish the feasibility of making those changes. It will identify any issues that need to be dealt with in implementing the changes and the recommended priority.

We would play to provide this in a paper to the Commission for your approval and, as requested in the SRM that approved proceeding with this study, if there are any things that come out of this study that look like they should be proceeded with on an expedited basis, we wouldn't wait until the end of the study. We would bring those forward on an individual basis for Commission approval.

In developing the plan and the study itself, we are going to get stakeholder input and discussions with ACRS. In fact, next week we have a public workshop scheduled where we are going to discuss our plan for doing the study and solicit feedback. We have a meeting with ACRS schedule the week after that, where we are going to do the same thing. We would expect to schedule additional workshops and ACRS meetings as we get into the study and have technical results to discuss. If I could have Slide 13, please.

One of the key things we need to pay attention to

in doing the Option 3 study is maintaining close integration and coordination with the Option 2 work. To do that we are maintaining a consistent approach in that we are going to utilize the principles of Reg Guide 1.174. In doing the Option 3 study, we'll consider defense-in-depth, we'll consider safety margins. The way we are going to bring in risk is to look at small changes around the plant's current risk profile. We are not going in and trying to drive plants to some new level of risk in doing this study. We think that is certainly consistent with the Commission's

performance goal of trying to maintain safety.

We plan to retain the design basis concept. Now what we would envision is this would be, when we are all done, a risk-informed design basis, but we are not throwing away the idea of design basis accidents and so forth. What we want to do is make them consistent with what risk insights tell us.

Whatever the Option 2 activity comes up with in terms of a risk-informed scope definition, I would certainly think that would apply to the technical requirements as well, so we want to maintain close contact and review that in terms of its applicability to the Option 3 technical requirements.

Similar to Option 2, we envision the use of pilot plants to test out some of these concepts and ideas for

technical changes to the requirements. Slide 14, please.

There are a number of issues that we are going to have to deal with in doing both Option 2 and Option 3. What I wanted to do is just give you an early indication of what some of these are likely to be. There is a certainly a policy issue that remains on the plate that was in SECY-98-300 and discussed in your June SRM, that has to do with selective implementation. If you recall, the Commission felt that this issue, at the time SECY-98-300 was provided, it was premature to deal with this issue.

We agree with that, but we still owe you for both the risk-informed scope and the technical requirements. Should all risk-informed changes be implemented as a package? Should there be some bundling within, or should licensees be able to pick and choose the ones that they want to implement?

So as we proceed into this and get further along and identify what these change are, we still owe you a recommendation on that issue.

Regarding implementation itself, what we are doing is we are taking an approach that is looking at existing requirements and how to risk-inform them. We are not starting with a clean sheet of paper and rewriting Part 50. And, as mentioned previously, we are retaining a design basis concept and we are using the risk-informed principles

in Reg. Guide 1.174.

Technical issues. One of the main ones is, what are the criteria we are going to use for selecting the candidate rule changes and proposing modifications to Part 50?

Risk-informed regulation is a two-way street, so there will certainly be criteria that have to deal with current requirements that have little or no safety benefit. What do we do with those? How do we get rid of excessive conservatism? But also aware, does the risk-information say safety enhancements are justified?

If I could have Slide 15, please.

That will lead us to developing a set of criteria to deal with those three aspects I just mentioned, and we envision the criteria will be consistent with the agency's performance goals in that we will have criteria that will address maintaining safety. That, again, will get back into using the Reg. Guide 1.174 considerations. We plan to have substantial stakeholder input, which we believe will help enhance public confidence in what we are doing. As I mentioned, the workshops, ACRS meetings that are planned.

We envision cost benefit considerations will be used as well as looking at areas where there is excessive conservatism. This would be considerations in reducing unnecessary burden and also improving effectiveness and

efficiency of what the technical requirements are. And we would envision using a performance-based approach where practical in making recommended changes to the technical requirements.

With that, I will turn it over to Pat Rathbun, who will discuss the NMSS activities.

MS. RATHBUN: Thank you. During my presentation here today, I will be providing you with an update on the status of NMSS efforts in risk analysis. Before I move into those details, though, there are two important points that we need to keep in mind when we are looking at NMSS's approach to risk analysis. The first one is that we are fully participating in the overall agency strategy to bring the risk-informed approach into our regulatory and licensing activities. Conceptually, our approach is based on and closely parallels the approach taken by both NRR and Research as they develop and implement the PRA program.

Now, having said that, though, I want to note that risk analysis methodologies used by NMSS in the past have, for the most part, differed from traditional PRA approach used by the rest of the agency. Now, this is, of course, due to the heterogeneous licensee base and array of nuclear materials we regulate. With one notable exception, and I will talk about it in a minute, our approach is risk analysis. We do, and have started working on PRA, but I

just want to say upfront that this may not be too possible for NMSS.

All right. Having said that, I do want to go back now and talk just a little about the work we have done in risk analysis. Most of this has been -- I need Slide 16. Most of this has been done and briefed to you, but I just want to quickly revisit it. We have extensive experience in using performance assessment. By and large, this technique was developed by the NRC and works well with the risks associated with geologic disposal of high and low level waste, and we believe in the residual site contamination after decommissioning.

An early effort to apply risk assessment methodology to the analysis of transportation risk is known as the Modal Study, and I have referenced that for you in the slide. This is a study of and response to severe accident highway and railway accidents. We are considering revisiting the Modal Study and taking a long look at the methodology and the way this was approached. It appears promising.

Another technique which has worked for us is the Integrated Safety Analysis, which, of course, is the risk assessment technique developed by the chemical process industry after Bhopal, and it has proven to be a good way of looking at hazards for us.

In nuclear medicine, we actually did try real PRA. We used PRA to look at the gamma knife, which bears some parallels to engineered systems. It has a hydraulic system that can fail, leaving the patient exposed to risk. It was moderately successful, and we would have to take a look at that, but always in the use of PRA, you have to remember that it will not model human error effectively and most of

ours comes about in human error.

The Nuclear Byproduct Material Risk Review Group has published for comment two significant NUREGs that are noted in Slide 1. This would be an extension and an attempt to develop risk analysis for the fields of radiography, nuclear medicine and well logging. It is a substantial document and well worth your time.

Now, although NMSS had worked in risk analysis, we had not developed a fully integrated approach. With the publication of SECY-99-100, a framework for risk-informed regulation, and the direction that you gave us in the subsequent SRM, we believe we now have laid out the groundwork for carrying out an integrated program of risk assessment.

If you could give me the next slide, please.

We have set out a five-step process. Also I am not going to go through that with you because it is very close to what Tom just discussed with you, and I have

provided it for you in Background Slide S-8.

We are now in the process of carrying out this five-step process and trying to implement a risk analysis approach that will also include risk management. We are working with a joint ACRS-ACNW subcommittee, and we are working now -- that would go too far -- we are beginning to look at the material safety goals and are quite excited about the new paper Joe Murphy sent up to you and are planning to work closely with him.

We also are working on an enhanced participatory process and right now we have people -- Don Cool and Seth Copelan will be speaking at the Organization of Agreement States meeting this week. We will be also speaking to the fuel cycle licensing efforts and we are planning a full-scale meeting in March, which would be the first of our participatory workshops.

I guess we'll go on. Ours is very short because we are really just beginning. I want to go on to our recent accomplishments which I have already touched upon.

You have approved the plan. We have met with the ACRS. Most importantly though, we have formed a task force to try to bring this activity to the forefront. We have formed a short-term task force, sort of similar to the one we did for the DOE oversight task force and we plan to have this in effect for about six months and we hope that this

group, which is quite senior people, many of whom have worked in risk analysis in the offices, can bring this together and lay out a framework. We are then planning a permanent organization in the Division of Industrial and Medical Nuclear Safety.

I have already touched upon the publications, and the last thing I want to mention is the Part 35 rulemaking. We have worked very hard to try to make this a risk-informed approach. Thank you. That concludes our presentation.

MR. KING: Okay. If I could have Slide 19, please.

The Commission's August, 1995 PRA policy statement expressed their desire and expectations for the use of risk information in regulatory matters. As you have heard, there are a number of broad scope activities underway in the program offices to implement this policy. These are also being carried out consistent with the agency's Strategic Plan.

Integration and coordination are important to the success of all of these activities, and that includes both internal integration and coordination as well as external. Such integration and coordination will lead to consistency in approaches, goals, and guidance. It will also facilitate efficiency in the development of the infrastructure needed to actually implement risk-informed regulation in NRC,

whether it is analytical tools, data, resources -- Staff, contractor, training and so forth.

Therefore we have several activities underway that are directed toward helping to ensure this coordination. What I wanted to talk about was three specific ones in that area, if I could have Slide 20, please.

The first of these is what is called a strategy for risk-informed regulation. GAO did an audit last year on NRC's risk-informed regulation activities, and in their March, 1999 report recommended that the agency develop such a strategy. The purpose would be to describe the overall agency plans and approach for risk-informed regulation, a road map, if you will, for where the agency wants to go in risk-informing its activities.

That would include criteria for deciding what do we want to risk inform, goals, approach, technical needs, and so forth, for how we would do the risk-informing, and the priority, resources, and schedule that would be used to decide when we would risk inform these activities. Certainly this would support implementation of the agency's Strategic Plan.

Former Chairman Jackson wrote back to GAO and agreed with this recommendation and said we would embark upon developing such a strategy. It was discussed briefly in the most recent quarterly update of the PRA

Implementation Plan and we are committed in there to provide to the Commission in mid-September an outline of this strategy document, which is currently working its way through concurrence up to the Commission.

The second major activity is what we call high level safety principles. These were discussed in SECY 99-191. The idea behind those was that when we were looking at the revisions to the Reactor Safety Goal Policy it was apparent that a number of things that we were looking at in that context were really agency-wide issues. They weren't reactor issues -- things like adequate protection, defense-in-depth, regulatory analysis guidelines, the concept of how safe is safe enough, and so forth.

At the same time we knew NMSS was working on their framework and it occurred to us that perhaps it would be useful to develop these set of what we call high level safety principles to deal with these issues in an agency-wide fashion. They could then be used to provide overall direction and consistency to all the agency activities, risk-informed activities. They could also be used in the nonrisk-informed activities as well.

So we took a small effort to develop the concept, discussed it with ACRS. They said it was worth proceeding, at least to look at the feasibility of doing this. We proposed to the Commission in the SECY to proceed and do the

feasibility study and come back to the Commission in March with a recommendation in this area.

The third major activity is the revision to the Reactor Safety Goal Policy, which again was discussed in the

SECY 99-191. It deals with a number of issues related to reactors as well as the broader issues that we talked about under the high level safety principles and it has to be coordinated very closely with the high level safety principles where we owe the Commission recommendations on these issues again in March of next year. I would like to have Slide 21.

In summary, I just wanted to emphasize the key points associated with our activities in the risk-informed area.

One, that we are trying to systematically assess and risk-inform our programs. Certainly the plant-specific activities will continue the progress made to date on, for example, risk-informed licensing amendments. It is not going to slow-downed or terminated because of these additional efforts. We are trying to bring stakeholder concerns in in all the areas that we are working in. We will bring issues to the Commission as they are developed.

As Mal said in his opening remarks, the work that is underway now in these broad areas is going to result in fundamental changes to regulatory programs and in doing that

clearly the theme you heard today is that integration and coordination of these activities is very important to the success.

That concludes our briefing.

CHAIRMAN DICUS: Okay, thank you very much.

I am going to ask a couple of questions and turn it over to my fellow Commissioners, and one of the questions is very philosophical, and there are any number of briefings at which I could probably ask this question, but it so happens that I am going to ask it in this one -- as I said, it's somewhat philosophical.

It is something that Tom King said when he talked about one of the goals that we have is to maintain safety and we are being perhaps criticized a little bit by our foreign colleagues who say you shouldn't maintain safety, you should promote and enhance safety.

Now also the industry from time to time tells us that we keep raising the bar, keep making it tougher, tighter, which would imply promoting safety or enhancing safety.

If we had the goal 10 years ago of maintaining safety, would be a different agency today than we are, and if you look forward to 10 years, if that goal is to maintain safety, what differences do you see, if any, in how we might respond and where the bar might in fact be?

It is a very philosophical question. If you want to think about it, that's fair too, and if you want to think about it until the next briefing, I'll bring it up again, whatever that briefing may be, but anyway, does anyone want to take a stab at it?

COMMISSIONER MERRIFIELD: In three sentences or less.

[Laughter.]

CHAIRMAN DICUS: Right -- three sentences or less.

MR. HOLAHAN: I'll take a stab at it.

MR. THADANI: Go ahead, Gary.

MR. HOLAHAN: I think it is an issue for everyone to think about. It seems to me that when you establish a goal of maintaining safety there are certain assumptions that you must have about the maturity of an industry, about

how well you understand it both in terms of data and in terms of methods of analysis, how comfortable you are with the overall management structure, and things like that.

So I think if you go back a number of years, and whether it is 10 or 15 I think probably the conditions didn't exist -- at least personally in my judgment -- with respect to licensee performance, the stability of their management structures, the clarity of all of our understandings of what the safety issues are, so I would think probably at that point it wouldn't have been

appropriate to have such a standard.

Now how close are we now to being comfortable with licensee performance and with having a clearer picture of what is safety? I think it is a goal that makes much more sense now and I think it is not a bad idea to raise this issue at this meeting, because I think probabilistic risk assessment in my mind is what brings a lot of those insights to the table, to say I am now comfortable in saying I understand the plants well enough to have such a goal.

However, I think that when you say "maintaining safety" at least to me that means maintaining the level of safety that you think you have, right? You may very well discover that some things aren't quite what you thought they were and have to have safety enhancements or corrective actions or something. It doesn't mean that if we discover problems we are not going to deal with them. It means maintaining the level of safety that the industry and the Commission has come to think of it.

MR. THADANI: If I may add to that, I completely agree with what Gary said, and I think it is fair to say that there is a lot of concern out there about what we mean by maintaining safety, what do we mean by risk-informing our regulations, and what are some of the implications in the international arena.

I think it is very important for us, and perhaps

we don't do it well enough ourselves, to clearly say what do we mean by maintain safety? It does not mean that we are going to terminate some of the things we do, such as looking at operational experience, whatever work we are doing in the Office of Research, insights that we get from various arenas -- that we will look at those and we will make determinations in accordance with the backfit rule to see if any additional requirements should be imposed consistent with the safety benefits as well as cost considerations.

Tom touched upon it in his discussions. It is a two-way street and perhaps we haven't articulated this aspect enough to say our intention is not just to remove an unnecessary burden using these techniques but we will not stop looking for potential areas for improvement, but we will take costs and benefits into consideration.

I think I have also been contacted by a number of people from other countries. They raise the same kind of issues, but what does it mean? Part of my sense is, part of it is the articulation of the broad safety philosophy and not just getting hung up on what do we mean by the term "maintain safety." I am urging internally that we have to keep bringing this sort of language in when we talk about maintaining safety in order to make sure that there is confidence -- not just the international community but we have heard from some stakeholders in this country the same

concern.

CHAIRMAN DICUS: Okay. Does NMSS want to add anything to that?

MS. RATHBUN: No.

[Laughter.]

MR. VIRGILIO: Chairman, I would add something to that.

In addition to maintaining safety, one of our draft performance goals is also to look to look at efficiency --

CHAIRMAN DICUS: Right.

MR. VIRGILIO: -- effectiveness and realism, and within that I think what we are looking at is how do we sharpen our safety focus so, while on the one hand, what we are doing is maintaining a level of safety we are also looking what are we looking at, what are we focusing on, how do we focus our attention and our licensees' attention on what is most important from a safety perspective, so if we are being criticized on one hand for just maintaining safety I think they are missing the complete picture, where we are looking at other activities, other initiatives that would sharpen the focus.

MR. HOLAHAN: Can I add one thing?

CHAIRMAN DICUS: Go ahead.

MR. HOLAHAN: I hope this doesn't sound

inconsistent -- what I think.

CHAIRMAN DICUS: I hope it doesn't either.

[Laughter.]

MR. HOLAHAN: I think you can have expectations of increased safety while you have a regulatory program focused on maintaining safety, and that is because our experience with Regulatory Guides, for example, where we said, well, you know, licensees can use risk insights and they are allowed to make burden reductions and risk increases, in fact they are not out there looking for risk increases. What we see is in fact on the whole that program has resulted in safety improvements and burden reductions, so my personal expectation is even while we are risk-informing the regulations consistent with maintaining safety, I expect actually the plants to get safer because both we and the licensees will understand them better.

CHAIRMAN DICUS: And I agree and I will go back to the transcript and copy down notes, so that I have got answers to my foreign colleagues, but I appreciate that input very much, and I think I have used up more than my five minutes, so Commissioner Diaz?

COMMISSIONER DIAZ: This is part of your time in here.

[Laughter.]

COMMISSIONER DIAZ: If you look at page 15, I

think what Chairman Dicus is bringing out when it says "effectiveness, efficiency and realistic decision making/ excessive conservatism" -- meaning that we are going to eliminate excessive conservatism -- you can easily put another bullet there, "safety enhancements" -- you know, with due consideration of backfit or whatever it is. It makes a more complete picture.

Now I will start with my time.

[Laughter.]

CHAIRMAN DICUS: I am watching.

COMMISSIONER DIAZ: First, I think I am viewing this briefing as kind of setting a series of positions

because I guess the meat of the information will be coming very rapidly to the Commission. I understand that. That will have a significant amount of specificity.

A quick comment. Somebody made a comment that preliminary criteria for determining which rules should be risk-informed, and that is really setting the stage of how these things are developed. I'd really appreciate getting a copy of that, because sometimes the Commission sees the end result and we don't see the thought processes.

MR. NEWBERRY: I'll take that action and get it to you today -- to all of the Commissioner offices.

COMMISSIONER DIAZ: Appreciate it, and now that I said that I realize that cornerstones are under development.

I contradict myself and I'll ask a couple of questions.

Now first, there is a statement in Slide Number 10 that says Guidelines for Questioning Adequate Protection. Of all of the things that I saw here to me that is a very fundamental and very major statement, because in reality to enable to do that you are going to have to set hierarchies of call it safety or risk platforms that would allow us to eventually make regulatory decisions.

So I am very keen in seeing how these guidelines for the question of adequate protection develop. I think this is the fundamental work of the agency, and it might have far more bearing on risk than many of the immediate things.

I had a question, issue, no rulemaking necessary. We are talking of what part of the work? You know, because eventually there is going to be some rulemaking necessary.

MR. HOLAHAN: On the specific policy issue number 4 is what we are saying.

COMMISSIONER DIAZ: Specific policy issue and that is it, okay, in other words.

MR. HOLAHAN: Right.

COMMISSIONER DIAZ: And that is the short-term, like March of next years, something like that?

MR. HOLAHAN: I think what we said is -- well, actually, what we owe to the Commission by September 30th is

both a plan and an interim position, and so what we will be asking for is an approach. I think the schedule will run out, probably -- I don't know that we have set it in concrete yet. But for stakeholder input, something like six or nine months would not be unusual. But we would also be asking the Commission to approve the interim use of such guidance if those cases were to come up.

COMMISSIONER DIAZ: Okay.

MR. THADANI: May I comment?

CHAIRMAN DICUS: Sure.

MR. THADANI: I think, as you correctly noted, it a pretty complex issue, and it is also clearly linked with the hierarchy we have been talking about in terms of the safety philosophy and coming down to safety goals and their relationship with adequate protection. So there are a number of interrelated issues that would require careful deliberation.

COMMISSIONER DIAZ: Thank you. On Slide 13, integration and coordination of Options 2 and 3. I might just bring up the fact that we are trying to use Reg. Guide 1.174 as a guideline, and that deals many times with changes to the risk. There is another envelope or another issue which is, you know, what is the absolute value of where things have been set. So I just want to caution there are

times we don't want to take a square and try to put it

inside a circle. You know, the areas are outside of the principles in Reg. Guide 1.174, and we want to be apprised of which ones are those. I don't know whether work is going on on that, but there is a difference in how you look at these things.

MR. THADANI: We certainly, under Option 3, we are looking at -- you are correct, first of all, but there are issues beyond what is in Reg. Guide 1.174. The intent of that Reg. Guide was to deal with license amendments, as you recall. And what we are talking about now is significantly broader applications, and we have to look at the whole map. We cannot just look at the parts of core damage frequency and large early release frequency.

There are two sides, if you were to draw a curve, so to speak, the early part of the curve, that is, even though there may be small accidents or small releases, small events, one has to carefully consider how what we are talking about, that is folded in. If you were to look at a frequency consequence curve, so to speak, two parts, or the very first part of that curve, how are we going to deal with that? Very small events, they happen. What frequency?

At the last PSA conference, Commissioner Diaz, you were there and I was there, Brookhaven raised the issue. If the leak that they had, and the consequences that they suffered as a result of the event, how would that be

considered as we sort of restructure the regulatory philosophy? So under Part 3, the options, we are going to carefully look at the whole map and see what issues and how well to integrate this.

COMMISSIONER DIAZ: I do agree, it is a good base, but it is just a base, and sometimes doesn't fit the picture.

In the same slide, there is new statement in here, risk-informed/deterministic requirements. Again, the issue of hierarchy will come into play. Which one comes first? Okay. And that is a major decision-making, because unless we establish the hierarchy, you know, there will be a tendency to just abide by what was existing, because that is comfortable. I think we need to at time challenge this established hierarchy to be able to really become risk-informed.

That is a comment, and then to NMSS, and I am not criticizing, but the statement was made that PRA will not model human errors. I think you can say that it does not presently. But it certainly is quite possible that it will model human errors, as long as we are willing to establish the right distribution. And that is one thing that, you know, probably we will see in this Commission. But it is a major issue that will have to be addressed.

MS. RATHBUN: I agree. Thank you.

COMMISSIONER DIAZ: We will have to address the distribution.

And a question to NMSS. What is the difference between the NMSS task force and the NRR dedicated team? The same thing or different?

MS. RATHBUN: I think that ours is very new and my guess would be that it will be identical as it goes on.

COMMISSIONER DIAZ: Okay. Thank you.

MR. HOLAHAN: Could I follow up on something that

Commissioner Diaz said?

CHAIRMAN DICUS: Yes.

MR. HOLAHAN: The thought that -- the sort of which comes first thought about the PRA or deterministic issues. I am hopeful that at some point, and it may not be close, but, ultimately, that the deterministic requirements are sufficiently compatible and integral with the risk insights that, in fact, there is no competition between them.

For example, if you could imagine the Chapter 15 Safety Analysis Report, basically dealing with accidents in the context, let's say of the success criteria that are used in the PRA, then, in fact, you would have an arrangement in which the deterministic analysis and the risk analysis were so integral that you wouldn't have to worry about, you know, which is more important than the other and where should I

put my priorities, they, in fact, would be fully compatible. Hopefully, we can get to such a point.

COMMISSIONER DIAZ: Yes, that certainly would be the ideal that we would like to do, but, first, we are going to have to move the immovable object with the irresistible force.

CHAIRMAN DICUS: Commissioner McGaffigan.

COMMISSIONER McGAFFIGAN: My understanding, we are going to have a couple of rounds, is that --

CHAIRMAN DICUS: No, as many as we need.

COMMISSIONER McGAFFIGAN: Okay. Let me just try to divide the questions up into rational groups then. On Slide 10, when, Mr. Holahan, you were talking about it, you were talking about giving us this approach, and unlike on Options 2 and 3, where there were stakeholder workshops and all that sort of thing, what you talked about was getting us to conceptually buy into something and then Reg. Guides and Standard Review Plans and stakeholder comment would follow.

MR. HOLAHAN: Yes.

COMMISSIONER McGAFFIGAN: But with us having pretty much said how it was going to turn out, and I am wondering whether we need stakeholder involvement at the start on this conceptual approach you are laying out, or how much meat -- is it going to be so conceptual that you can hang anything on it during the later process, or is it going

to -- what is it we are going to be voting on?

MR. HOLAHAN: No, I think it is not so vague that it could mean anything in the future. You know, here we have the problem of not wanting to go out for public comment on something that might be very different from what the Commission would be comfortable with and, frankly, also have a schedule which I think is not compatible with stakeholder --

COMMISSIONER McGAFFIGAN: Let me just ask you a question.

MR. HOLAHAN: So we have broken it into a two stage process.

COMMISSIONER McGAFFIGAN: I am learning from the Callaway experience with the electrosleeving. Under this approach, whose burden of proof will it be if somebody gets kicked into risk-informed space, having submitted a perfectly straightforward deterministic amendment that would have been approved? Who has to do all the analysis and pay for it and whatever if a staffer decides, through whatever this process is, that this is a special circumstance, and, by God, we need a much more elaborate set of analyses to

approve this amendment?

MR. HOLAHAN: Let me say first that we expect these to be unusual and sort of hand-wringing cases. So I don't expect individual staffers to be making the decisions

on these cases. They are probably management decisions and maybe even, you know, licensing panel or PRA steering committees. And I imagine it going through stages in which when the staff has a concern that there might be risk implications to a license amendment request, that we would first go and ask the licensee to voluntary provide additional information to address the risk significance of the issues. And if the licensee does, you know, then I think we have all the information on the table to make decisions.

If the licensee concludes that, no, they feel that they meet the regulations, they meet the deterministic regulations, they meet what it says in the book, and they don't want to provide, you know, any additional information, then the burden of proof is on the staff to determine that granting such an amendment would be inappropriate. In my mind, unsafe is the same as not providing adequate protection. So that burden is on the staff.

COMMISSIONER McGAFFIGAN: Okay.

MR. HOLAHAN: That is the advice that we have gotten from OGC consistently. I think this where we are.

COMMISSIONER MERRIFIELD: Commissioner, as the lawyer at the table, I know we have had staff talking about burdens of proof, which is a legal term. Perhaps we may want to just clarify that with our legal counsel and make

sure that they are consistent with that interpretation.

CHAIRMAN DICUS: That is a good point.

MS. CYR: That is correct. I mean Gary is recounting the advice we have given him. If the staff essentially proposes to deny the request on the basis of additional information, they need to demonstrate that in terms of why they are proposing to.

COMMISSIONER McGAFFIGAN: Okay. And the worst situation we get ourselves into, a denial request by the staff -- you have a right to a hearing at that point, right?

CHAIRMAN DICUS: Yes.

COMMISSIONER McGAFFIGAN: So I think it is a fairly profound set of issues that are in this paper. And, as I say, I am little bit concerned that, unlike the other two areas where you have obviously had public workshops in the last month, you haven't sat down and gone through it with stakeholders, how this is going to work.

MR. HOLAHAN: I think the staff would be comfortable doing it either way. The question is whether the Commission is comfortable with us, you know, floating proposals out before the Commission has seen them. So, we are prepared.

MR. THADANI: May I comment on that?

CHAIRMAN DICUS: Yes.

MR. THADANI: Commissioner, I think it is clearly

linked, this issue is clearly linked to many of the other things we have been talking about. In the long run, it seems to me we would have input from stakeholders, particularly if we move forward, if the Commission approves us moving forward with these high level safety principles. There has to be some link in relationship. It would seem to

me that that would require quite a bit of stakeholder input. So in the long run, I think that is how we would end up.

COMMISSIONER McGAFFIGAN: Well, the question is, we are allowing them, I would point out, on Options 2 and 3 to talk about things that -- and, in fact, Nils asked earlier for one them -- that we haven't fully approved. I am comfortable with that in Options 2 and 3, that they have had these workshops, they are talking about what rules to change the scope of, et cetera. I think that is fine. I am just questioning whether this area is not another area, where some of the details, you end up fleshing out the issues that we really have to decide, as opposed to, you know, having the debate after we have made a decision, and the decision having a half life of a nanosecond.

CHAIRMAN DICUS: Sam.

MR. COLLINS: Sam Collins, Director, NRR. The staff appreciates your point. Clearly, we need public stakeholder input into this process. It is a matter that pivots on the schedule that the staff is on, which clearly

the Commission can wrestle with. I think there is common ground and the common ground perhaps would be that the staff provides, as a proposal, a paper to the Commission with their preliminary thoughts. That would engender the Commission's comments, and the Commission could ask, and the staff would propose to go out for public comment, not only on the staff paper, but on those issues that the Commission would believe, as a result of a preliminary review of the paper, also warrants specific stakeholder input.

That has been a very constructive way to do this in the past, because not only does it steer the staff into the Commission's thinking, but it also prompts specific response to those thoughts from the public.

COMMISSIONER McGAFFIGAN: That is what we did in the oversight process, sort of with IRAP, or whatever.

MR. COLLINS: That's correct.

CHAIRMAN DICUS: Okay. Thank you.

COMMISSIONER McGAFFIGAN: Have I already used my five minutes?

CHAIRMAN DICUS: Yes.

COMMISSIONER McGAFFIGAN: I probably have. I will wait till the second round because I will probably go on to different topics.

CHAIRMAN DICUS: Okay. Commission Merrifield.

COMMISSIONER MERRIFIELD: The first thing, I want

to make a comment about the Chairman's I think very thoughtful question and the consideration the staff made in answering it. I thought that was a good interaction, one that I think we will continue to grapple with over time.

Going back to Commissioner McGaffigan's questions on Callaway, I am curious to see what lessons -- I mean that was an effort, a strong effort on the part of the staff to work through that. What were the lessons that we have learned from that, using risk-information in a regulatory decision-making process? And is interim guidance simply so that we handle similar submittals in a consistent manner as we move forward?

MR. HOLAHAN: Well, let me take the second part first. We have a proposed approach for dealing with issues on the interim, but, in fact, we don't have Commission approval for that approach. And the way the policy issue is laid out in 98-300, I think the Commission called for approving such an interim approach. So I would say we are

at the moment --

COMMISSIONER MERRIFIELD: So you owe us something?

MR. HOLAHAN: We owe you something. We are sort of -- obviously, if another case were to come up shortly, we would use our best judgment, but I think we would also feel obliged to inform the Commission since it would be an unusual case.

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With respect to what we learned from the Callaway experience, it was clear that we spent a lot of our time and energy, and some of the licensee's energy, trying to decide on the process and legal questions. What is an appropriate question? Who has the burden of proof? If this is to be approved or disapproved, on what standard should that judgment be made?

When we get to the point of having clear guidance in place, hopefully our energies will be spent more on the technical issues, how much do we know about the sequences of interest and the performance of the steam generator tubes and those sorts of things.

There are a couple of other lessons learned that mean that these issues by their very nature will be very difficult to deal with. One is when the burden of proof comes on the staff to make a judgment about risk implications, we don't have a Calloway probabilistic risk-assessment model, so we're going to make those judgments based on the closest model we have, what insights we can draw from looking at the licensee's models. So we're not as fully capable in terms of data and models available as when the licensee volunteers information. So that became clear in the Calloway case. That's a lesson learned.

Another lesson learned I think is if you meet the current regulations and there is a risk implication, it is a

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severe-accident risk implication, it probably has to do with complicated phenomena, something that is by its nature somewhat uncertain, and we're going to have to make judgments in a way that's different from the way we normally do, what guidance we will put in place will be process guidance. Okay? The guidance that's in the regulations and the requirements stated in the regulations I think will be necessarily clearer than that. Okay? So we will be dealing with issues of severe accidents, containment performance, steam generator tube performance, things which we have less experience and less technical information than, you know, than the things we normally make judgments on the license amendment process.

So they will be difficult by their nature, even when there's more guidance in place.

COMMISSIONER MERRIFIELD: As you are working ahead on that interim piece, I suggest that rather than wait for something else to come in the door and force us to decide at that point, which may slow down ourselves and the licensee, getting what you think is the right resolution to that interim piece and getting to the Commission in a timely manner so it's ready in the event, perhaps not needed, but in the event it's needed, if we have a request.

The second question I have, and I'm very hesitant about doing these kind of things, but there is a story in

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the August 16 version of "Inside NRC" indicating that risk-informing Part 50 effort is "out of sync" because one of the pilot plants, South Texas Project, filed multiple

exemptions well ahead of the other pilot plants.

I was wondering if you could share with us your perspective on that.

MR. NEWBERRY: My personal perspective is I don't agree with the characterization "out of sync." I think it's in line with the process discussed in 98-300, and, you know, having a licensee willing to offer up an approach using the exemption process we talk about in the paper and talk about in the Commission's SRM is going to be very, very helpful.

We had a very worthwhile meeting with South Texas last week. There was a two-day working meeting with their staff, and then there was a good meeting which Gary and I attended with their management on the difficult issues we're facing as the rationale for the exemptions, which are going to be helpful in the rulemaking activity. So South Texas will be different.

They're -- I think I should point out the thought we have right now is that South Texas will not be a pilot in the sense that they're going to be testing a proposed rule. We don't have a proposed rule right now. I mean, the South Texas PRA has received considerable review. They've had proposals in here that have received considerable staff

review. So there will be obvious questions about whether the burden borne by South Texas is appropriate for someone else coming in under the context of the rule.

So I think the other three pilots will be different than the concepts of the South Texas exemption request. But no, I don't agree with the characterization, and I think the South Texas effort is going to be very helpful.

COMMISSIONER MERRIFIELD: Yes.

MR. HOLAHAN: I would just add that I don't agree with the characterization either, and I think the staff is sensitive to the point that the South Texas exemptions are not identical with any rulemaking activities.

I think it was interesting in the meetings we had just last week that Scott referred to, what was most enlightening were the questions, okay? The questions that were raised with respect to, you know, making decisions about the South Texas exemptions are the same questions that we have to answer in dealing with risk-informing Part 50. The answers are not always the same, but I think the questions are the same.

For example, South Texas is a very low seismicity site, so some of their answers having to do with well, are we really worried about seismic qualification of this and that, the South Texas answers are not necessarily

everybody's answers, okay? But the questions are the same: How do I deal with seismic issues? How do I deal with EQ? So I think, you know, I see it as a very useful part of the process.

COMMISSIONER MERRIFIELD: I particularly think they wouldn't be similar to San Onofre's answers to the same questions.

MR. HOLAHAN: Yes.

COMMISSIONER MERRIFIELD: I just -- I raised that -- some of you may have read that article and may have been left with a particular impression. I thought it was helpful to get a staff view on where that was coming from.

I'll defer to the next round.

CHAIRMAN DICUS: Okay. One quick question, and then I'm going to have to run. It really follows on on what

Commissioner McGaffigan and Commissioner Merrifield have been discussing, just taking another little part of it.

It has to do when we do get an amendment request that we have difficulty dealing with and how better we might be able to deal with those, and I'm referring to SONGS and the hydrogen recombiner. What should have been or appeared to be on the surface a fairly simple amendment request became a very complicated situation that we really had I think a little bit of difficulty dealing with. Would any one of you care to address that, what the issues were?

MR. HOLAHAN: Well, the San Onofre hydrogen recombiner I think, although technically it appeared to be a simple issue --

CHAIRMAN DICUS: But there was a policy issue involved as well.

MR. HOLAHAN: There was a policy issue, and there's a set of regulations involved, and I think what -- San Onofre basically came to us with an insight that said hydrogen recombiners don't really provide the level of safety that one might imagine, okay? For design basis accidents they're really not needed, and for severe accidents, they really don't handle all, you know, that much hydrogen. So they don't really make a lot of difference. And yet we have a regulation in part of 50.34 which basically treats hydrogen recombiners as being important, okay?

So we have a technical issue, but we also have, you know, a policy and procedural issue, and I think we also have a public-confidence issue, how is it that we're now going to say what we put in the regulations, thinking that it was important, is now not really what we thought it was.

So I think the licensing and certainly parts of the industry felt that perhaps we took too long and spent too much time getting into the details of these issues, and that it should have been done, you know, quickly and easily.

I guess I -- well, anything can be more efficient. I would say that. But I think these sort of issues really, really do require us to get to the heart of the details to ask the licensee hard questions, you know, to explain in our safety evaluation reports, you know, you know, why what we thought was important before is not really important now, and to really lay out that logic in some detail.

Frankly I think we're having the same experience on the decommissioning discussions with the industry, that things which some people feel are rather, you know, minor issues and can be dismissed easily I think the staff feels that, you know, they deserve a full airing, careful analysis, yes, that does stretch out the time frame somewhat, but I think it's an important part of the process.

CHAIRMAN DICUS: Yes. I think we need just to be sure we're always shepherding that process and don't take it out unnecessarily. I mean, I don't want us to take shortcuts, either, and I appreciate the seriousness the staff gives these things. When we can look at these what appear to be simple but become very complicated that we always try to monitor ourselves well.

Thank you.

Commissioner Diaz?

COMMISSIONER DIAZ: A second round?

CHAIRMAN DICUS: You don't have any?

COMMISSIONER DIAZ: I did my first, second, and third round.

COMMISSIONER McGAFFIGAN: Okay. Well, you're going to get a few more from me.

The SONGS issue, I might as well just, you know, follow up, and that was one I was going to ask.

In the end, you know, when Senator Domenici was out there, I believe you guys were described by the SONGS staff as trying to hold onto things. In the end, did you put any conditions on, or can they just take out the recombiners at this point? At one point, you know, it was alleged that you guys were going to say yes, you don't need them for 50.34, but we're going to cook up this other reason you need them, and maybe you don't have to test them as much or something, but you were holding on is where you were circa the spring.

MR. HOLAHAN: The agreement we've come to I think has -- the only holding on that you might ascribe to it is the fact that the licensee has indicated their intent to keep the recombiners in the plant to keep them in their accident-management program, which is both of those are voluntary activities the licensee maintains in their commitment management program, and the only regulatory oversight of that activity is the licensee has agreed to inform us if they change their mind and decide to remove the

recombiners. They are under no regulatory requirement to maintain the recombiners in place, but they have put on their docket their expectation to keep them there. And so I think this is basically consistent with the way they treat other equipment associated with severe accident management guidelines.

Remember, the Commission didn't write a severe-accident rule, the industry volunteered to have, among other things, severe accident management guidelines. We've looked at those, but that is a voluntary commitment on the part of the industry, and so they would maintain this equipment as they maintain other, you know, nonsafety equipment for use in their voluntary severe accident management programs.

COMMISSIONER McGAFFIGAN: Was their original proposal to simply delete the recombiners?

MR. HOLAHAN: Their original proposal was -- I would categorize it as to remove it from regulatory controls.

COMMISSIONER McGAFFIGAN: So they succeeded --

MR. HOLAHAN: They succeeded in doing that. I don't think they ever had an intention of removing the equipment. In fact, it would probably cost more money to remove the equipment than to leave it in place.

COMMISSIONER McGAFFIGAN: I'd like to do a couple

quick questions, and then I'll get to a big one that may take more time.

You've mentioned decommissioning a moment ago, and that wasn't in the PRA plan.

MR. HOLAHAN: Right.

COMMISSIONER McGAFFIGAN: We are characterizing it in a paper that's before the Commission at the moment as an attempt at risk-informing decommissioning. Should that be part of this effort? I mean, should it be, you know, copied in the next PRA implementation plan as something you're following?

MR. HOLAHAN: I would think so. It seems

appropriate.

COMMISSIONER McGAFFIGAN: It's just bookkeeping.

A second issue, last week's "Inside NRC" or "Nucleonics Week" or whatever mentioned a I think it was a Farley amendment. I don't have it in front of me. I'm doing this from memory.

MR. HOLAHAN: Yes.

COMMISSIONER McGAFFIGAN: It had to do with checking steam generators and whether they needed to do an outage partway through their cycle, and it said in the article that this was a risk-informed licensing action, and that but for risk insights you wouldn't have granted it. At least I think I'm quoting the article right now. How come

that isn't listed as a risk-informed licensing action in your slides at the back?

MR. HOLAHAN: Probably because -- I'm not sure it was a licensing action. But I don't remember the exact format of it. And also it might have taken place since August, which may just be timing.

COMMISSIONER McGAFFIGAN: But it would have been in process, unless they -- I mean, these things take some time to make a decision like that.

MR. COLLINS: It was a licensing commitment?

MR. HOLAHAN: I guess it didn't raise to the level of a license amendment. It was a licensee's original commitment that they wished to change.

MR. SHERON: Brian Sheron from the staff. The licensee had a commitment to shut down for a mid-cycle inspection, and so this was already scheduled. The licensee then came in and proposed this to alleviate the mid-cycle inspection. So it wasn't really a license amendment in that sense, it was to get relief from a previous commitment.

COMMISSIONER McGAFFIGAN: I'm going to use my five minutes, Mr. Chairman --

COMMISSIONER DIAZ: No problem.

COMMISSIONER McGAFFIGAN: But can somebody explain how the -- I still haven't got to my big issue -- anybody can explain how we do the license commitment process? I

mean, you know, there's a lot of analysis that goes into this, or -- and how do you -- obviously it's not a public process, but how does a license commitment relief request work? Maybe the general counsel --

MR. HOLAHAN: Except for the legal aspects of hearing rights and stuff like that, I think the technical review looks very much like a license amendment. Same sort of technical issues.

COMMISSIONER McGAFFIGAN: Same sort of thing. How long did this one take?

MR. SHERON: This one took a little bit longer than normal because the quality of the information that the licensee submitted was not up to par, basically, and we went back to the licensee and asked for more information, better information. I believe they even made some mistakes in their analysis, which we found, and once we got that all sorted out, they gave us better information that was acceptable to the staff.

COMMISSIONER McGAFFIGAN: Okay. Have I already used my five minutes?

COMMISSIONER DIAZ: I don't know. It depends on what clock you're using.

COMMISSIONER McGAFFIGAN: Can I -- let me just try

one big question. This goes back to Mr. Thadani. You know, early on in your slides you talk about the CSAS process and

its, you know, desire for a safety philosophy to be established.

You know, I participated in that with you, and my recollection of the safety chapter was that it was one of the more tortured chapters in the study. I was proud to get a sentence into it that said, you know, the clear, concise definition of safety they were looking for might not be possible in a deterministic framework. That was my contribution to the chapter.

And in the end all they asked for at the end of that chapter, I mean, they seize on the oversight program --

MR. THADANI: Yes.

COMMISSIONER McGAFFIGAN: And say the oversight program looks like finally because of the performance indicators it is providing some definition of safety, and let's stay the course on that. They did not ask us to go off and do big, you know, core damage frequency safety goals or safety principles.

In fact, I'll get to that in a moment, they basically came -- they're looking for clear, crisp guidance. They want the licensing reviewer, you know, to always reach the same judgment, you know, have a -- I think they want, you know, almost a risk-based sort of thing at times, but David Lochbaum's involved in this, he doesn't believe PRA, as he said at the end of the PRA chapter, is up to snuff,

and we shouldn't be barging ahead on risk-informed regulation. But they all want a clear definition of safety.

The safety-goal stuff that you guys are proposing in 191 is not what they're looking for. It is more -- I mean, if I'm Forrest Remick or David Lochbaum and I read the appendix -- I had it out here a moment ago -- these overarching safety principles, and they're going to say, you know, in all frankness, this is mush, this will not help somebody, you know, individual members of the public should be provided a level of protection such that they bear no significant additional risk to life and health. And they say well, gosh, you guys have already done better than that in Part 20, you see, of 100 millirem per year public dose limit. At least I can judge something against that.

So, you know, this is more me making a statement than asking a question, but I'd be interested in Ashok's response, because he was there, I didn't sense the CSIS was asking us to go off and write overarching safety principles. What they're looking for is consistency in making bite-size decisions, and they're seeing it in the oversight process. They think an inspector at Plant X and an inspector at Plant Y because of the significance determination process that's built into that now that we're going to reach similar findings about an inspection finding. They think that the results are going to be similarly assessed in the assessment

process. So there's some confidence there which we'll have to demonstrate through the pilots and demonstrate if we go ahead that that program is going to be consistent.

Then when they look at licensing actions they want to -- they're looking for every licensing reviewer to look at a license amendment, you know, and basically say this one's good, this one's bad, and have a framework that's understandable. And they see some hope, some of them -- I mean, Remick sees hope in risk-informed regulation in giving

that licensing review consistency; Lochbaum doesn't, at least until we have very high-quality PRAs. So what's what?

MR. THADANI: Well, I think --

COMMISSIONER MERRIFIELD: In three sentences or less.

MR. THADANI: I think first of all --

[Laughter.]

I think we reflected very well on the discussions and the deliberations that went on. You might recall -- and by the way, I think it's broader than just what CSIS said. We recently at the reactor -- or in our strategic plan stakeholder meeting the same issue came up. There is a continuing need it seems that the Agency's safety requirements, and let me say in terms of what's adequate protection and what's considered under cost-beneficial requirements and so on, are they clearly understood by all

parties and consistently applied. As you said, that was the theme. Do people understand clearly what the expectation is, and the actions that are taken are consistent.

There's a lot of debate, as you recall, of what gets folded under so-called "adequate protection" definition. A number of issues, from operating experience, the concern was the industry having to respond under adequate protection. This doesn't meet Rule XYZ, and you need to respond or a group of plants need to respond.

There was a need in that sense what the Agency's actions are going to be and how they might relate to either adequate protection or beyond adequate protection in terms of backfit-rule considerations.

In order to provide some consistency, the request seems to be to come up with better articulation of what we mean by adequate protection. I completely agree with you it cannot be numerical. I personally don't think it can be numerical. That truly would be risk-based. And there are lots of issues there. But that doesn't mean that the risk information can't play a part, perhaps under subordinate basis, in some better articulation of safety goals -- I mean, adequate protection.

The group clearly was satisfied with the direction of the oversight reactor, oversight program, and the cornerstones, and that they provide partial so-called --

maybe I should -- I'll use the term definition of adequate protection, but that there are many other areas beyond that.

Reg Guide 1.174 doesn't really address the issue of adequate protection. While I don't think one can have clearly defined sort of numerical guidelines, but it seems to me that expanding on what is in Reg Guide 1.174, taking into consideration the factors that are discussed in Reg Guide 1.174, such as defense in depth, margins, and so on, if we can develop what I call subsidiary criteria for those, it may provide a little better consistency in the way we conduct all our activities. This is the sort of attempt -- perhaps the language is not clear -- that's what we were talking about attempting to do under the high-level safety principles. This would be one piece of that.

COMMISSIONER McGAFFIGAN: If I might defer.

COMMISSIONER DIAZ: All right. I'm just going to make a comment on that. Rather than subsidiary, which might look at a series of thresholds, you probably mean a series of subsets.

MR. THADANI: There are subsets. And in fact if

you recall the ACRS paper on defense in depth which talked about rationalist and the structuralist and somewhere in between, I will admit up front I'm somewhere in between myself. But the idea, the concept there was as George Apostolakis certainly talks about it, that you can stay --

you have to have some kind of hierarchical arrangement at some point.

And I sort of agreed with what I think you said earlier. The challenge is going to be to what extent these numerical calculations would be utilized to support the concepts of margins, defense in depth, and so on. I don't know what the answer is, but I do think that we won't be able to come up with a concise definition -- that's what CSIS was initially looking for -- a concise definition of adequate protection. But I think we can do better in responding to some of the concerns that various stakeholders have raised.

COMMISSIONER DIAZ: Okay. Thank you, Commissioner Merrifield.

COMMISSIONER MERRIFIELD: Although I'm relatively young now, I'm certain later in my life I will appreciate the ability to stretch five minutes as long as we did.

[Laughter.]

Okay. Two quick questions on slide 4. The first bullet on slide 4 says substantial staff and management attention has gone into our risk-related work. I guess my question is do we as an agency have the sufficient expertise in the area of risk to carry out the plans laid out in SECY-98-300, or will we be relying substantially or to any great degree on contractor support? And if we are, are we

taking the steps necessary to improve our internal capabilities in the area of risk?

MR. THADANI: Let me give you -- I think each office may want to speak to this issue, but first and foremost, within the Agency we have very good capability in terms of background, understanding, and knowledge of not just the use of risk information but also in terms of risk analysis, the conduct of analyses themselves. Oftentimes, if there are some unique aspects that come up, it might have something to do with better understand seismic hazards, probabilistic assessments, and so on, or in some cases fire-risk analysis. Oftentimes we find that we don't have in-house capability to the degree that we need. We would go through contractors in those areas. But by and large -- I think NMSS may particularly want to comment on this -- but by and large I think we have fairly good capability at the Agency.

MS. RATHBUN: We have somewhat limited capability at this time in risk analysis, and by and large we've put those people together into the group. As we move forward, we will have to use contractor assistance, and fortunately we know them and, you know, we're aware of that. As we move into the longer term, I believe we will need to hire some experts, but I've also begun the training program, begun to look at it.

I also attended some of the PRA classes and am looking specifically to how we'll modify them for NMSS. We've tried it in the past actually over time, and it's not so difficult to modify it, but you have to realize that NMSS, like the inspectors of the past, thinks deterministically, and so this requires a large culture

change as well as specific expertise. So we're starting that right now.

MR. VIRGILIO: Just to give you some more concrete examples, if I think about some of our activities with Part 70 and the ISA work we are doing there, we are doing that mostly with our Staff in-house. On the other hand, if I think about what we are doing under Part 63 with the total system performance assessment, that is a mix of both in-house Staff and the Staff we have at the center that is helping us do the review successfully there.

It is a mix. I think it will be a mix for some period of time until we can do what Pat is talking about, getting more in-house expertise.

MR. HOLAHAN: Can I just add from NRR's perspective, I think in the last about five years we have hired a number of well-known and very experienced experts in the probabilistic risk assessment area, so I think we have addressed one piece of the issue, which is to have at least a core of very expert, actual experienced people who have,

you know, actually earned a living at doing probabilistic risk assessment.

The other part of the challenge is the other 99 percent of the NRC needs to be trained, and I know that NRR and Research have been putting our Staffs and the regions have been putting our Staffs through training programs for the Staff and management, and at this stage it seems to me that the larger challenge is training and the interest in commitment of the Staff versus having a core of experts who are capable of carrying the ball, so I think we have done part of it.

The training part I think will be just a continuing effort, to bring everyone up to speed.

MR. THADANI: May I add to that --

COMMISSIONER MERRIFIELD: I have another question.

MR. THADANI: Just quickly --

COMMISSIONER MERRIFIELD: Okay.t

MR. THADANI: -- that the idea of risk analysis as such is qualification part, fundamental understanding, transient analyses, accident analyses, thermal hydraulics, and so on. That is a key. If one doesn't fully understand how these plants behave under different conditions than in fact one would not understand the end results.

At the agency we have a very large number of people, I believe, who really understand well how these

plants behave, and then the issue is quantification and understanding what those calculations might imply and that is an important part.

COMMISSIONER MERRIFIELD: And that is a very good point you add.

Turning to Slide 5, it lists some risk-informed licensing activities. What mechanisms do we have in place to ensure that we as an agency handle similar risk-informed licensing actions in a consistent manner? Does that fall on the shoulders of the Risk Informed Licensing Panel, or is formal guidance in place to ensure a level of consistency?

MR. HOLAHAN: There are several pieces of the answer.

It is not the Risk Informed Licensing Panel. I think the Risk Informed Licensing Panel deals with cases on an exception basis. If there is a difficulty or some identified problem, then the Risk Informed Panel would be

called into place.

As a routine activity the first level of activity for assuring consistency is that we have a Standard Review Plan so the reviews are done by the Staff using the same guidance document and they are trained in the same training program. Those reviews also get at least one or two levels of management attention. Those risk-informed licensing reviews normally are signed out at a Branch Chief level so

that they will have Section Chief and Branch Chief level of review.

In addition to that, and I would say that is a sort of normal activity where you have a guidance document, Staff training, management oversight, so this is done not very differently from what we do for other types of technical Staff reviews.

In the future NRR is moving in the direction of putting a work planning group into place which would also help to identify similar past activities so that when work first comes in, it would be identified as being similar to some other piece of work. It would be looked at by a planning group to identify where it should go, what kind of issue is it, what you would normally expect in terms of Staff resources to be applied to such a case, and I think that will probably help in our consistency also.

COMMISSIONER MERRIFIELD: That's positive. I know this Commissioner, certainly this Commissioner has commented frequently on the issue of the need for consistency where you have similarly situated parties and the way in which we are judged by our stakeholders and others will be based on our ability to act in that kind of manner so I compliment the Staff for focusing on that. I have no further questions.

COMMISSIONER DIAZ: Other questions? Commissioner

McGaffigan?

COMMISSIONER McGAFFIGAN: Just following up on the last question, the paper before us, 191, in the Safety Goal Policy Statement, my fundamental question is is it worth the effort? I think I saw a Staffer in one of the trade press quoted as saying it is going to be controversial, resource intensive and perhaps unnecessary.

I question what it contributes to risk-informing Part 50 or trying to get on with making consistent judgments on licensing amendments or any of that given how long it took us to just work on the definitions -- I see Gary about to answer -- and just work on the definitions paper -- risk-informed, performance-based regulation.

I can see this effort taking a very, very long time, and unless it really is going to help you do something that you otherwise wouldn't be able to do, fixing Reg Guide 1.174 or choosing the rules to change the scope of or whatever, I just question the value of the whole effort if it is going to be controversial, time-consuming, and if from the get-go we are saying it is perhaps unnecessary.

MR. KING: Let me try and take a stab at that.

I think from the standpoint of the reactor risk-informed licensing activities, they are out ahead of other activities in the agency, risk-informed activities. I think developing the set of high level safety principles

will probably not have too much of an effect on the reactor aspects of risk-informed regulation, but I do think that they are worth at least spending a little more time to see

what can come out of it in terms of what these things would look like and how they would be useful and beneficial to the agency, and I think where they would be useful and beneficial is in providing guidance to the nonreactor activities, so that there is some consistency in approaches, in issues, in criteria that are applied there.

Now maybe when we are all done we will end up with a drill in a dry hole. I don't know, but I am not convinced yet that I am willing to go that far at this point.

MR. THADANI: If I may also make a point. I asked Joe Murphy -- I believe he was the one who was --

COMMISSIONER McGAFFIGAN: I think it might have been him in the paper --

MR. THADANI: I asked Joe Murphy and he indicated to me that that is not what he said, that it wouldn't be useful. He did say it is going to be difficult, and I believe it is going to be difficult, but if we are going to change the structure of our regulations, then there needs to be again I would say clearer and consistent understanding on the part of all stakeholders as to what is it that we are going to use to change the structure, how well have we considered some of the difficult issues.

I mean an example is in the paper -- land contamination. Is that included? Is it to be included or not? It is clearly an important issue -- has to be considered. Whatever the ultimate decision is, we need -- our view certainly was that we need to lay out these issues upfront, get input from various stakeholders, and then proceed with some recommendations to the Commission.

I think they are complex issues. I agree -- and that they are difficult, but once that -- I think they are tractable. The ACRS for example said to us that it is a very complex issue, but perhaps it is worthwhile to go study these and see how far we can in fact go.

What we are asking in this paper is taking a look and coming back to the Commission in six months, basically -- six to eight months -- with some firm recommendations, and that would call for, we had planned to have a workshop in November, after laying out these issues, getting them out to stakeholders and having a workshop, seeing what various stakeholders' views were, subsequently studying what we get and come back to the Commission with some recommendations. That is the level of effort.

COMMISSIONER McGAFFIGAN: I will just tell you, my concern is a concern of opportunity costs. I think what you have laid out in just trying to risk-inform Part 50, and there's a lot of learning that can get done in NMSS without

this paper perhaps, just by doing some things, and as you do things you set a foundation, but I am worried about the opportunity costs because it is a significant effort.

I think if we are going to risk-inform Part 50 there's an awful lot of resources required there. Again I look at how long it took us to do the 50.59 rulemaking, which isn't finished yet because we won't have the Reg Guide until next June, or the 50.65 or whatever. We could be talking years just to get these rules through and if there are resources that could be dedicated to that that otherwise are going to be sitting worrying about whether the core damage frequency should be 10 to the minus 4 or should be a safety policy goal or something and redoing all of these white papers we have done over the years, which in the end

the policy statements don't, in my view don't count as much as the rules, so that is just a concern I will throw out in the open that I am having with that paper.

COMMISSIONER DIAZ: It appears Commissioner McGaffigan has a question on that issue. Thank you.

Just a couple of quick comments. In thinking of all the things that we have said and the trade press, I am getting a little bit concerned that people are counting beans again, except looking at the direction that the Commission has taken, and I think it is important that we realize that we use risk information in more manners than

license amendments, that it is really an overlaying philosophy that we are trying to put on issues, and I think that is a very important aspect of it, rather than again, you know, we are always being criticized about counting beans.

I think bean counting is a good exercise, but it is not the only way in which we can frame the importance of what the Commission have decided.

In looking at the Staff presentation, I realize that we put accomplishments. I think it might be at times appropriate to identify hurdles. I know there are no show-stoppers that have been brought out, but there are hurdles or problems that the Commission can receive ahead of time. That certainly will help us in decision-making.

At this moment I just would like to thank the Staff for what I think has really been a very good overarching meeting and we looking forward to receiving the specifics. It is very clear that there has been a lot of discussion and input by the dedicated members of the Staff and by stakeholders alike into the implementation and development of this approach to information, risk-informed regulation and the PRA implementation plan, and there really much to come. We are expecting to be looking in the next few weeks to receive that "much to come."

Discussion on Option 3 related to risk-informing

Part 50. Joe said this is an effort that might extend for a significant period of time. I think it is important that we are aware of what the developments are so these issues are not made just on big issues at the last moment, but that we receive the information like what are the preliminary issues that are making it risk-informed.

Key technical and policy issues will need to be evaluated, a viable schedule will have to be developed, pilots will be important in determining what needs to be conducted, and the results of those pilots evaluated for lessons learned. Training is a big issue. I think we all realize that here and by the licensees -- the issue of training so people will have the knowledge of what are our systems and performance and behaviors, how they can get integrated with a risk-informed approach is very important.

It will be necessary that we be vigilant regarding the capabilities of the Staff and the licensees are up to par, and we need to know ahead of time and further efforts need to be in this area.

In summary, as Chairman Dicus stated in her opening remarks, obviously we have done much and are expecting to be doing a lot more in the near-term. Again, I want to thank the Staff for the fine presentation. I think it was very, very informative. Do any of my fellow Commissioners have any closing remarks?

COMMISSIONER MERRIFIELD: No.

COMMISSIONER McGAFFIGAN: No.

COMMISSIONER DIAZ: If not, the meeting is adjourned.

[Whereupon, at 11:23 a.m., the briefing was concluded.]