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NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

SUBCOMMITTEE ON

RELIABILITY AND PROBABILITY RISK ASSESSMENT

+ + + + +

WEDNESDAY,

JANUARY 22, 2003

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The Subcommittee met at 8:30 a.m. in Room T2B3, Two White Flint Road, Rockville, Maryland, George Apostolakis, Chairman, presiding.

ACRS MEMBERS PRESENT:

GEORGE APOSTOLAKIS	Chairman
MARIO V. BONACA	Member
F. PETER FORD	Member
THOMAS S. KRESS	Member
GRAHAM M. LEITCH	Member
VICTOR H. RANSOM	Member
STEPHEN L. ROSEN	Member
JOHN D. SIEBER	Member
WILLIAM J. SHACK	Member
GRAHAM B. WALLIS	Member

NRC STAFF PRESENT

SAM DURAISWAMY	Designated Federal Official
MICHAEL R. SNODDERLY	Cognizant ACRS Staff Engineer

PRESENTERS:

MARY DROUIN	NRC
STEVE WEST	NRC
MARK RUBIN	NRC
ADRIAN HEYMER	NEI

C-O-N-T-E-N-T-S

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

(8:32 a.m.)

CHAIRMAN APOSTOLAKIS: This meeting will come to order. This is a meeting of the Advisory Committee on Reactor Safeguards Subcommittee on Reliability and Probabilistic Risk Assessment. I am George Apostolakis, Chairman of the Subcommittee. The Subcommittee members in attendance are Mario Bonaca, Peter Ford, Tom Kress, Steve Rosen, Vic Ransom, Jack Sieber and William Shack.

The purpose of this meeting -- and Graham Wallis, I'm sorry. The purpose of this meeting is to discuss the staff's plan to achieve greater coherence of its risk informed regulatory activities within the reactor safety arena. The Subcommittee will review the staff's Draft Coherence Plan which has been provided for public comment and was discussed during a public meeting on December 5, 2002.

The Subcommittee will gather information, analyze relevant issues and facts, and formulate proposed positions and actions as appropriate for deliberation by the full committee. Sam Duraiswamy is the designated Federal Official and Mike Snodderly is the Cognizant ACRS Staff Engineer for this meeting. The rules for participation in today's meeting have

been announced as part of the notice of this meeting previously published in the Federal Register on December 27th, 2002.

Mr. Graham Leitch just joined us for the record. A transcript of the meeting is being kept and will be made available as stated in the Federal Register notice. It is requested that speakers first identify themselves and speak with sufficient clarity and volume so that they can be readily heard.

Representatives from the Nuclear Energy Institute will provide comments on the Draft Coherence Plan. We have received no other written comments or requests for time to make oral statements from members of the public regarding today's meeting. Now, this activity is taking place because the Commission issued the staff requirements memorandum dated February 8th, 2002 in which it stated, "In the next version of the Risk Informed Regulatory Implementation Plan, the staff should provide its plan for moving forward with risk informed regulation to address regulatory structure convergence with our risk informed processes".

So the staff has developed this plan in response to the Commission's request. Now, there is a difference between the plan and the program, which

we have to understand. The coherence program will develop and implement a plan such that the reactor regulations staff programs and processes are built on a unified safety concept and are properly integrated so that they compliment each other. So the program itself will define what is meant by a unified safety concept property integrated and compliment each other.

The coherence plan will identify the staff activities that will be implemented to accomplish the objectives of this program. And the coherence plan, of course, will identify schedule, resources and responsibilities. So this is what we are reviewing today. And we're pleased to have Ms. Mary Drouin again. So, Mary, the floor is yours.

MS. DROUIN: Thank you. With me is -- to my left is Steve West and to my right is Mark Rubin. The three of us are the senior members on the coherence working team. There are, of course, many other members, Tim Magruder and Dick Dudley who are also here and these are the main writers of the plan. As you mentioned, George, we're here to share the plan with ACRS, go through it. Hopefully at the end, you'll have a good understanding of what the task that we plan to implement in achieving the program and here to solicit comments on the plan from ACRS.

CHAIRMAN APOSTOLAKIS: You are not requesting a letter, I understand. Leaving aside the fact that we can write a letter any time we want, you are not requesting a letter, are you?

MS. DROUIN: We aren't soliciting a letter, no, but we are soliciting feedback. You know, if there's something that doesn't you know --

CHAIRMAN APOSTOLAKIS: Yeah, that's fine, that's fine.

MS. DROUIN: Yes. On the next slide, which is the background, I won't spend any time here because in your introduction, you very succinctly and I thought very clearly and crisply went through the background. We had the SRM. We did have the SECY last June in the Risk Informed Implementation Plan where we responded to the SRM and introduced this coherence program where the purpose of the program was to -- and I'll just get right next to the next slide, where the objective of the program is to develop and implement an approach in which the reactor regulations, the staff programs and processes, are built on a unified safety concept. They're probably integrated so they compliment one another.

MEMBER KRESS: Do you have a good definition of just what is meant by incoherence in the

regulation?

MS. DROUIN: To me incoherence in the regulations is where you start seeing, perhaps, inconsistencies, overlaps, inefficiencies. And I think as we get through the plan, hopefully that question will be answered.

CHAIRMAN APOSTOLAKIS: Maybe, one that comes to mind is that in Regulatory Guide 1.174, we base our decisions on portal CDF, delta CDF and delta LERF.

MEMBER KRESS: And absolute values CDF and LERF.

CHAIRMAN APOSTOLAKIS: Yes, yes, but in the reactor oversight process, we have the cornerstones. We worry about initiating events, mitigating systems, and so on.

MEMBER KRESS: So that's an incoherence.

CHAIRMAN APOSTOLAKIS: It seems to me that's an incoherence, is it not? In one important program you worry about the cornerstones, in the other you look portal CDF and delta CDF.

MS. DROUIN: I don't think that's necessarily an incoherence. I think it's how you deal with those two different aspects and do you deal with them such that they are inconsistent? I don't

necessarily think that's just right on the surface an incoherence.

CHAIRMAN APOSTOLAKIS: They appear to be. I mean, why shouldn't I worry about the initiating event frequency when I approve changing the licensing basis.

MEMBER KRESS: Well, I think she's saying if you worry about the CDF, you are worrying about an initiating event.

CHAIRMAN APOSTOLAKIS: No, but you're worrying about are they integrated.

MR. RUBIN: A short answer to your question is I believe Dr. Kress was correct. In a lot of cases we do consider initiating events, power uprights for example, one of the things we look at, are the changes going to induce more plant upsets, more plant trips. It's not stated as a direct cornerstone and perhaps that is an inconsistency that might be a lack of coherence, but we'll be looking.

CHAIRMAN APOSTOLAKIS: That's what I'm saying, it's a candidate for examination. Why in one case we look at the integrated input and in another case we look at the four cornerstones.

MS. DROUIN: Three.

CHAIRMAN APOSTOLAKIS: We may decide that

it's okay.

MEMBER KRESS: The reason I asked the question --

MS. DROUIN: Correct, I just wasn't prepared to say at this point that is an incoherence.

CHAIRMAN APOSTOLAKIS: No, I understand.

MS. DROUIN: It will be looked at.

CHAIRMAN APOSTOLAKIS: That's what came to my mind when we talked about it.

MS. DROUIN: Yes.

MEMBER KRESS: But the reason I asked the question is, if you're going to have a program to provide coherence in the regulations, I think the first thing you ought to do is decide what incoherence is, so you could -- you know, you know what you're after, and I've never really seen a definition of it thrown up anywhere.

CHAIRMAN APOSTOLAKIS: Well, this is a problem.

MS. DROUIN: Well, in terms of our program, our definition of coherence is the fact that we have these regulations, programs, processes built on this unified safety concept and they compliment and integrate each other.

MEMBER KRESS: Okay, that's a definition

of coherence, okay.

MS. DROUIN: That's our definition of coherence for this program.

MEMBER KRESS: And if it isn't -- doesn't fit that definition, then it's incoherent.

MS. DROUIN: That's correct, and as you go through the plan, you will see that we always come back and say, you know, is this built on a unified safety concept, do they compliment one another?

MEMBER KRESS: Okay, I agree with that.

MEMBER ROSEN: That's a little bit better than I'll know it when I see it, but not a whole lot.

MEMBER KRESS: Yeah.

CHAIRMAN APOSTOLAKIS: But, remember, gentlemen, we are reviewing the plan today.

MS. DROUIN: Right.

CHAIRMAN APOSTOLAKIS: It's a perfectly legitimate answer to say the program will identify incoherence.

MEMBER KRESS: Yes.

CHAIRMAN APOSTOLAKIS: Today they're just saying, "This is what we plan to do" --

MEMBER FORD: Could I ask a question?

CHAIRMAN APOSTOLAKIS: -- which we shouldn't refrain from asking technical questions, but

let's bear that in mind.

MS. DROUIN: Well, I appreciate these technical questions because as you see, when we get into the first task and that's going to be defining all of this and what we mean by it and any insight that we can get from the committee at this point are more than welcome.

MEMBER FORD: The program objective is confined to light water reactors?

MS. DROUIN: Yes.

MEMBER FORD: So if we ever build a non-light water reactor, you'll have to change your plan; is that correct?

MS. DROUIN: You will see when we get to -- let's go ahead and get to the next slide because that deals with one of the scope and limitations of the program.

To start at the very top of the scope and limitations, this plan is put together strictly to answer the SRM, so I'm going to jump to the very last bullet first, which is also the first bullet. The SRM dealt with current licensed reactors and then with the reactor reactivities. So the scope of the program and then the tasks associated with the plan are strictly within that region.

The next thing is that when you go through and you look at the task and the activities that we say we want to implement to achieve coherence, they're based on a lot of current activities. There are things that are ongoing within the agency right now that will help us and we want to take advantage of that. We're not here to reinvent anything.

Also when I look at the scope, when I say focus on the regulatory structure, is that we are looking to see whether the programs are coherent. We are not here to act as a police force, in essence. We aren't here to go through every single activity and see if it's being implemented correctly. We're looking to see is it coherent. If it's being implemented incorrectly, that's perhaps something down the future or some other place, but that's not within our scope. We're at a higher level.

CHAIRMAN APOSTOLAKIS: Bullet 2 and 3 are not conflicting? I don't want to say incoherent. Isn't it true that if you focus on regulatory structure, you may have to propose some changes in that structure?

MS. DROUIN: In the structure.

CHAIRMAN APOSTOLAKIS: Yes, so I mean, you may have to reinvent somewhat the regulatory

structure. I'm just trying to understand there.

MS. DROUIN: You may have to come in and if you look at the second to last bullet, you know, even though we're taking advantage of current stuff, and we don't want to impede anything, based on the findings of the program, there might be activities that may, you know, need to be re-evaluated and adjusted.

CHAIRMAN APOSTOLAKIS: Okay.

MS. DROUIN: The last thing, kind of skipping around, is that the lead activities -- and hopefully as we get through the plan when we talk about these lead activities, for example, that are going to stay in each respective organization, because we're just a small little group here, the working group, and ours is more, you know, to put together the plan, try and see the program through but there is a lot of efforts going on here and as I said, we don't want to impede on current stuff. Were we needed this part of cog, that particular activity will stay in its respective organization.

MEMBER WALLIS: Do you have any examples of present day incoherence that needs to be fixed or is this a plan without yet having anything it needs to address?

MS. DROUIN: I'm going to answer that and I'm going to wait till I get to the slide where we go and evaluate -- where we evaluate the activity --

MEMBER WALLIS: Because it may be a plan to evaluate a myth, which there may be nothing which is incoherent.

MEMBER KRESS: Well, we know that -- ACRS has said for years that there's a lot of incoherence.

MEMBER WALLIS: That doesn't mean to say that there is some.

MEMBER KRESS: Yeah, and we've come up with a lot of examples in the past.

MEMBER WALLIS: Okay, so there is a real problem.

MEMBER KRESS: Yeah.

CHAIRMAN APOSTOLAKIS: Hasn't Mario identified some when we're talking about again 1.174?

MEMBER WALLIS: So the ACRS knows what it means by incoherence.

MEMBER KRESS: Yeah, you know, they know it when they see it.

MEMBER BONACA: I mean, there is a coherence right there between the goals they should have, the objectives they have in the FSAR is about layering of the --

MEMBER WALLIS: Well, maybe we'll get to that. You have this great generality. It would help me if you could say, "Ah-ha, here's a particular problem which will be addressed", so I can understand how this framework you're going to present --

MS. DROUIN: I don't want to come out and say, "This is a problem at this point".

MEMBER WALLIS: Okay, okay.

MS. DROUIN: You know, there might be examples where we think there might be some incoherence, but, you know, in some cases there might be legitimate reasons for something to be incoherent. So that's why I don't want to just say this is it.

MEMBER WALLIS: Okay.

MS. DROUIN: The next time, I'm going to try and now walk through the approach, the task in the plan to, you know, go back and again to achieve the objective of the program. We had divided this approach into what we call these four phases. You know, the first phase is defining the objective and what we mean by that, what do we mean by incoherence. What do we mean by this unified safety concept, so that you properly integrate and compliment one another? And that's the development of this coherence process. I'm going to go through each one of these in

more detail in further slides.

The next --

CHAIRMAN APOSTOLAKIS: And these are different from the figure we have in the write-up, huh?

MS. DROUIN: No, it should be the same figure.

CHAIRMAN APOSTOLAKIS: Page 5?

MS. DROUIN: Oh, wait, wait, you had an earlier version.

CHAIRMAN APOSTOLAKIS: Rev 1.

MS. DROUIN: That's right, you had an earlier version.

CHAIRMAN APOSTOLAKIS: This is Rev 2?

MS. DROUIN: This is Rev 2. The difference between the version you have and this version is that Phase 1 -- your Phase 1 had been divided up into two phases, Phase 1 and Phase 2 here. We brought the coherence process -- what's called PRICE in there, as the first thing to do in terms of a phase. So taking the process and the next thing is to identify where there may be incoherence, then prioritize those things and then ultimately implement them.

Now, we did bring in a security box in

here because before we go and make a change, we want to make sure there's not any adverse impact to security, so you see a security loop in there.

CHAIRMAN APOSTOLAKIS: Well, you don't want to have an adverse effect on reactor safety either. So essentially you should have the four -- three strategic areas of the ROP there, not just security. I mean, you don't want to do anything to reactor safety or what's the other one, worker safety, right, radiation safety?

MS. DROUIN: Correct.

CHAIRMAN APOSTOLAKIS: So all three of them should be there.

MS. DROUIN: That's a good thought. Okay, Phase 1, Development of the Coherence Process. One of the things we want to point out up front is that this whole program is iterative. It's shown here under Phase 1 but that's misleading because it's iterative throughout the entire program. This program is not necessarily you do the first thing, the second thing and then you don't go back and revisit. It's a constant feedback loop. So that's the thing that we really wanted to point out. Even though we're going to talk about this sequentially, there is a lot of iterative nature to the whole program.

Okay, development of the coherence process, we see that as two tasks. The first one is development of the process itself. You see that in there we call it the PRICE development of a process for a risk informed coherence effort and the second major task is development of a glossary. And I'm going to go through each of those individually.

We had said up front -- and here's a good example of one of the scope and limitation items where the lead remains in the respective organizations. We want to take advantage of work that's already ongoing, that's out there. So in the development of the PRICE, what we are talking about is starting with the framework that was developed under Option 3, taking it and refining it. We say refining because that objective of that particular framework was for risk informing the technical requirements so it had a very focused scope.

Now, we're broadening it but there was a lot of work there that is applicable here and so we don't want to re-invent and so we want to start with that particular framework.

MEMBER KRESS: Now, ACRS has made comments on Option 3. I don't know if -- have we put them down in a letter?

MS. DROUIN: You did put them down in a letter.

CHAIRMAN APOSTOLAKIS: Yeah, we did.

MEMBER KRESS: Can that be part of the requirement looking at --

MS. DROUIN: I will tell you that all of the comments that ACRS gave us on the framework have been addressed in the new version.

MEMBER KRESS: Okay, it will be interesting to see that.

MS. DROUIN: Okay.

MEMBER KRESS: Thank you.

MS. DROUIN: So the PRICE, what it's going to do, as we said, it's going to defined what we mean by the unified safety concept. So it's not this we'll get into the position that we'll see it when we know it. It's going to provide a process, which means guidelines and criteria for determining if the regulatory activities that we're going to be looking at are coherent with this concept. And then if it's not coherent, it's going to provide the guidelines and criteria for refining the activity so that you can achieve coherence.

The other main task is the glossary. We feel that's a very important thing just for

communication purposes. As we sit and talk, I know many times in my own case, I'll be using theses words and I have a very specific meaning in my head and I guarantee you the meaning in another person's head is exactly different.

MEMBER KRESS: I hope the glossary has a good definition of defensive in depth.

MS. DROUIN: Let me answer that real quick, because let me tell you what the glossary is not. The glossary is more like a dictionary so something like defense in depth, yes, defense in depth will be one of the terms but this is not going to be pages of definition. It's going to be more like a dictionary, more at a high level. There will be --

MEMBER KRESS: Like what's the White Paper, the Commission White Paper definition will be in there?

MS. DROUIN: Probably but you know, I wouldn't say yes or no.

MEMBER KRESS: This is not very useful.

MS. DROUIN: But don't -- keep that thought because we're going to get into defensive depth here.

MEMBER LEITCH: Mary, I'm really quite confused here. Could you contrast between the

framework you're discussing here and the framework that you refer to in the advanced reactor research paper? This is a framework presumably for existing reactors. That was one of the bullets you set up.

MS. DROUIN: Correct.

MEMBER LEITCH: I guess I just don't understand. I thought we were talking about developing a technology neutral, all-encompassing framework. Here we seem to be developing a framework for just existing reactors. Could you help me with my confusion?

MS. DROUIN: Okay. This here is developing a process that when we look at the current reactor arena activities that we are coherent with this thing we call a unified safety concept. So that it's a very specific focus there. Now, there are going to be things and let me go to the next slide just to show you where the commonalities when you look about the framework that we're going to be dealing with advanced reactors. And it's not that these are being done independent of each other. They are being done separate but the same people, a lot of the same people sit on both of these so that I had the lead for PRICE, I had the lead for advanced reactor framework and that was done on purpose, so that these things,

when we get them done, are not incoherent to each other for whatever that's going to mean.

MEMBER KRESS: Yeah.

MS. DROUIN: And we do, hopefully, envision maybe some time down the road if -- I won't go back to that slide but I think we had on our scope and limitations slide on the last bullet where we said, "Address current license reactors", we said we envision that ultimately there will be a single risk informed process for all current and future reactors.

So these things are being done separate but they're also being done together, if that makes any sense.

MEMBER LEITCH: Is there a priority in your mind between these two activities? In other words, is this what we're now talking about going on ahead of the advanced reactor technology neutral framework?

MS. DROUIN: They're both going on at the same time.

MEMBER LEITCH: Okay, so this framework though, is not necessarily technology neutral. It's addressing light water reactors.

MS. DROUIN: That's correct.

MEMBER LEITCH: And you say current

reactors. I assume you're not talking about AP1000 or BSBWR. They would be in the advanced reactor piece?

MS. DROUIN: Not at this point because the advanced reactors are for non-LWRs.

MEMBER LEITCH: Okay, so this is for present and future light-water reactors.

MS. DROUIN: Right now, this is for addressing our current -- remember that a lot of these things have overlap but you have to go back to we are addressing the SRM.

MEMBER BONACA: If -- as an example, that's used, I see for example, an incoherence in the current -- what we're doing right now in Option 2 and the FSAR. Option 2 essentially focuses yourself on the risk importance components based on CDF and LERF and the whole structure of the requirements in the FSAR focuses on intermediate objective of fuel damage or limited fuel damage or, you know, intermediate or 10 CFR 100 limits and therefore, there is a fundamentally consistency there. They're all moving to Option 2, but we're still saying -- well, the FSAR says something else. Am I correct, that's what you're looking at?

MR. RUBIN: Well, but the intent is not to turn the FSAR into a risk regulatory review document.

I think the Option 3 work that's gone on might give a better example of an incoherence, like the 5044 activities to hone into the significant hydrogen control to severe accident design features and essentially drop the --

MEMBER BONACA: That can provide that as an example and you may demonstrate to me there is no incoherence. I believe there is some and that's why the difficulty there has been even in at the staff level to approve that particular move because you have -- you are still trying to support both things. Okay, the way you presented in the FSAR, okay, with intermediate goals like meeting 10 CFR 100 limits and the one of, you know, applying Option 2, that's just an example.

MR. RUBIN: But that's not necessarily incoherent. If you prevent small amounts of fuel damage, clearly you're prevent core melt. If you have retro requirements, though, that don't serve a safety function --

MEMBER BONACA: I have not performed an analysis. I am only telling you one that would be a candidate for me and at the end of the process of evaluating I might decide it's not incoherent. In fact, in the decision-making process of, you know, Reg

Guide 1.174 may allow me to say it's not incoherent.

CHAIRMAN APOSTOLAKIS: Or the two by two matrix.

MEMBER BONACA: That's right, but again, there are issues that we need to go over and I just wanted to --

CHAIRMAN APOSTOLAKIS: The objectives seem to be different in different regulations, that's what is --

MEMBER BONACA: That's right. So I'm only saying that just in the discussion here, I view it as really dealing with some hard spot we're having right now in digesting the changes we're making to go to risk information and really I don't see it for future reactors and I provided that as an example because that's one that comes to my mind and which I think is helpful rather than talking about generalities. Anyway --

MS. DROUIN: Again, what I want to repeat is that this plan is to address the SRM which was current license reactors. Now, that's not to say that in the future we may not -- we may take the PRICE and expand it, you know, to cover for example AP1000 but right now we're trying to answer the Commission's request which was to look at current reactor

reactivities to see how to make sure that we're coherent. So it's that scope that is all we're dealing with right now.

MEMBER SHACK: You use the term "activities" rather than regulations. Is that the focus of this is you're really not going back looking at the regulations for coherence. You're looking at the ongoing activities for coherence?

MS. DROUIN: We're looking at reactor regulations, step programs and processes, so yes, we would be looking at the regulations.

In developing the PRICE, as I said, we're going to start with the Option 3 framework. We call it -- I use the word "framework" because that's the word that we have used in the past. I will say that in the revised version, we don't call it a framework. We call it a process.

CHAIRMAN APOSTOLAKIS: Maybe you can drop Option 3 as well. Give it a name. Option 3 doesn't really mean anything to outside --

MS. DROUIN: We're trying to come up with a name.

CHAIRMAN APOSTOLAKIS: Find a nice -- yeah.

MS. DROUIN: But for now --

CHAIRMAN APOSTOLAKIS: Option 3, Option 2, you know.

MEMBER ROSEN: Option 1 was do nothing, remember? Option 2 was a -- I think George has got a good point, those names have lost their usefulness.

MEMBER SHACK: That's why I'm having some trouble distinguishing the two.

CHAIRMAN APOSTOLAKIS: What are you distinguishing?

MEMBER SHACK: Between Option 3 and PRICE. If they're different, I'm not sure I exactly understand the difference.

CHAIRMAN APOSTOLAKIS: Let's see, PRICE, what does it stand for again?

MS. DROUIN: What the PRICE is doing -- and I didn't bring that figure now, you know. I should have brought it.

CHAIRMAN APOSTOLAKIS: What does PRICE stand for? I forgot.

MS. DROUIN: Process for a Risk Informed Coherence Effort. I don't know in your version of the Plan -- is that figure in their version of the Plan?

CHAIRMAN APOSTOLAKIS: We have a figure here which you're not showing today.

MS. DROUIN: Okay, if you go to --

CHAIRMAN APOSTOLAKIS: Well, it seems to me though, Bill, that you could say that PRICE will start with Option 3 framework and actually go and look into the regulations and see whether --

MEMBER SHACK: Well, I mean, that's what Option 3 was doing was looking at the regulations and risk informing them and there was something different here and I don't quite get the --

MS. DROUIN: Again, what we go back to, if you remember, is that the Option 3 process is focused on how to risk inform the technical requirements of 10 CFR Part 50. What we're trying to do with the coherence program is not just look at the regulations. We're looking at the regulations and all the other staff risk informed activities. So it's got to be expanded, so it's not going to replace it but there is a lot of good stuff in there that we're going to do and if you look at that figure that's in your plan, but anyway, what this is saying is that, if you start off here at the top of our mission to protect the public health and safety, what we're going to put here even though it exists implicitly but it's not explicitly written down anywhere, these are the overall -- this is what we're going to call the Unified Safety Concept in essence and the principles

and the guidelines, you know, for coherence and then that's going to feed down into all the different activities, feeding into the Option 3 work, for example.

So each of these activities have their own specific guidelines and criteria for their activity, the Option 3 framework being the specific guidelines and criteria for risk informing Part 50. You have the guidelines and criteria in Reg Guide 1.174 for some particular licensing actions. You have the significant determination process in ROP, you know, for plant oversight. So what we're doing is putting this over-arching thing to show how they all come together and they're coherent.

CHAIRMAN APOSTOLAKIS: And the way I understand it, Option 3 was not really looking at two different regulations and say these are inconsistent. Was it?

MS. DROUIN: Yes, it was.

CHAIRMAN APOSTOLAKIS: It just said, "This is what we want to do", but you didn't start comparing regulations. You identified candidates for risk informing, but you --

MS. DROUIN: The process --

CHAIRMAN APOSTOLAKIS: Ultimately they

would be coherent if they were all risk-informed in a consistent way but you are not really comparing. This is really what it is doing here.

MS. DROUIN: Yes, that is true.

MEMBER SHACK: Yeah, I find Mary's last example more helpful to me, though, in thinking in terms of the Option 3 activities and making sure that's coherent with the 1.174 and the ROP and the SDP and making sure those all integrate in a coherent fashion and that -- I can begin to grab that as a coherence package.

MS. DROUIN: Okay, and so what we're doing is what you see on this particular slide are those different elements, for lack of a better word, in the Option 3 framework that we think we need to look at and refine to expand or adjust or whatever, to cover the coherence program, looking at the definition of Unified Safety Concept, what we mean by risk-informed regulation, the acceptance criteria. How do we know when we're there? Defense in-depth for Dr. Kress, uncertainties. What are our quantitative risk guidelines prioritization?

So these are all things that are in the current framework right now but they are there in their definition and the discussion of it is focused

strictly for risk-informing the technical requirements but now, as we want to broaden this across the whole program, then we're going to have to broaden some of this stuff, perhaps, also.

Then going to the next part of Phase 1, that is the glossary, we're in the midst right now of just putting together the list of terms. And then again, as I said, the definitions are going to be at a high level, look at this more as a dictionary. I mean, that's why we call it a glossary, so you aren't going to see pages and pages.

MEMBER SHACK: Are we going to have adequate protection?

CHAIRMAN APOSTOLAKIS: Well, you can certainly identify them.

MEMBER ROSEN: Are we going to have risk significant?

MS. DROUIN: Yes. I mean, I would like to think so.

MEMBER ROSEN: Safety significant. They've been used interchangeably and I'm not sure they are.

CHAIRMAN APOSTOLAKIS: Well, these are e.g., right?

MS. DROUIN: Right, these are examples.

MEMBER ROSEN: I could suggest some others if I think about it.

MS. DROUIN: I see the list quite extensive, not just three or four definitions.

MEMBER KRESS: I think that would be a useful contribution in itself.

MS. DROUIN: I'm sorry?

MEMBER KRESS: That would be a useful contribution to have a glossary of terms that we can all agree on the definition.

MEMBER SIEBER: That, in itself, would be an achievement.

MS. DROUIN: We feel that way also.

CHAIRMAN APOSTOLAKIS: Now, again, we have an older version of the Plan, Rev 1, and obviously, you have moved on but I find there was something the bothered me in that version that I see has disappeared now. You were asking there, are the inconsistencies appropriate. I don't see you asking that any more.

MS. DROUIN: We still intend to ask that question.

CHAIRMAN APOSTOLAKIS: Now, why would you decide that the inconsistencies are appropriate? How can inconsistencies be appropriate?

MS. DROUIN: I cannot think of an example

off the top of my head but there might be some real legitimate reason. I'll be honest, I can't think of one right now.

CHAIRMAN APOSTOLAKIS: Maybe instead of inconsistency, use another word. Maybe in a particular situation your objectives are different but don't -- I mean, you can't really say that inconsistencies are appropriate.

PARTICIPANT: Apparent inconsistencies.

CHAIRMAN APOSTOLAKIS: That would be better, yeah.

PARTICIPANT: Actually, what they're talking about is being consistent with some overriding safety concept. For example, a truly deterministic regulation would not be coherent with a body of risk-informed regulations and I think that's the exception that they're talking about.

CHAIRMAN APOSTOLAKIS: I'm not sure that's what we're talking about.

PARTICIPANT: That's the way I took it.

CHAIRMAN APOSTOLAKIS: Well, again, the objectives would be different if it was a deterministic regulation but in principle, no inconsistencies can be appropriate. I mean, maybe you need some other term. I recognize that you cannot

make everything, you know, risk-informed and have the same objectives and everything but some other word, maybe apparent inconsistencies or -- I don't know. We need a better term there.

MEMBER ROSEN: Let's see how it plays out.

CHAIRMAN APOSTOLAKIS: Okay.

MS. DROUIN: Okay.

MEMBER KRESS: Well, while we're talking about the old document, you had what I thought was a real strange definition of safety margins in there.

CHAIRMAN APOSTOLAKIS: Which page is this?

MEMBER KRESS: Page 2 of the old document.

MS. DROUIN: We had a definition of safety margin in there?

MEMBER KRESS: Yeah, it says, "Safety margin is the probability or level of confidence that a design process will perform an intended function". Page 2, I'm reading --

CHAIRMAN APOSTOLAKIS: Which -- oh, you're reading the summary?

MEMBER KRESS: The summary.

CHAIRMAN APOSTOLAKIS: That's what the staff wrote.

MEMBER KRESS: Sorry, page 2 of the summary.

MS. DROUIN: I have to be honest, I'm confused at what you're reading.

MEMBER KRESS: I'm sorry, this is Mike Snodderly's summary.

CHAIRMAN APOSTOLAKIS: Yeah, this is not what you wrote.

MEMBER KRESS: This is not what you wrote. Now, I'm presuming that's in there. I'm assuming he got that --

MR. SNODDERLY: Yeah, where are you --

MEMBER KRESS: There.

MR. SNODDERLY: Oh, I'm sorry, that's the definition of safety margin that I took from the Option 3 framework.

MEMBER KRESS: Oh, that come out of the Option 3 framework.

MR. SNODDERLY: That's Option 3. I was trying to give you a reference for, starting from the Option 3 framework, this is where we start.

MEMBER KRESS: Okay, sorry.

MR. SNODDERLY: It's to let you know, here's where I thought the staff was at this point. This is Mike Snodderly. I was trying to say that if they're building from the Option 3 framework, here are the current definitions that were used in the

framework to help you, to let you know where they will be beginning from.

MS. DROUIN: Okay, thank you. Okay. Phase 2, so now we have this process, this PRICE that's providing us our guidelines and our criteria for determining where things are incoherent. Now, we're going to implement it, essentially and so the first phase is to identify those -- and when I use the term regulatory activity, I use it in a very high level sense which means, you know, looking at the regulations, the staff programs, and processes. So those are the things I mean when I use the term regulatory activity.

MEMBER BONACA: Now, this would be a good time for a stakeholder meeting, maybe, to get feedback from the industry about what they view as incoherent.

MS. DROUIN: Absolutely. We have had two public meetings so far. We're going to continue on a regular basis to hold public meetings and workshops throughout the entire program.

MEMBER BONACA: Because that would also clarify for everybody what incoherent means.

MS. DROUIN: Yes.

CHAIRMAN APOSTOLAKIS: Yeah, I had a few questions I forgot on Phase 1 based on Reg 1.

MS. DROUIN: Okay.

CHAIRMAN APOSTOLAKIS: Under acceptance criteria, that's on page 8 of the plan, if you gentlemen want to go there, it says near the top of the page that, "The safety significance would be assessed using principles of risk informed regulation including the following, consistency with defense in-depth, maintenance of sufficient safety margins, consistency with the intent of the safety goal policy statement". I've seen this phrase before. I don't understand it. What is the intent of the safety goal policy statement? Is there more to it than just the quantitative health objectives of the Commission has promulgated? What is the intent? What do we mean by intent?

MS. DROUIN: We're talking being consistent with the QHOs.

CHAIRMAN APOSTOLAKIS: So consistency with the safety goal policy statement would be a good way of putting it, forgetting about the intent of? You could rephrase saying, "Consistency with the safety goal policy statement", and it would mean the same thing; is that what you're saying?

MS. DROUIN: Yes. I'm trying to find out where you are.

CHAIRMAN APOSTOLAKIS: I am on page 8 of Rev 1 is the same page --

PARTICIPANT: Third sub-bullet of the second left bullet.

CHAIRMAN APOSTOLAKIS: Go to the section that says "Acceptance Criteria".

MR. RUBIN: I think the exact words you're using were derives from 1.174. Intent was inserted I think probably during the deliberations we had on those documents with the committee. I think the recognition was in some cases we won't have full scope PRAs. Perhaps in some cases a particular plant or site might conceivably exceed the QHOs. QHOs, of course, aren't a regulatory requirement or even a safety requirement. And so it was loosened up a little bit with the term "intent", namely that in all cases -- excuse me, in not all cases of a licensing review would we necessarily have a full quantitative evaluation that would show it was met.

CHAIRMAN APOSTOLAKIS: But there is nothing else there because every time I see it, it mystifies me, is there any intent there that I have missed.

MR. RUBIN: No, but that's why intent was stuck in, in the Reg guide.

CHAIRMAN APOSTOLAKIS: Okay, that the PRAs may be incomplete, basically. No?

MR. RUBIN: That was one of the reasons, the other being that we wouldn't -- it's not a regulatory requirement, but the intent, the hope to meet those goals, so it was loosened a little bit.

CHAIRMAN APOSTOLAKIS: Then on the same page there is a paragraph on uncertainties. It says, "Provide a description of uncertainties and guidance regarding the treatment of uncertainties in the decision-making process". That's a huge task. Would you consider there things like, you know, if we look at the mean value but would we also look at the percentile? I mean, these are thoughts now. It's not a recommendation. Or are we looking at what percentile is the 10^{-3} CFD? Are these the questions you're going to address? This goes beyond, I think any coherence program, doesn't it? You are making now statements regarding the integrated decision-making process, so I was wondering what that meant, because right now a lot -- many people in the industry say, "You're asking me to quantify the uncertainties but what do I do with them"? Nobody's using them. The only benefit you have is that perhaps your mean value is more accurate because you have done it rigorously,

but other than that, 1.174 or other regulations don't tell you anything, well, except for the fact, of course, as you approach the lines, there will be increased management attention but there is no more guidance.

MS. DROUIN: Okay, again, this is starting with the discussion on how you deal with uncertainties on risk and formula technical requirements. So when it talks about, you know, in the decision-making process, that's in regards to Option 3, but if you go into read the rest of the paragraph it does say, "The framework will be examined", again, the Option 3 framework, "discussion on uncertainties to determine if the guidance needs to be refined such as there is a common understanding regarding the implementation of treatment of uncertainties and defensive depth".

So we're going to take what's there in terms of what do you do with the uncertainties and how do you take those into account when you're going to risk inform a technical requirement? Now, we're going to see, is that sufficient in and of itself when we now expand this, you know, to cover the scope of the coherent program?

CHAIRMAN APOSTOLAKIS: I guess my first reaction to that is that this by itself, could take

you a year. You're supposed to finish this in about a year, right, according to the timetable here.

MEMBER KRESS: But that's not to say it shouldn't be done.

CHAIRMAN APOSTOLAKIS: No, that's a separate issue. What I'm saying is that this -- in my mind this is an effort that will require a lot of thinking and to just say it's a small part of a bigger program probably under-estimates what it takes to do it.

MS. DROUIN: Yeah, I don't see any of these, when it comes to refining them, when you look at the defense in depth or you look at the quantitative risk guidelines is any of these trivial. I'm going to get back to your question at the end in terms of the schedule we didn't necessarily see the program being complete in terms of over and done with in a year necessarily.

CHAIRMAN APOSTOLAKIS: Okay, and then --

MS. DROUIN: And --

CHAIRMAN APOSTOLAKIS: Okay, go ahead.

MS. DROUIN: -- the other point I want to make, this comes back to because these things aren't trivial, why this is iterative in nature, constantly coming back and refining this.

CHAIRMAN APOSTOLAKIS: But you could also say that this particular issue of what to do with the uncertainties is also part of the Option 3 framework because it's of such importance that it really should be elevated to that, but whatever.

Now, on page 9 in D Bill they say they will define adequate protection.

MS. DROUIN: We do?

CHAIRMAN APOSTOLAKIS: Yes, "Examples of terms include adequate protection", and then you have everything else that you showed us. Was it intentional, was it the intent of your goal policy statement to delete the adequate protection from the slide? That's okay, let's go on.

MS. DROUIN: Thank you. Okay, I'm trying to figure out where I was.

CHAIRMAN APOSTOLAKIS: Excuse me, now. We have the NEI representative in the audience. Adrian, how much time will you need so I can plan because we have to finish at 10:00 o'clock?

MR. HEYMER: Fifteen minutes.

CHAIRMAN APOSTOLAKIS: Fifteen minutes, okay, let's plan on finishing then by maybe -- but that's a good point, let's plan to finish by 9:35, 9:40 with the NRC staff and then we'll give Mr. Heymer

an opportunity to present his views.

MS. DROUIN: Okay. Phase 2, there's two tasks here. The first one is to identify, you know, what's in our scope, you know, what are the particular programs and processes that are ongoing that we need to look at for coherence and then to look at those in the second task and evaluate them, you know, against the process to determine whether or not they are coherent.

Now, if I go to the next one, which is the evaluation --

CHAIRMAN APOSTOLAKIS: Again, I am reading here what the document says and your responses to questions are not necessarily coherent. When I mentioned earlier that perhaps there is an incoherence between 1.174 and the ROP, because 1.174 doesn't use the corner zones, you were very reluctant to say that's a good example, but then I read here, "In the second step of this sub-task, each regulatory activity identified above in Step 1 is evaluated to determine if an explicit safety concept (e.g. cornerstones of ROP) has been defined and documented for the activity". So this is a candidate.

If an activity doesn't have the cornerstones as an example, might be inconsistent with

something else.

MS. DROUIN: Might be, might be, that's the key word.

CHAIRMAN APOSTOLAKIS: Okay.

MS. DROUIN: But because they haven't necessarily identified -- because they might not have identified cornerstones in their guidelines does not necessarily mean they're incoherent, that's all I was trying to say.

CHAIRMAN APOSTOLAKIS: Okay.

MEMBER LEITCH: The implication on the previous slide with regard to the first task indicates that there may be some rulemaking licensing and plant oversight activities that are outside of the scope. I guess I'm having trouble understanding what those activities may be.

MS. DROUIN: At this point, I don't know because we haven't began. This is the plan and the first part is before we decide -- you have to decide what's in the scope of the program you're going to look at. In order to do that, part of the PRICE is identifying the criteria for determining what's in scope and what's out of scope. So that's part of the stuff that will be done in the Phase 1 is coming up with the criteria for deciding what's in the scope.

If we take that criteria and we look at all the activities against it and then that will tell us whether or not it's in or out of scope.

MEMBER LEITCH: I guess I'm just having trouble with the concept that any activities, rule-making, licensing or plant oversight, that any of those activities would be at least in the scope of the program but you say there may be some.

MS. DROUIN: There may not be. I don't know.

MEMBER LEITCH: But not just by definition.

MS. DROUIN: I think before you come in and say, you know, everything is within scope, you have to have a basis for saying that. You know, what is the basis for determining what's in the scope of your program? So, I mean, that's all that we're doing there.

MEMBER LEITCH: Okay.

MS. DROUIN: So that when someone comes in and says, "Well, why did you look at that", it's not, "Well, because I thought it should be in there". There is, you know, a real reason than, "Because I thought so".

MEMBER LEITCH: Okay, okay, meaning not

that I fully understand but, proceed.

CHAIRMAN APOSTOLAKIS: By the way, before we go on, we talked about defense in-depth a lot. Are you aware of this recent paper by Fleming and Silidy (phonetic)?

MS. DROUIN: Yes.

CHAIRMAN APOSTOLAKIS: You are aware of the paper.

MS. DROUIN: Yes.

CHAIRMAN APOSTOLAKIS: Okay, good.

MEMBER KRESS: What do you think of it? Forget that.

(Laughter)

CHAIRMAN APOSTOLAKIS: No, don't.

MS. DROUIN: I reserve that to another day.

Okay, so we have in the first part of Phase 2 --

CHAIRMAN APOSTOLAKIS: So what is the record going to show now? I am curious, a question, what do you think of it? Next line, laughter? Is that what it's going to show? I hope not.

MS. DROUIN: No, no, I said, that was a discussion for another day.

MEMBER LEITCH: I say it's a very nice

well-thought out paper. That puts something on the record.

CHAIRMAN APOSTOLAKIS: Good. Let's go on.

MS. DROUIN: Okay, we've identified what programs, what regulatory activities are in the scope and now we evaluate them. So we evaluate them in two ways. We look at them, the processes associated with each regulatory activity and how does it match up to the overall guidelines and criteria in the PRICE and then we look at the programs against each other. So it's both, you know, looking at it, both slices up and sideways.

Coming out of Phase 2 then, it has identified where we are coherent, where we are not coherent. There might be places where we are not coherent that it's acceptable. So before we go and make any refinements to activities, we want to go through and look at the -- prioritize it.

CHAIRMAN APOSTOLAKIS: Again, you're singling out security and maybe all --

MS. DROUIN: That's a valid point. Then Phase 4, we have prioritized them and now going through and making the appropriate modifications, refinement, whatever to the different activities.

CHAIRMAN APOSTOLAKIS: Now, you will not

do that. Your group will not do that.

MS. DROUIN: We will assist, that was the whole point of that second bullet. The work remains in each lead organization. In this phase of the plan, because we don't know where we are not coherent at this point, so that part of the plan would be developed later.

Also we have developed a communication plan and the key message that we want to put out there, the reason for the communication plan and everything is that we plan to have, we've already started, the continual interaction throughout the entire program with all the stakeholders, both internal and external.

CHAIRMAN APOSTOLAKIS: Now, you mentioned that --

MS. DROUIN: So it's not just having public meetings, but it's also meeting with all various internal stakeholders, to me, which is a very important point.

CHAIRMAN APOSTOLAKIS: In the document, you mentioned, you know, the internal stakeholders, external and so on, oversight committees. Joint EP/LT, what committee is that?

MS. DROUIN: Oh, the Executive team and

the leadership.

CHAIRMAN APOSTOLAKIS: What is that, the leadership of the NRC?

MR. WEST: Well, the executive team is within our NRC office director and is deputy and associates and the leadership team is the division directors.

CHAIRMAN APOSTOLAKIS: And these are oversight committees?

MR. WEST: Well, they join together to review different things at different levels and one thing we typically do in a project like this is keep our division directors and our senior managers involved and informed in what we're doing.

CHAIRMAN APOSTOLAKIS: So you're calling it executive team/leadership team.

MR. WEST: Right, it's a shorthand.

MS. DROUIN: Those are two different sets, two different teams.

CHAIRMAN APOSTOLAKIS: All right.

MS. DROUIN: Okay. Then the last slide is our proposed schedule. We plan to have our next public meeting in March, another one in June, go with a status report to the Commission in July, another status report to the Commission in January of 2004.

Because it just shows a date of 2004 doesn't mean -- that wasn't meant to interpret that the program is over. We've just given the milestones for the next year.

CHAIRMAN APOSTOLAKIS: Is the ACRS going to get involved again or this is it?

MS. DROUIN: I would like to think that they would get involved again.

CHAIRMAN APOSTOLAKIS: There is nothing there. It would appear like some time in the fall we should be interacting with you, you will have some products. Is that the intent?

MS. DROUIN: Our intent is to come back on several occasions throughout this and so that really is an oversight on our part not to show that on the schedule and we will rectify that.

CHAIRMAN APOSTOLAKIS: So at some point, we will also write a letter, at some point.

MS. DROUIN: At some point, yes.

MEMBER ROSEN: Will we have some substance, other than just a plan?

CHAIRMAN APOSTOLAKIS: Well, if you look at the October time frame, they will have an initial prioritization. They will have a status report or a draft for the Commission, so at that point there

should be some substance. Yeah, okay.

MEMBER LEITCH: Is this the proposed schedule for the plan or the program?

MS. DROUIN: The program. The plan is done.

MEMBER LEITCH: This is the plan.

MS. DROUIN: This is the plan.

MEMBER LEITCH: So the deliverable in January `04 would be what? You'd be complete through Phase 4?

MS. DROUIN: Whatever is -- I know this sounds like I'm hedging it. It's going to be whatever status we have. It will not be complete. That's not to say that we would not have some recommendations, but would it be all the places we were incoherent? No, but I would like to think that we would have some insights at that time of some examples of where it is incoherent and we could start implementing some things under Phase 4.

MEMBER LEITCH: But Phase 1, 2 and 3 would be complete and you would still be working on Phase 4. Is that a fair way to say it?

MS. DROUIN: No, I think you would still be working on Phase 2 and 3 primarily, but again, you know, I see -- the PRICE is something that's a living

process because as you look at each activity, you're going to learn something. Even as you implement Phase 4 you're going to learn something and you may want to go back and readjust the PRICE. So to me, it's never complete. It's a living thing.

MEMBER BONACA: By September 2003 you show initial prioritization. So you expect to have some kind of feedback loop almost that says you go to the public meeting and maybe that will bring about some changes in that but --

MS. DROUIN: It could, yes.

MEMBER BONACA: -- would it be by January you would have final prioritization or something like that?

MS. DROUIN: I really hesitate to use the word "final".

MEMBER BONACA: But you are at the stage of Phase 3 prioritizing.

MS. DROUIN: You are prioritizing things.

MEMBER BONACA: Okay.

MS. DROUIN: But that doesn't mean that you have looked and evaluated everything.

MEMBER BONACA: I understand.

CHAIRMAN APOSTOLAKIS: How important is this program to the Commission or the staff? Are you

spending a lot of time on this or is it just one of the things you're doing?

MS. DROUIN: I think this is a very important program to the staff. We're spending substantial amount of time on it. I can't answer for the Commission. I think it's important. They gave us an SRM.

CHAIRMAN APOSTOLAKIS: Okay, anything else?

MS. DROUIN: Do you want to add to that?

CHAIRMAN APOSTOLAKIS: Any members have any more questions? I think there will be another opportunity after we hear NEI's views. You're not leaving yet, right? You would stay for NEI's presentation?

MS. DROUIN: Absolutely.

CHAIRMAN APOSTOLAKIS: Thank you very much, ladies --

MS. DROUIN: Thank you very much.

CHAIRMAN APOSTOLAKIS: -- and gentlemen. Mr. Heymer? First of all, tell us what's the difference between coherency and coherence? It is just an attempt to differ with the staff from the first slide or what?

MR. HEYMER: There was no intention to

draw lines with the staff.

CHAIRMAN APOSTOLAKIS: Draw the lines on the sidewalk.

MR. HEYMER: Good morning. I'm here to talk about the coherence plan, coherency plan that the staff began to share with us back in the September time frame and we met with them in December and they gave us a draft outline and so what I'm talking about now in my comments -- our comments are really focused on what was in that and where we thought we needed to go based on that document, not on anything that's been put to you since.

As I said, there has been some public discussion on this activity and I think we commend the staff for actually coming and saying let's get some public input on this. I think this process has started off and it's been developing. And I think if you just look at this, of what the staff has put together in its isolation, I think you're selling yourself short. I think if you look at the work that they've done on the policy issues for the non-light water reactors, if you look at some of the issues that have popped up between the ROP and the regulations between the oversight and the inspection activities, there is substantial amount of input already being

made. And I think when we talk about having public meetings and really trying to drive this forward to not only from a coherence perspective but also where we want to take the regulations, I think we've got to have an effort that's akin to what we did for the reactor oversight process as regards interactions and effort to really drive this forward because it will, we believe, result in a -- or should result in a new framework for -- the ultimate would be a new technology neutral framework for reactors, full power reactors and to get there is not exactly a small effort. It's a Herculean task and so we would encourage more interaction rather than less and we will try and support that.

But having said that, we recognize that there are other priorities on the agency's agenda at the moment. But we think to drive this forward is going to be a really very determined effort, because if you don't, I think it's going to drag on and on and on.

When we saw the plan in December, our initial thought was it's somewhat of a plan of a plan. And one of our thoughts or comments was we need to have some either pilot efforts or a specific schedule of activities and I say that the staff has begun to do

that with the last slide that they put up. But I notice on there is a lot of preliminary work. I'm not quite sure when the final PRICE is actually in play and you start using that for developing your list of regulatory activities that you're going to go and look at. So that's just another comment.

But we do think that if we want to improve the process that what they're saying here is really an essential element to move us forward. We think, as I said, it should result in a new regulatory framework and that should be based on the regulatory oversight process. The reason why we believe that is because we invested a substantial amount of effort in developing that framework and it's been accepted. We now see some, perhaps, inconsistencies between what the oversight process identifies and what the regulations are identifying. And so I think this plan needs to over more than just the regulations and I was pleased to hear that it is going into the other activities and I assume it's going to cover a standard review plan, reg guides, et cetera. But I think it's just more than -- it needs to look at just more than light water reactors.

I think it needs to set a scope to broaden those activities and I think, as I get towards the end

of the presentation. I'll give an example of some of the activities they can do in the light water reactor community. It could transition across relatively easily into a technology neutral framework especially when you look at some of the operational elements. And again, it shouldn't just be the reactor safety cornerstone, and I think the staff have broadened their aspects and I was pleased to hear that it's going to build on what we've learned from Option 2 and Option 3.

As regards to PRA, I think there's an opportunity here to look at what we're doing in the PRA standards and really not only use them but try and improve this activity, develop more of a coherent approach between defense in-depth and safety margin and if you like coherency in the use of the PRA, dealing with such things as uncertainties. I think that will be helpful. Perhaps that's just part of the evolution process of using the PRA and risk in forming the regulation but I do think we would benefit from that and I think a good start has been made with the ASMI internal events PRA standard.

We do think, though, that it shouldn't just be a plan. We do think that having developed the price and coherency, we try and pilot some of that

activity early on and I've got here three examples of what we think might be -- might be reasonable pilot activities. And as you see from that, there's probably not -- it depends what comes out of the Green Findings but from the risk informed perspective, perhaps they don't exactly fit in. Perhaps at ATWIS (phonetic) might, the 50.62 requirement.

The reason why we say Appendix A to Part 50, 50.36(a) which is on public radiation safety is that we think that's an example of where we're a little inconsistent or incoherent. I think at the moment, we maintain and I think the staff agrees that the regulations for public radiation safety based on some concepts and methodologies, that -- of being by-passed, a lot of organizations have moved on from that.

We think having consistent with the other dose related criteria that are applicable to licensing and operating nuclear plants on. So there's to us an example where it's out there, we know the staff has got some money to set aside to start looking at that regulation and we think that would be perhaps a candidate for a pilot test.

MEMBER ROSEN: You know, Adrian, yesterday we had people from the staff here talking about the

ROP and one of the points made about public radiation safety was and why it seemed a little different than the way it was treated in ROP from the other, for instance, was that there was an additional objective in the public radiation safety area which had to do with public confidence, which is not embodied directly in the regulations. So you don't get that kind of thing -- that kind of emphasis when you talk about other areas.

In public radiation safety you get it very directly because the staff things that you would -- what we're trying to do is assure the public's health and safety, yes, but also assure them -- give them the confidence that it is assured so there's kind of a second objective there.

MR. HEYMER: Right.

MEMBER ROSEN: That kind of thing leads to the kinds of incoherency --

MR. HEYMER: It does, but I think there's methodologies and why you do dose related calculations. I think there should be a consistency across the agency and we see that there's an inconsistency between Appendix I and 50.36(a) and what we do in other areas with regard to dose related activities. So it's in areas like that, that we think

if we became more consistent, if we came down to a -- what do you call it, a total effective dose equivalent type of activity matched up to some of the other regulatory requirements, that -- in fact, that would be a more consistent approach, a clearer, more transparent approach and we wouldn't be in danger of making a decision based on one analysis only to find that when we do the next set of analysis, it's different.

MEMBER ROSEN: But I thought that discussion was instructive, especially listening to it and thinking about it in the light of what I've heard today.

MR. HEYMER: Yeah.

MEMBER ROSEN: That the source of that inconsistency is, in fact, an agency objective that is trying to be brought out in the ROP and that tells me that there are sometimes some very high level of threads that create these inconsistencies. So it's not enough to say, "Well, we've got to deal with -- get away with all these inconsistencies", because really that's a good objective.

MR. HEYMER: I must say, that may be even more why it should be a pilot in this case, because here we have something that to us is inconsistent but

there may be some rationale for that and does it pick it up and how do we handle it.

MEMBER ROSEN: That's what Mary was saying earlier, there may be some inconsistencies that are okay that we want, that we want to at least recognize.

MR. HEYMER: You know, it was just a pilot to test the process.

In the area of training and staffing requirements, I noted that there's the draft SRP out on training and there has been quite a lot of discussion with some draft SECYs last year on staffing requirements, especially for the new motorized reactors and at least the impression I got from reading some of those draft SECYs is, perhaps, we hadn't really thought that through, so that was another reason why I put that down as a potential for a pilot activity.

The staff back in December caught our attention when they said -- in fact, back in September, said they were going to use the Option 3 framework as the basis for this and we actually had some discussion way back in August of 2000, I think it was, at a workshop on the Option 3 framework and some of the areas that we have some concern about is the partitioning of CDF and the LERF criteria. And when

we read the Option 3 framework document and we read the figure in there, we sometimes come up with a different answer than the staff's and it's not always consistently the same answer amongst ourselves or from the staff.

MEMBER KRESS: I was going to ask, are you against partitioning between CDF and LERF at all --

MR. HEYMER: I think the way --

MEMBER KRESS: -- or just how it was done?

MR. HEYMER: The way I read it, I think it's when you look at the way it's addressed in the Option 3 framework. It's -- to us it came out that well, you could have a CDF between something like 10^{-7} and to the $^{-4}$ when we look to the figure there. And then when you start breaking it up and breaking it down. It didn't always appear to us that you're always looking at well, what's the natural consequences of the initiating event frequency? So that's an area that we think might be worth some discussion.

We had some concerns about the defense in-depth and in fact, they've been brought out in some respects with some of the Option 3 activities. So I think if we -- what I heard today from the staff was that we're going to use Option 3 framework and refine

it and work from it and take into account some of the comments that this committee has made which, I think, reflects some of the industry's comments and see what comes up. That's fine, but if it was just going to be it's the Option 3 framework, then I think we would have some concern about that.

CHAIRMAN APOSTOLAKIS: Well, I read in the NEI 202 which is the corresponding framework in Option 3. Option 3 in the version that I read gives two or three different ways of applying defense in-depth at a very high level, one of which is just CDF and LERF, but then I think one of the ways they propose is very consistent with what NEI proposes in the sense that you categorize the initiators, very infrequent, infrequent and so on, and then they place certain requirements on the mitigation and so on, so you're not really that far apart, I don't think.

MR. HEYMER: I don't think we're that far apart and it may be the people are too hung up on specific figures and statements in the document.

CHAIRMAN APOSTOLAKIS: Yeah, maybe so but philosophically, I don't think you are that far apart.

MR. HEYMER: Yeah, and I guess the message we got is it was going to be the Option 3 framework and that's what we were reacting to.

CHAIRMAN APOSTOLAKIS: But, again, Option 3 has two or three options within Option 3 implementing different in depth.

MEMBER KRESS: I guess we'll have to reserve judgment on that till we see the refinements.

MR. HEYMER: Yes.

CHAIRMAN APOSTOLAKIS: By the way, NEI 02-02 really implements the rationalist approach.

MEMBER KRESS: Yeah, I noticed that. I read it also.

MEMBER LEITCH: Adrian, could you say a word about the second example there, top items from the ROP group finding survey?

MR. HEYMER: Yeah, we were --

MEMBER LEITCH: What did you have in mind there?

MR. HEYMER: We were pleased to hear in December that the staff have an activity underway to, I guess it's a survey or a task that compares the findings that are coming out from the oversight process and then when you run them through the SDP how many of those are Green, and then taking those Green Findings and saying what regulations do they related to and if there's a common thread or a number of areas that keep coming up, perhaps there's an area that we

should look at because that seems to suggest that there's perhaps an inconsistency between the regulations and the oversight.

One would hope that you wouldn't necessarily get -- continue to get a Green Finding against a regulation on a repetitive basis and perhaps there's something wrong with the regulation. Now, that's not a small effort. We started down that path and we needed some more resources to do it and before we could sort out our resource plan we heard the staff were doing it and so we fed some information into the staff to help in that regard, but I think that's a very worthwhile effort and should, I think, help us understand where we, perhaps need to focus our activities.

MEMBER LEITCH: Okay, thank you.

MR. HEYMER: As regards some of our proposals, while we thing we absolutely -- we want to advance towards a technology neutral framework, there is obviously, very limited benefit in applying some of the regulations that might flow out of some activity to existing plant. Because the plants are already built, there's not much benefit in it for them. So we see it more of a -- perhaps it's not a phased approach but more of twin track approach between an existing

stroke, new reactors which in that bucket I put like the ABWR, the AP1000.

CHAIRMAN APOSTOLAKIS: Which bucket?

MR. HEYMER: The existing, and then we have the technology neutral.

CHAIRMAN APOSTOLAKIS: But Adrian, you said earlier that, or I think at least you implied you like -- you said, we invested a lot of effort on the ROP, right? And in fact, your NEI 02-02 builds in that.

MR. HEYMER: Right.

CHAIRMAN APOSTOLAKIS: For existing reactors, why do you say you want to follow the 1.174 type approach and not the ROP type approach? That's not the same. That's a possibility.

MR. HEYMER: Well, I think you start looking at the regulations. You look at the ROP, as I said, with the Green Findings and you determine well, perhaps there are some inconsistencies here and you say, can we adjust those regulations. And I think if -- and that's fine, and that may be -- that could be of some benefit, but if it requires the licensee to implement a number of modifications or changes to its -- that's hardware changes to its plant, there's no benefit to that. But on the other hand, if you take

that activity and say, well, from a 1.174 approach, that we identify those activities -- it's like a Delta Risk approach for the existing plants, because they're built, they've got some -- the processes are in place. To change a program is expensive, so it's like a second check but going forward we base it on the ROP.

CHAIRMAN APOSTOLAKIS: But for existing plants, nobody has a choice when it comes to the ROP, right?

MR. HEYMER: Right.

CHAIRMAN APOSTOLAKIS: But they do have a choice regarding 1.174.

MR. HEYMER: But to change existing plant programs costs money and what I'm saying is that, perhaps, there may not be a benefit in going down that path for everything that we identify for existing plants as regards to changing the regulations, but for something that's not built yet, that's either a paper design or a future one, there would be benefit in that.

CHAIRMAN APOSTOLAKIS: Right, but I think the staff also said that one of the considerations in their decision of prioritization would be cost --

MR. HEYMER: Right.

CHAIRMAN APOSTOLAKIS: -- whether it's

worthwhile.

MR. HEYMER: And I think it's also from their perspective, not -- changing SRPs, reg guides is not a small activity, so we need to look at that and I guess that's -- if you look at, I guess, the refinement that they're coming up with, with the Option 3 approach, the refined Option 3 framework, or the coherency framework, and we think that included in there should be some form of Delta Risk type approach, perhaps that would be a better way of saying it.

CHAIRMAN APOSTOLAKIS: In Option 3?

MR. HEYMER: No, in -- in the first -- what I call the first act of the coherency program.

CHAIRMAN APOSTOLAKIS: Oh, okay.

MR. HEYMER: Okay.

CHAIRMAN APOSTOLAKIS: But you are not against the program in principle, trying to make the regulations --

MR. HEYMER: No, it should be. It's just that there mat be some differences there. And so I guess we've already got Option 3 underway and I see that as one could say near term, but if you -- that's probably the wrong term to use once we look at some of the schedules we're looking at. And then if you look at sort of a halfway house type thing, you have what's

going to flow out of this coherency activity, which I think may lead a lot towards some of the operational requirements for light water reactors and those would be adopted by existing plants or by future plants.

And then we have the complete approach which would be the technology neutral reactor framework and I've put as a last slide because I note we're running out of time here, is our vision of what it means. And on the left-hand column here we have Option 3 and what we're working on which is really dealing with existing and perhaps some of the new light water reactors that. GOTT S are out there.

CHAIRMAN APOSTOLAKIS: Is Appendix R on the table again?

MR. HEYMER: Well, I mean, I believe there's a Notice of Proposed Rulemaking on 50.48 to adopt -- to adopt an NFPA 805 and so now that's done and it's taking us quite a few years to get to there. If we want to think about going the next step, I think we might want to pose the thought and see what people get out of actually working with NFPA 805.

The italics on the bottom under the Option 3 is the tech spec initiatives. There are seven tech spec initiatives there. I think once those are complete, we need to start and then take a look at

50.36 and say is there any inconsistency or incoherency between the two. When we come over here is these over here, we discussed Appendix I to Part 50. This is not the complete list. These are just some examples of what I mean by the two-track approach.

50.55(a) on codes and standards, I mean, we've risk informed the scope of 50.55(a) to some extent under Option 2 but then when you start reading 50.55(a) and there's a small cottage industry out there that is making quite a good living off trying to interpret what's really meant by 50.55(a) and that's not to say we have anything against codes and standards but I think when you read the regulation there must be a better way of simplifying 15 pages because it's -- I find it very difficult to read and when I've spoken to people in code committees who have actually sat down and read it, they say, "Well, yeah, it's not entirely clear of where you go in some aspects".

And then we've got some other areas. Most of these one could say aren't necessarily hard risk informed. I think some of those activities may come out at the Green Findings Survey. That's what I see is, if you like, what would come out of this program

that would be focused on, as I say, plants like the AP 1000, the existing plants that are in commission today and then, the other parallel track would be for all new plants, for all technologies to develop this technology neutral set of requirements.

CHAIRMAN APOSTOLAKIS: The way I -- maybe I misinterpret what you're saying but I think, judging from this slide especially, you would like to see more emphasis on risk informing pieces of Part 50 and look -- I'm sorry.

MR. HEYMER: Not necessarily risk informed.

CHAIRMAN APOSTOLAKIS: Well, if you put them under Option 3, aren't you risk informing them?

MR. HEYMER: The Option 3 is really -- this is the hard risk informed areas.

CHAIRMAN APOSTOLAKIS: Yeah, that's right.

MR. HEYMER: Over here, I see it's a mixture of risk informed and non-risk informed improvements and dealing with the incoherent aspect.

CHAIRMAN APOSTOLAKIS: Yeah, and then you bring the issue of new plants --

MR. HEYMER: Right.

CHAIRMAN APOSTOLAKIS: -- which the staff says is outside their scope, but what the staff is

saying is that if you want to implement your middle column there, you have to have a common understanding of what the terms mean, you have to have certain objectives, what coherence means, how you're going to achieve it, and you seem to put that aside as not -- how will you have coherency activities if you don't do what Ms. Drouin and her colleagues presented earlier in Phase 1?

MR. HEYMER: Well, you know, when I look at the schedule, Phase 1 the way I read it is going to be completed in March.

CHAIRMAN APOSTOLAKIS: I'm sorry.

MR. HEYMER: Phase 1, isn't it complete in March, preliminary draft of the PRICE and the glossary? And as regards to the glossary, I mean, we've got a -- there's a PRA standard out there that's got quite a few definitions in there. We've got the Code of Federal Regulations which has got a bunch of definitions and we have numerous other documents floating around and I think one of the most difficult tasks that's facing people putting the glossary together is to look at those, what is being used and perhaps come up with a definition term, but I mean, I think a lot of the work has already been done there.

What we would like to see --

MS. DROUIN: We agree on that.

CHAIRMAN APOSTOLAKIS: I'm sorry?

MS. DROUIN: I just wanted to emphasize that we really agree. We didn't get into a lot of detail on that in the presentation but the intent was to go to all of these documents and learn from them and again, through this whole coherence is not to re-invent.

CHAIRMAN APOSTOLAKIS: But surely the disagreement is not whether the staff spends some time until March to do certain things. I mean, that sounds like such a trivial issue.

MR. HEYMER: No, I mean, we think the path they're on is the right path. We just think that before we get too far down this, we would want to pilot some activities and I think you need to have a vision. The industry needs to have a vision of where this is going to lead and actually look at something like this so they can say, "Okay, if I do this plan, the next phase is to look at some regulations, here's some examples of regulations. If you don't do that, people fear it's going to be a plan of a plan, it's not going to go anywhere.

CHAIRMAN APOSTOLAKIS: It's the vision thing again. Okay. Any questions to Mr. Heymer?

Well, thank you very much. The staff, do you have any questions? I'm sure you interacted in other forums. Okay, thank you very much, Adrian, for coming down and talking to us and Mary and Mark and Steve, thank you.

We'll recess until 10:20. I'm losing the gavel after this, right? 10:20.

(Whereupon, at 10:00 a.m. the above entitled matter concluded.)