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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

DECEMBER 5, 2001

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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488th MEETING

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

AFTERNOON SESSION

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WEDNESDAY

DECEMBER 5, 2001

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ROCKVILLE, MARYLAND

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The Advisory Committee met at the Nuclear Regulatory Commission, Two White Flint North, Room T2B3, 11545 Rockville Pike, at 4:00 p.m., Dr. George E. Apostolakis, Chairman, presiding.

COMMITTEE MEMBERS:

GEORGE E. APOSTOLAKIS	Chairman
MARIO V. BONACA	Vice Chairman
F. PETER FORD	Member
THOMAS S. KRESS	Member-at-Large
DANA A. POWERS	Member
STEPHEN L. ROSEN	Member
WILLIAM J. SHACK	Member

COMMITTEE MEMBERS:

JOHN D. SIEBER Member

GRAHAM B. WALLIS Member

ACRS STAFF PRESENT:

MICHAEL T. MARKLEY

I-N-D-E-X

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

(4:01 p.m.)

DR. APOSTOLAKIS: We're back in session. Before we start, I want to say something -- a few words about something else. I think all the members know that we have very good relationship with the ACRS staff, but today it was made clear to me that some of us are loved more than others. The staff found out that it's Dr. Kress' birthday today, so they bought a card and they had everybody sign, wishing him happy birthday. So this is for you, Tom.

DR. KRESS: Yes. You know, it's tough when you turn 55.

(Laughter.)

DR. APOSTOLAKIS: I know.

DR. POWERS: Dr. Kress, I'd like to point out that we were going to get you a cake with candles, but the fire protection group here said that that was too much of a load on the building.

MR. ROSEN: And at 55, what's the uncertainty band on that?

DR. APOSTOLAKIS: A factor of two.

DR. KRESS: I certainly appreciate this.

DR. SHACK: We called a little late, but we still don't know too many 130-year-olds.

DR. APOSTOLAKIS: It's not normal the other way.

DR. KRESS: I certainly appreciate this from the staff and thank them very much. It's a very nice card with -- I will take that home and frame it and keep it.

DR. APOSTOLAKIS: Okay.

DR. KRESS: Thank you very much.

DR. APOSTOLAKIS: Now, back to business. The next topic is Risk-Informed 10 CFR Part 50 Pilot Program, Option 2. We had a Subcommittee meeting yesterday when -- yesterday afternoon. We discussed with the staff primarily the language of the rule and then the treatment requirements and so on. We did not get into the technical details of the categorization process and other issues, but we will have another Subcommittee meeting, it was agreed, maybe as early as February where we'll go into details in these matters.

The staff agreed to present today to us obviously a shorter version of their presentation yesterday, but we also heard from NEI, Mr. Peitrangelo and Mr. Heymer, yesterday, who unfortunately have other commitments today and they cannot be with us. But the staff promised to have one viewgraph where they would identify some differences of opinion

without expressing any views since the other side is not here.

And, Mr. Reed, you have the floor.

MR. REED: Thank you, Dr. Apostolakis. As already mentioned, I'll be trying to go through a much briefer version than what was delivered yesterday, for the sake of time.

And I'll focus on the highlights from yesterday's meeting, basically focusing in on the two pieces of the draft rule language where I think most of the discussion centered -- on the categorization area, that's Paragraph C, and also in the RISC-3 area. And then we'll also be discussing some of the early comments or major issues, if you will, as requested by the Committee.

Before we do that, though, real quickly, a little bit of background here to get the Committee same page. As you'll recall, SECY-99-256 provided the rulemaking plan for Option 2 back in October of '99. It attached an advanced notice for proposed rulemaking that was published in March of 2000, which we got something between 100 and 200 comments. And SECY-00-194, which published in September of 2000, we provided preliminary views on those comments and also some additional thoughts on the regulatory approach.

South Texas, as the Committee's very aware, was a technical effort that went on for I believe it was about two years and was just issued in early August. It was the majority of the tech effort, if you will, from the staff for about the last year, and it was a proof of content for Option 2. There's been numerous stakeholder interactions.

We cite three public workshops of note. Most recently there was one in November that I'll speak to a little bit here in a second. We've had two Commission briefings in September of 2000 following issuance of SECY-00-194, and then also in conjunction with the STP exemption approval, we also briefed the Commission in July of this year. Just recently, last week, I guess it was -- the 29th, I believe it was, in the Federal Register we published the draft rule language. And that, of course, was the major discussion yesterday at the Subcommittee.

I will mention here a little bit the request of the Committee. In our workshop that we held back in November, when we discussed the draft rule concepts, we discussed three alternative approaches for addressing RISC-3 treatment. Those approaches were, if you will, what I'll call almost a pure commercial approach, Alternative 1, which would

basically have a simple statement in the rule that says basically maintain the design basis functions for this RISC-3 treatment, basically; Alternative 2, which is very much like what you see in the draft rule language, which has what I'll call minimum rule attributes in the rule, more of a programmatic approach but very -- a minimal amount of detail in the rule, hopefully; and then Alternative 3, which would be a much more detailed rule, which would, in my view, very simply put, would be like putting the South Texas FSAR in the rule. So there would be a lot of detail.

That was discussed during the workshop. We got good stakeholder feedback, and we drafted the rule that you see and what was published last week, and it's pretty close to Alternative 2, although the staff likes to think it's between Alternative 1 and Alternative 2, I think you heard yesterday. NEI believes it's about 1.95. So there's one little piece of disagreement.

A little more background to remind the Committee of just the general structure and approach here for Option 2 and how we're going from the old safety-related, non-safety-related world into the safety-significant, low safety-significant world. This is the infamous four-box diagram. It shows the

RISC-1, RISC-2, RISC-3 and RISC-4 boxes. This is the bins that the expert panel would put the SSEs into.

If you're safety-related and you're safety-significant, as determined by this Risk-informed categorization process, you're in Box 1, RISC-1. If you're non-safety-related, and that includes important safety equipment, okay, and you're safety-significant, you're in Box 2. And if you're safety-related, low safety-significant, you go to Box 3. And, of course, non-safety-related and low safety-significant is Box 4.

Additionally, I show a little bit of the requirements that would be in each box. Basically, Boxes 1 and 2 all requirements continue to apply for the safety-significant boxes, okay? So if they have anything on them, and of course Box 1 has a lot of special treatment requirements; those continue. Box 2, if there are any special treatment requirements, those continue, and that will be a function of when the plant was licensed and what happened during the process, but it can have some special treatments requirements there. Those would continue.

DR. WALLIS: Usually, when you have axes like this, the most important things go up on the vertical and to the right on the horizontal, and this

is not the case. The scale of deterministic increases to the left.

MR. REED: Yes. We didn't --

DR. WALLIS: Why don't you switch them around?

MR. REED: I think you might have had that comment before, actually, didn't you?

DR. WALLIS: I think I may have, but you haven't done anything about it, have you?

MR. REED: No. I haven't addressed that comment.

(Laughter.)

DR. APOSTOLAKIS: Well, it wasn't a Committee position.

MR. REED: But, in general, that's the way it works. The requirements stay on for Boxes 1 and 2. A lot of effort was focused on Box 3 during the South Texas project, and an all out effort's been focused on that for Option 2, and it's a major area of discussion with all the stakeholders.

And what we're trying to do here, just to remind the Committee again, Option 2 is really only risk informing what are called the special treatment requirements, or those assurance requirements that are in place throughout Part 50, 54, 52, Part 100, Part

21. They're there basically just to try to provide a high level of assurance that in fact these SSEs perform design basis functions. We're not changing it to unknown requirements, okay, or to design basis events or anything like that. That's Option 3. Just these assurance requirements.

So one of the ground rules is for Option 2 that we have to maintain design basis, and that's how we get stuck with this Box 3 and trying to do something to provide a sufficient level of regulatory assurance that we can say we're maintaining design basis functions without in fact imposing all the special treatment requirements. So that's kind of the quandary we're in there.

DR. APOSTOLAKIS: Now, I think the line, "ensure categorization assumptions," does not belong there, because that's something you have to do anyway for all four boxes. And it's not really a special requirement. I mean, presumably, everything we do has sound assumptions behind it, right?

MR. REED: Yes.

DR. APOSTOLAKIS: So I suggest that you take that out.

MR. REED: Yes. Could have taken it out. I mean it was a matter of judgment what I put in those

boxes. I could have -- yes.

DR. APOSTOLAKIS: I mean the other stuff is different. Current requirements continue, I mean that makes sense.

MR. REED: Yes. That's right.

DR. APOSTOLAKIS: So you're telling the industry that they don't have to ensure categorization assumptions for RISC-3? You're not saying that, right?

MR. REED: What I'm saying is that your categorization assumptions have to be valid, okay?

DR. APOSTOLAKIS: Of course, but that's understood.

MR. REED: And you have to maintain them, yes.

DR. APOSTOLAKIS: That's understood. Everything we produce here has good assumptions.

DR. SHACK: No, but I think it means more. It means that the treatment is chosen to assure that that's --

MR. REED: Yes.

DR. APOSTOLAKIS: Use a different verb.

DR. SHACK: It's not as though we're making good assumptions or bad assumptions, that you're also essentially looking for treatment

requirements.

MR. REED: Well, it's actually --

DR. APOSTOLAKIS: Oh, you mean the requirements that would make sure that the categorization assumptions remain valid. You need a better way to say that.

MR. REED: Yes. I think "treatment" is a bad word, actually, to use, and I think that set off an industry. What we're really saying is if you're assuming something in the categorization process, you ought to have a basis for that assumption, okay? And take a look at what you're assuming. If you're assuming a widget's going to perform --

DR. APOSTOLAKIS: So it's closer to what I'm --

MR. REED: It's exactly what you're saying. So it's probably an unfortunate term to use there.

As I mentioned, just to try to hit the highlights from the Subcommittee yesterday and not go through the entire draft rule language, and I know this Committee's very interested in the categorization part, so we'll focus on the categorization piece first, which is Paragraph C. I revised these bullets since yesterday. These are now in my language, and I

do not make any attempt to take the actual draft rule language and put it in here. Now, if you like, I have the actual draft rule slides. If you want to discuss it, we could put that up.

DR. APOSTOLAKIS: We have that too.

MR. REED: But, basically, what Paragraph C is, first of all, it requires the use of an approved categorization process. Appendix T, which in earlier versions of this existed, does not exist in the draft rule now. That was a stakeholder comment that if you put a very detailed Appendix T in place, we're going to get into the same sort of boxes and exemption spaces that we have with things like Appendix R. That's a very onerous type of situation to deal with, and that can tie up a lot of resources, in fact, when you get into that kind of framework. So we're commenting them and basically using an approved categorization process, which then requires a submittal and a review by the staff.

You must have an expert panel or an Integrated Decisionmaking Process to determine the safety-significance of the function. In fact, this entire thing really revolves around an expert panel and giving them the sufficient information to make a risk-informed judgment about the safety significance

of SSCs. So you must have that expert panel.

And that panel must use plant-specific PRAs with internal events at full power, at a minimum, okay? And in addition to that, we prefer you use PRA as much as possible, but we're only requiring that at full power internal events PRA. And if you're not -- you don't have everything in a PRA, then you must evaluate the SSC function for whatever other tools you have available -- safety significance in other modes, in external events, shutdown, whatever, fires. Whatever tools you have available, use that information and give that to the expert panel.

DR. APOSTOLAKIS: Now, I got the impression from yesterday's discussions, plus from reading the NEI Table 4, there is more just having an IDP. Both the industry and you would expect some structure in the deliberations. Maybe that's something you want to put here.

MR. REED: I think that's a good point. I think it's also an observation that we've had to date from watching the pilots, that when you get to watching these expert panels and especially when they get outside the quantitative piece, where you know -- they're very good at running through the PRA, the RAW, the Fussell-Vesely, using the quantitative piece, but

when they get outside of that and they're in the qualitative portion and discussion, I think that came up yesterday, it's been an observation we've had, it probably needs more structure. I think NEI understands that too.

DR. APOSTOLAKIS: I can tell you, I mean when we reviewed the South Texas application, the fact that there was a lot of structure in the expert panel deliberations was something that was a positive --

MR. REED: Yes. I think it makes it a more efficient panel.

DR. APOSTOLAKIS: So you agree with that. Let's see if you agree with the next. Must use a plant-specific PRA with internal events at full power and uncertainty analysis.

MR. REED: The key words were "and uncertainty analysis."

DR. APOSTOLAKIS: That's right.

MR. REED: I'll have to look to Glenn or Mike or Mark or whoever.

DR. APOSTOLAKIS: I'm just telling you that there's going to be a lot of discussion of this when we discuss --

MR. REED: Yes. I understand.

DR. APOSTOLAKIS: -- categorization

process. And there is evidence that if you use point estimates which are ill-defined, you may not get the categorization that would be the best. And as I said yesterday, one of those papers was written by your colleagues here. And if you use mean values, then it's okay. You get a pretty good categorization. But point values are -- we don't know what they are, and the IPEs confirm that. I mean if you look at the IPEs, some of the numbers are way out the mainstream, so to speak. So it seems to me that that would be a requirement at the end.

And, again, it's not difficult to do anymore. This is not 1980 anymore. I mean there are codes, it's done routinely with our distributions for inputs all over the place. So I think that will be a useful thing to put. Otherwise you're going to pay the price or the licensee or the petitioner will pay the price later. When you guys will start asking questions -- why did you have this point value here and there, what is the basis, and so on.

One of the things that most people don't seem to appreciate is that an uncertainty analysis is easier to defend than point estimates. It's much easier to defend. So, anyway, that is going to come up by at least one member of this --

MR. ROSEN: It also is very important to the expert panel to know the bounds of uncertainty on what it's using, because if you have the component that comes out of the PRA at close to one of the thresholds, Fussell-Vesely or RAW, say it's 2.1, well, that's just more important than two, and you can't put it in the low safety-significant category. But what if it comes out 1.9? Now, you're tempted to put it in the low safety-significance category, but you cannot fail to remember in two years you're going to do an update of the PRA, based on the actual performance of the plant, and it's going to shift the numbers a little bit, and you don't want to go there. You do not want to be a plant that has a bunch of components that move from category to category based on the Bayesian update, because that could wreak havoc, and you have to go back then and look at everything you've done since the last update.

So the expert panel wants to know -- when it gets a RAW value, it wants to know the uncertainty on that number. It will want, typically, to place things in a higher category. If the number's very well known, that's one thing, but, typically, they're going to move -- the expert panel will move things to a higher category.

DR. APOSTOLAKIS: I think a lot of it depends -- I mean there were at least two papers that I'm aware of where people did the categorization, not the same, necessarily, as you have, using point estimates that they found someplace and then distributions and the mean values of distributions. And a general conclusion, although, you know, there may be exceptions to that, is that if the point estimate you're using is to the right of the mean, it's higher than the median, most likely you're going to get conservative categorizations. If it's to the left, you will get non-conservatives in the sense that an SSC that belongs, say, to Category 3 may end up in 4. And I think these are useful insights that will be helpful to you.

MR. CHEOK: This is Mike Cheok.

DR. FORD: Can I ask a physical question. Why do you have the --

PARTICIPANT: We've got a guy.

DR. FORD: Oh.

MR. CHEOK: This is Mike Cheok from the staff. I guess we've all come prepared to talk about uncertainties in February, in the February Subcommittee meeting. But the one comment I have today, though, is that the uncertainties that we are

talking about are the parameter uncertainties. I believe that in categorization the big uncertainty that would affect the results would be the stated knowledge or the incompleteness uncertainties. And I think we're trying to address that through the IDPs and in a structured IDP process. I think we can handle the date uncertainties in the parameters itself but not the epistemic type uncertainties.

DR. APOSTOLAKIS: Very true. By the way, the date uncertain is not epistemic. You're right, you're right. But if we do that in the analysis part, you know, take care of the parameter uncertainties, then the burden on the panel will be less. And I think that's what Mr. Rosen's comment was also about. It will be less. So the more you do to help the panel, the better off you will be.

MR. REED: Sure.

DR. APOSTOLAKIS: Dr. Ford?

DR. FORD: I have a physical-based question: Why do you have the qualifier at full power?

DR. APOSTOLAKIS: Because that's the only one they have.

DR. FORD: That's the only one.

DR. APOSTOLAKIS: That's the only one they

have.

DR. FORD: Only one what?

DR. APOSTOLAKIS: PRA.

DR. FORD: Oh.

DR. APOSTOLAKIS: It's recognition of reality.

DR. POWERS: Not for want of our trying.

DR. APOSTOLAKIS: Yes.

DR. FORD: The reason why I asked the question, not being a PRA expert, is that there are other degradation mechanisms that occur not at full power.

MR. REED: Yes. This process, though, is going to be assessing the significance at all modes and for all events. It's just that PRA at full power is what -- we're going to require you have that.

DR. APOSTOLAKIS: You know, as the staff stated yesterday -- I think they're right -- for the modes for which you don't have PRA, then they're taking you to a conservative categorization.

MR. REED: Exactly.

DR. APOSTOLAKIS: In other words, you're paying the price.

MR. REED: Which would tend to make things more put up in the higher boxes.

DR. APOSTOLAKIS: Unless you use point estimates.

MR. REED: Right.

MR. ROSEN: In terms of structure, we talked about the questions also that the South Texas exemption used.

MR. REED: Right.

MR. ROSEN: It provided a lot of structure, and we'd encourage you to think about if not having that, having something equivalent.

MR. REED: Yes, yes. I'm sure you have a pretty good list of comments that you want to provide. I know those are two are coming for February, and I'm sure there's many more.

DR. APOSTOLAKIS: Sure.

MR. KELLY: This is Glenn Kelly from the staff. Regarding the -- if you're using a non-pure technique to analyze things at the Plant, those that were for external events where, for example, they used the five methodology of a seismic margins method, these are things that are going to take you because those methods inherently have some conservatisms in it, theoretically. They should be giving you conservative results.

However, for things like shutdown and mode

changes, where we do not have particular methods that can be relied upon at this point to judge whether or not something's important, where it's going to be more engineering judgment at this point, you're not necessarily going to end up with the same kind of assured conservatism that you would for the external events.

DR. APOSTOLAKIS: But even for the external events, when I read the NEI document, I had a lot of questions, because I'm not sure it's fair to say these are conservatives analyses; these are screening analyses. So how one determines the --

MR. KELLY: The Fussell-Vesely it's not clear, and that's correct, because it's not clear what the Fussell-Vesely is going to tell you. And with the five methodology --

DR. APOSTOLAKIS: Right.

MR. KELLY: -- you can't really do that. What it will do is will potentially tell you whether components in an area are important or not, but it won't -- that's not the same as giving you a Fussell-Vesely --

DR. APOSTOLAKIS: Well, the basic problem that I see is that you don't have a CDF from those models.

MR. KELLY: That's correct.

DR. APOSTOLAKIS: And these measures depend on the CDF. So these are the -- the sooner we meet, I think the better off we'll all be.

DR. KRESS: Yes, George, that brings to mind a question that's bothering me for some time. If you look at importance measures, RAW and Fussell-Vesely, both of them have the absolute value -- let's say with respect to CDF --

DR. APOSTOLAKIS: Yes.

DR. KRESS: -- both of them have the absolute value of CDF in them. That means you're treating a plant with a low CDF differently than you're treating a plant with a high CDF. You could be treating them differently. And it seems to me like that's not the right thing to do and that there might ought to be some sort of a virtual CDF absolute that you don't want to get close to, and you define an importance measure with respect to a component as to how much would contribute to getting up to that absolute value that you're willing to accept as a kind of importance measure for this kind of classification.

MR. ROSEN: I don't think you're right about that, Tom. The risk achievement worth is a ratio. So it has -- for a plant with a low CDF and a

plant with a high CDF, you're going to get a ratio. That's what RAW is --

DR. APOSTOLAKIS: Well, that's what he's objecting to.

DR. KRESS: That's what I'm objecting to.

DR. APOSTOLAKIS: He's objecting to it. He says that --

DR. KRESS: That's exactly what I'm objecting to.

DR. APOSTOLAKIS: -- you rank them, and then you treat the Class 1 the same as in the other one.

MR. ROSEN: No. I'm not making myself clear. Risk achievement worth is --

DR. APOSTOLAKIS: Both of them are ratios.

MR. ROSEN: Whether or not you're not at South Texas, a very low overall CDF, or some much earlier plant, they're both ratios --

DR. APOSTOLAKIS: Exactly.

MR. ROSEN: -- within themselves. So it tends to wash out.

DR. KRESS: No. That's why I'm objecting to it; it doesn't.

MR. ROSEN: Well, that's one I don't agree.

DR. APOSTOLAKIS: I think maybe another way of stating is the thresholds of 0.005 for Fussell-Vesely and two for RAW could be different depending on the absolute value of the CDF.

DR. KRESS: Absolutely.

MR. ROSEN: That's the part I don't agree with. We need to work on that.

MR. CHEOK: I think the example here is that if the baseline CDF is ten to the minus four, a plant with a RAW value of two would get a delta CDF increase of ten to the minus four. Whereas a baseline plant CDF of ten to the minus six would only get an increase of ten to the minus six. So the point there is --

DR. APOSTOLAKIS: That's the essence of the argument.

MR. CHEOK: And the response to that, Dr. Kress, is that we do have a requirement in the rule language that says that your increase in risk, i.e., CDF and LERF, should be small and conform to that specified in Reg Guide 1.174.

DR. APOSTOLAKIS: Right.

DR. KRESS: Which means you have to end up with different thresholds for what you use to determine significance.

MR. CHEOK: That's correct. In essence, those thresholds could be different for the different plants, for different baseline CDFs.

DR. KRESS: Somehow I don't see that concept in here.

DR. SHACK: But it's in the NEI document, but they sort of admit that when you go through and you don't -- you know, if in your first cut you don't make it, you have to go back and adjust it.

DR. KRESS: It's in the NEI document, which we haven't reviewed.

DR. APOSTOLAKIS: No, but the other side --

DR. SHACK: He's right, it is capped in an absolute sense by the 1.174 criteria.

DR. APOSTOLAKIS: But there's another side to it. What if a licensee uses 0.005 and two, and everything he finds is fine, the delta CDF is low and so on? But if you change the thresholds and remove some of the components from RISC-1 down to RISC-3, you still get a delta CDF that's low. You don't allow that because you have fixed the thresholds. So there should be some flexibility there, shouldn't there?

DR. SHACK: Only if you worry about that problem.

DR. KRESS: Well, if I'm the licensee, I do.

DR. APOSTOLAKIS: Well, I mean, gee, if I were a licensee --

DR. SHACK: It's the licensee's problem --

DR. APOSTOLAKIS: No, because if you --

DR. SHACK: -- from a regulatory problem.

DR. APOSTOLAKIS: Well, the regulator must say, "Here are some suggestions from the thresholds, but we're open to listening to other comments." If you put them there as an absolute -- but I think this comes back --

DR. SHACK: They're not going to be in the rule?

DR. APOSTOLAKIS: What?

DR. SHACK: They're not going to be in the rule.

DR. APOSTOLAKIS: They're not going to be in the rule. It's going to be in the guidelines.

MR. CHEOK: As a matter of fact, the top event prevention essentially does what you would suggest, George, in that you could pick and choose what you want to put in RISC-1 and include that in your success paths.

DR. APOSTOLAKIS: I hear that licensees

using some other methods for importance measures, and they're getting many more components going down to one. So you really want to not to ossify the methods. But it comes down to the old argument -- just go and find a gypsy, if she tells you what to do, the delta CDF is all right.

DR. SHACK: It's acceptable. It may not be optimal.

DR. APOSTOLAKIS: Yes, because of the economy of the country. And I think the point that Tom raised -- you're happy, Tim, right; we're arguing among ourselves.

(Laughter.)

It comes back to -- guys, there's one meeting here.

DR. POWERS: If he wants to argue among himself, he doesn't want any distractions.

DR. APOSTOLAKIS: I think if you follow what Tom is saying with the absolute CDF, then you're closer to the ROP. If you follow the current CDF, you're closer to my interpretation of ROP, which will come down. Now, as you're trying to maintain the current levels or, as he's saying, as long as you're below the regulatory goals, it's okay. So this point will keep coming back, I think. Now, Tim, back to

you.

MR. REED: Okay. Additionally, then the rule requires the IDP to consider --

DR. APOSTOLAKIS: Cindi is smiling over there. Why is that?

DR. KRESS: They probably had this discussion among themselves at one time.

MR. REED: As I mentioned, it requires you have an IDP, and then the IDP must consider all the information I'll just briefly mention -- the PRA results, the non-PRA information, defense in depth and safety margins. So this is clearly a risk-informed reg guide 1.74, if you will, type approach that we're instituting here. If something's low, if an SSC's low, then there has to be a justification for it to be low safety significant.

DR. APOSTOLAKIS: Now, wasn't that an issue that was raised yesterday, I believe, by my colleague to the left here, supported by others, that all this is focusing too much on CDF and LERF, and that some components --

MR. REED: True.

DR. APOSTOLAKIS: -- SSCs are there to prevent perhaps a higher consequence -- I mean, yes, a higher consequence -- I mean low consequence, high

frequency and that there may be a way of having those --

DR. BONACA: Yes. I mean the classification has the consideration of frequency consequence, and here it's just simply CDF. And anything below core damage doesn't seem to be considered risky.

MR. REED: At least my interpretation of that was -- that's another way of addressing defense in depth. If you look at the NEI document, they have that table there, and it's a little bit confusing, but it talks about the frequency of the event and then the number of redundant diverse systems you have. For very frequent events below consequences, we would want to have redundancy and diversity there, in fact, to make sure it's low. But there's other ways of doing that. I think what you're suggesting is another way to potentially do that.

DR. APOSTOLAKIS: Well, and also the argument has been made in the past that the licensees will take care of those for other reasons.

MR. REED: If they affect power operation, clearly.

DR. BONACA: My main comment yesterday was that you're still struggling with justifying --

MR. REED: Yes.

DR. BONACA: -- defending functionality for RISC-3 because you still believe, probably because of that curve, that they need to be protected, those functions. And you're not convincing me yet that you're doing that. Conversely, if you take RISC-3 from the box and divide it then based on the risk consequence, you could practically divide those between those that you preserve and you can maintain under Appendix B, and the majority will go under RISC-4.

MR. REED: Yes. I mean there's clearly a set of SSCs in Box 3 which have no nexus to safety.

DR. BONACA: Absolutely.

MR. REED: And what have been termed ornaments, if you will. And you were suggesting for those we really don't need anything at all.

DR. BONACA: I would like to just insert right here the reason why it's important, yesterday we discussed what does functionality mean, and we used a good example of 89.10, motor-operated valves. And we concluded that for those in RISC-3 now, those MOVs would not be stroke tested, right? They won't be anymore under 89.10.

MR. KELLY: No, I believe -- this is Glenn

Kelly from the staff. The indication was that there would be no requirements under RISC-3 that they receive special treatment.

DR. BONACA: Right.

MR. KELLY: But they would be required to retain their functionality.

DR. BONACA: And what does that mean?

MR. KELLY: And, certainly, to one extent, I expect that inspector might ask a licensee if it hadn't stroke tested its valve in five years why in the world they think it's functional?

DR. BONACA: Because yesterday, Steve, you commented that they would not be anymore under 89.10. So, therefore, they would not be stroke tested.

MR. KELLY: That's correct, they would not be under 89.10.

MR. ROSEN: They would not be under 89.10, but that just means that they could be -- their frequency would be longer. That doesn't mean they'll never be tested.

DR. BONACA: But the reason why --

MR. ROSEN: They might be dynamically tested now, and they might be statically tested.

DR. BONACA: Well, one of the reasons why it did not work --

MR. ROSEN: It doesn't mean if you put something in RISC-3 you're never going to test it.

DR. BONACA: I understand that, but let me just say one of the reasons why they did not work under design conditions was because the stems were underdesigned. One of the reasons was because if you don't stroke stress in that condition, the grease hardens with time, and they don't work.

MR. ROSEN: Right.

DR. BONACA: So here we're leaving -- you know, here I'm still left, as a member, very uneasy about what this functionality means. We determined through 89.10 that in order to demonstrate functionality you have to stroke test them under design conditions -- accident conditions, okay, in addition to improving the stems. Because now we're saying they low safety significance so we put them there, and then we'll determine what you have to do. And it seems to me that the very requirements we implemented to assure performance are being removed. That's what makes me uneasy. I mean I just don't know at the end of the day what this demonstration of functionality will mean.

MR. ROSEN: Well, it starts with the answer to the question it does it matter whether it

works or not? And the answer is it's very low significance.

DR. BONACA: Well, no, you see, because if you use the curve I was discussing there, a certain percent of those in RISC-3 will be still safety significant in my book, as they were in the FSAR. The rest would be not.

MR. ROSEN: They will be in RISC-3, if they're safety significant.

DR. BONACA: Because you're using only CDF, okay? And you're assuming that meeting Part 100 or not exceeding Part 100 is irrelevant. So you're making certain assumptions that the guy on the other side may not agree with you; in fact, they probably won't.

DR. APOSTOLAKIS: Anyway, the comment is that they should look at these things and possibly add something else in addition to CDF and LERF, some consideration. Because even defense in depth, I mean it was said earlier that it will take care of these things for defense in depth. Well, defense in depth in the abstract doesn't mean anything. You have to have something to defend, right? And, typically, when we talk about defense in depth, we have in mind the release or radioactivity over dame of the core. If

you say, "No, now I'm interested in something else," then defense in depth will have a different result.

MR. KELLY: This is Glenn Kelly --

DR. APOSTOLAKIS: I mean the concept is the same, but --

MR. KELLY: This is Glenn Kelly from the staff. In the pilots, this issue came up about the defense in depth. And defense in depth, as I understand how it's supposed to applied here is defense in depth for both the deterministic -- each component is supposed to have its functions defined for -- its deterministic safety functions as well as any functions that are attributes that are given to it or taken credit for it under the PRA evaluation. And then you look at to what extent, if you remove the treatment for this equipment, whether or not you're affecting defense in depth in particular for your deterministic evaluation, because, in part, the PRA order is already counting in some ways for the defense in depth.

So they are supposed to be looking at, which is one of the reasons why something like standby gas treatment system would probably be retained under a defense-in-depth argument, because it doesn't affect core damage frequency, it doesn't affect LERF. But it

is a defense-in-depth thing for your Part 100. So I would expect that that would end up being a RISC-1 rather than a RISC-3.

MR. ROSEN: That's why the expert panel is there. If you didn't do that, you wouldn't need an expert panel for the components that are for model, the model components. You'd just go "click" and you'd get the answer, but that's not how you do it. You get the answer and then you subject it to a review by the expert panel.

DR. APOSTOLAKIS: But this is part of what we asked for structure of the --

MR. REED: Exactly.

DR. SHACK: But even in that case, when we looked at the questions that the panel looked at in South Texas, it didn't address Mario's concerns, because the questions were all aimed at preventing CDF and LERF.

DR. APOSTOLAKIS: But Mr. Kelly now expanded it.

MR. ROSEN: But the questions aren't the only -- the questions that are asked are answered for the expert panel, but they're not the only questions the expert panel asks. It asks questions about shutdown, it asks questions about --

DR. SHACK: I think what Mario is asking is do you make them more explicit? Does it sort of somehow get dragged in? Maybe, but if the criterion are RAW and Fussell-Vesely and the questions are the questions, then it looks like all the explicit criteria are CDF-oriented.

DR. APOSTOLAKIS: So let's wrap it up by saying that the deliberations of the panel, I think, we need a lot of guidance there. We agree that's part of it.

MR. REED: Certainly more structure.

DR. APOSTOLAKIS: We shouldn't rely on the kindness of the panel too much.

DR. SHACK: Even if they're strange.

DR. APOSTOLAKIS: Even if they're strange. Thank you, Will. You're the only one who appreciated the comment.

MR. REED: Additionally, the draft rule requires -- and this is what I refer to as the bottom line -- that the potential increase in CDF and LERF will be small. And this is -- I think it's already been mentioned to the Committee -- this is sort of, in effect, maintaining the current risk profile of the plant, this approach here, unlike some more absolute value. So this is currently the way we're going.

You'll have to monitor the performance condition of SSCs. It can affect the categorization results. And if you find integrated situation or you get -- whatever information you get back, you need to take action and maintain the validity of that SSC, SSCs categorization, and then to maintain the categorization through time. So it's update the PRA and categorization as you either change the configuration of the plant or you obtain operational data. So this is make it valid and keep it valid, basically.

DR. APOSTOLAKIS: I don't understand this, "must monitor the performance of condition of those SSCs that can affect the categorization results." What does that mean? How would the results be affected by the performance?

MR. REED: I think that's an effort -- and I might need a little help on this -- but that's an effort to note that -- there's thousands and thousands of assumptions, as you guys are well aware. Some are very important, some are not important. What you monitor, you want to monitor those that really affect the results, the categorization results, and that's what you want to focus your energy on and maintain. There are assumptions in there that really don't make

any difference at all, whether there's RISC-3 or whatever.

DR. APOSTOLAKIS: But if I have a component that has been categorized RISC-1 or even RISC-3 and I find that its performance is below par, how would that change the categorization? I mean I would probably be looking somewhere else why the performance is poor.

MR. REED: First of all, you'd make sure that you're still in keeping with the assumptions you made for its reliability, availability and capability. That would be the first thing you'd do. And, hopefully, the assumptions you're making for that component, the data you're collecting, is in keeping with that. If not, then you'd have to alter those assumptions.

DR. APOSTOLAKIS: But would that be subsumed then by the last bullet?

MR. REED: Exactly. Yes, they really do overlap.

DR. APOSTOLAKIS: Yes. That's why I don't need that.

MR. REED: Yes. A lot of these actually do overlap. I mean I break them out for bullets, but --

DR. APOSTOLAKIS: As I update my PRA, if I have lots of --

MR. REED: These three really all kind of go together.

MR. ROSEN: It will affect the shifting the categorization of a component. But you don't want to do that.

MR. REED: Yes. That's actually --

MR. ROSEN: You guard against that in your original categorization.

MR. REED: That's actually a very good point.

MR. ROSEN: Either way it creates havoc.

MR. REED: Yes.

MR. ROSEN: Operationally -- handling the program.

MR. REED: Yes. That's an excellent point.

DR. APOSTOLAKIS: I would just delete it and make it part of the last bullet.

MR. ROSEN: And I know that because some of ours shifted, and it's not fun to have to deal with that.

DR. APOSTOLAKIS: Which way?

MR. REED: If they go up, that's the

problem.

MR. ROSEN: Once they move up, that's a real problem.

MR. REED: Yes. Once you take something out of the special treatment requirements and release --

DR. APOSTOLAKIS: But why did they move, Steve? Because of performance or --

MR. ROSEN: I don't remember now.

DR. APOSTOLAKIS: Okay.

MR. ROSEN: There were very few cases, but there were a couple that were particularly nasty. They had to be fixed, and we had to go back and look at what had we done on these components since we categorized them, et cetera, et cetera.

DR. APOSTOLAKIS: Okay.

MR. REED: Okay. The other area that we had, I think, the most discussion on yesterday was the RISC-3 treatment, and I've already mentioned the RISC-1 and RISC-2 treatment, in passing, that those requirements are basically you're maintaining all the requirements on those SSCs. RISC-3, the focus, though, is to have sufficient regulatory requirements to maintain the design basis functions, basically.

So what we're doing in this portion of the

draft rule is, first, taking off the special treatment requirements, and then we're replacing them with the requirements you see in Paragraph 50.69(d)(2). And, basically, that says you must have processes to control design, procurement, installation, maintenance inspection tests and surveillance, corrective action, oversight and configuration. So it's not simply a matter of saying, okay, you're going to maintain your design basis function; it's also a matter of having these processes in place, okay?

And if you look at the draft rule, you'll see that under each one of these headings, we have at least one or, in some cases, two sentences that provide a minimal set of attributes for what we're thinking that you need to do for each of these processes. But the bottom line is, is that you need to apply the pertinent programmatic requirements to provide reasonable confidence of the capability of RISC-3 SSCs to perform the safety-related functions under the design basis conditions.

Now, this is -- I think the Committee had quite a bit of discussion yesterday -- how did we determine this was a sufficient level of regulatory confidence and so forth? And I think this is clearly an area where we've had a lot of discussion in South

Texas. We've had discussion on Option 2; I think we'll continue to have that kind of discussion. And I'll point out it's an area that I think is a major issue area here in a couple of slides.

MR. ROSEN: The NEI wanted to discuss those, and they characterize this as something in between Appendix B and no Appendix B.

MR. REED: Yes, they did.

MR. SCARBROUGH: Right. This is Tom Scarbrough with the staff. It's sort of -- if you look at it, it's sort of on the order of what might be imposed for station blackout equipment and ATWS equipment. It's somewhere -- it's not the no controls whatsoever so that you can down to what's commercial practice kick and count, receipt inspection or tool pouch maintenance.

It's not all the way down to that level. It's probably somewhere in between. It's something that you might expect for under station blackout equipment or ATWS. But in terms of the actual details, we haven't gotten down to that level. We're trying to say that it's not down to the complete low level, but it's somewhere in the middle.

MR. ROSEN: Yes. I think we felt, and I think the industry continues to feel, that if you end

up with a third program, in other words, no program, the full program and something in between, then a lot of the benefit of this tends to go away.

MR. SCARBROUGH: Right. Well, that's why I think it's important to realize that what we're talking about is probably on the order of what's already been implemented for the station blackout and ATWS equipment. It's equipment that's a lot of commercial grade, but it has some controls over its procurement, and that's on the order of what we're talking about. There's a lot more flexibility.

I think there was a question that yesterday came up in terms of what are some of the differences, and we were talking about that today in terms of some of the major differences are the flexibility. You have these very high-level attributes that we're talking about. There's a lot less prescription in the QA criteria. You don't have the 16 criteria; you have eight processes which are very general. You don't have the very specific control of measuring test equipment. You still will deal with that under the general functionality requirement, but you don't have the very specific type of QA criteria, which you have to have very specific procedures and documentation and recordkeeping.

There's a lot more flexibility in how you do that.

And we talked about procurement yesterday. It's a lot more flexible in terms of getting it from vendors. For certain procedures -- for certain activities, such as some types of maintenance where it's not technically difficult to do, you can do a lot more maintenance without detailed procedures, more general procedures, like skill a craft type of procedures, that would be allowed.

In a specific area, such as motor-operated valves, which we were talking about, in this case, the way the rule is currently drafted, this draft, 55(a) is still applied, and so they still would have ISI and IST processes. And 55(a), in the most recent revision of the regulations, applies an overlaying design basis capability verification long term for motor-operated valves. So that would be accommodated even for these low risks. But how they would accommodate that is through the risk-informed programs that are being developed by ASME, the code cases and such. They allow less margin and longer frequencies for testing for these low risk ones. So that's how they sort of take care of that.

DR. APOSTOLAKIS: Okay. Understand.

MR. SCARBROUGH: And so those are some

areas where that would -- they'd be able to apply this flexibility and get a lot of gain. But they're still covered but just less assurance than we have right now for Appendix B.

MR. REED: Okay. Getting on to trying to identify some of the areas where there's perhaps some differences or concerns between staff and stakeholders, and I'm referring to them as early comments here. I just broke them into what I'll call areas of concern with the draft rule language and then some of the areas of concern with the implementation guidance. And this is, by no means, an exhaustive list, but it just gives you some of the more big ticket items that at least I heard yesterday and I've heard in recent weeks.

Certainly, I think you heard that there's a view that the language that we have in the draft rule in this RISC-3 treatment area that it may be too detailed. In fact, perhaps some of that detail ought to be moved to the Quality Assurance Program, as was suggested yesterday. That's one area that we need to work on.

There was also a suggestion that we should probably use what we have available to us in terms of regulatory vehicles today. We've spent a lot of time

in the last couple years developing design basis 50.2 guidance. We should probably use that. We have a Commitment Management Guidance document out there, NEI 99-04, that the staff's endorsed. And 50.59's recently been revised, and there was a suggestion that that ought to be utilized to the maximum extent in the framework you heard yesterday.

There was also concern that the license amendment process that we're suggesting -- right now, if you look in the draft rule language, it requires, prior to approval, a submittal. It also requires that to be a 50.90 license amendment. And so there's some concerns of is that the appropriate way to go about this? Can we do that without that process? That's perhaps some burdens associated with the license amendment.

And I think, in general, there were a lot of comments that would go to this bullet saying that, basically, we just need more dialogue to understand what this draft rule language means. I mean I look at some of it, frankly, and sometimes I'm having a hard time figuring what it means myself. So, certainly, if we would have the statement of consideration -- if this was a proposed rule, we'd have the statement of consideration to be explaining that, but we don't have

that in this format. We're trying to work with stakeholders early. We don't have that available to us, so it's understandable that stakeholders are looking at the words and don't know what they mean and there's some concerns there, so we just need more dialogue.

Which leads me to the next piece, which to get more comfort in the draft rule, we probably need to have a little bit more comfort in how you're implementing it. And that leads to the issues in implementation guidance. Staff has really reviewed the categorization part of the implementation -- NEI 00-04. We've provided two rounds of comments, and we're about to provide a third round. So we've done a pretty good amount of review there on that part of it.

On the treatment end of it, unfortunately, really they didn't have much treatment in the very, very early versions, and now, in the most recent version, if you look at that, it really allows you to pretty much -- it's not really guidance; it's really the description of typical processes. It's not aligned to the way the draft rule is today. I think it would have to be written more like guidance and be aligned to our draft rule for us to really provide

constructive comments. So it remains to be seen how we'll address the treatment portion.

In the categorization area, like I said, we're having another round of comments. I'd just simply point out, there's a lot more than simply the long-term containment integrity issue, but that's an issue that is a big one, I think. But there's many others that have been identified and also identified during our observation of the pilot activities. And we'll roll all those up and get those to NEI in the near term.

Also, I became very well aware yesterday that this Subcommittee has some significant concerns on the robustness of the categorization process, and so we want to meet with the Committee as soon as we can -- February, hopefully; if not, March -- to get a list of all those concerns. And, frankly, I would think at that point in time that it would be a good idea to have NEI also present and discuss their document. They are in fact the author of a lot of that, and they probably would be -- it would be good to have them here to defend their document, as a suggestion.

DR. APOSTOLAKIS: Now, Mike, do we have to wait until February?

MR. MARKLEY: It's up to you, whenever you and the staff and NEI are ready to sit down and talk.

DR. APOSTOLAKIS: It has to be in Subcommittee. We should not transmit any comments

MR. MARKLEY: They would be individual member comments and have to be captioned that way, but we could do that.

MR. REED: I mean I really see the staff kind of in the mode of listening to the Committee's comments. And we'd like to get those as soon as we can to try to factor those into what we're going to do with the categorization guidance.

MS. CARPENTER: This is Cindi Carpenter from the staff. We're available any time that you are to discuss that.

DR. APOSTOLAKIS: But NEI has to be available too.

MS. CARPENTER: Right. Exactly.

MR. REED: Yes. That's another -- got to work them into it too. We can work with Mike.

DR. APOSTOLAKIS: I would rather do it sooner than later, because the more we wait, the more resistance there will be to the comments, because the process advances.

MR. MARKLEY: But, George, it would seem

to me it also would be good if the time when you have it, the staff has refined their comments more fully on the NEI document as well, so that you're looking at something they've got, whether it's a response back to them, and you're dealing with the resolution of those, as opposed to necessarily just throwing these out to get folded in.

MR. REED: We were thinking that way too, but I'm not sure how much we'll have refined by early February. Hopefully, we will, but it's most important for us to understand these concerns. So I think that I'd rather have that happen, get the concerns as soon as possible. And if we can have our comments refined, we can deliver those too at the same time. Hopefully we can get those to NEI first as part of the process.

DR. APOSTOLAKIS: Well, maybe we can submit -- first of all, during the Subcommittee meetings, the comments that members make are individual; they're not Committee positions anyway. Maybe send something to them in the form of questions from individual members? Because I really would hate to wait until February.

MR. KELLY: This is Glenn Kelly from the staff. And you can correct me, Mike Cheok, if I'm wrong, but it's my understanding that we're pretty up

to date in categorization with NEI. And we've certainly had a lot of discussions with them there. And they reasonably well understand where we are, and I think we understand where they are. We're not necessarily in the same place with treatment, so we can probably come and discuss categorization right away, and we'd have to wait on treatment. So even if you could split those two up --

DR. APOSTOLAKIS: Oh, yes.

MR. KELLY: -- that's fair.

MR. MARKLEY: George, maybe the best way to put this thing together is that if we can refine a list of questions or something that would be the context of what's discussed at the Subcommittee, I think that may be the better way of doing it.

DR. APOSTOLAKIS: Sure. I think that's a good point. So I can invite the members to submit questions if they wish.

MR. MARKLEY: It really just becomes the agenda for the meeting at that point.

DR. APOSTOLAKIS: Yes. And, again, things that we've covered here, like put more structure to the deliberations of the panel, we don't have to put those down. That's part of the transcript now. But there are some detailed technical questions that I

would really hate to wait until February to give them to you. So Mr. Markley and the Committee will work together to come up with the best way to do it.

MR. REED: Okay. Actually, I've already said this, but I'll say it again. On the treatment portion of the NEI guidance, as I mentioned, it's really not written in terms of guidance, and obviously could not have been aligned to the draft rule since the draft rule just recently came out. So we need to work with NEI and figure out the most sufficient way to get that tuned up to fit with the draft rule and be written as guidance.

And I simply point out, and I think the Committee's well aware of it, but in the RISC-3 area, I think the key to success of Option 2 is understanding the details of implementation of RISC-3; in fact, hopefully getting agreement on that implementation. That sorts out whether in fact this is cost beneficial or not for industry to follow it, and it will be the key factor determining success, ultimately, of Option 2.

MR. ROSEN: What do you define as success of Option 2?

MR. REED: Actually, I define it as everybody understanding -- personally, I'd like to

have both sides completely understand what's going on, okay? We need to have regulatory assurance, okay? That's a given. We need to maintain design basis. And when we get to the point where we've defined the minimum level of requirements for RISC-3 that we have to have, okay, as low as we can, and we understand and we can transmit to basically deliver the information in industry, when we expect the means to implement that, then it becomes a function of what does that mean in terms of cost and benefit?

MR. ROSEN: Well, that's what I think is the definition of success, is that staff is able to define a set of requirements that does in fact maintain design basis functionality.

MR. REED: A minimum, yes.

MR. ROSEN: And licensees see that as not so high a barrier to entry that a fairly large percentage of them choose to adopt Option 2. If you set a criteria that preserves design basis functionality and everybody agrees but the licensees say, "Well, it costs so much, and I wouldn't bother to change anything," then I would say that's failure. That's a lot of work for nothing. There's no change.

MR. REED: Yes. I mean I have to start with the prerequisite that I maintain design basis

functions, and there's a minimal set of requirements to do that. I hope that it works out. That's cost beneficial. If it's not cost beneficial, then obviously it's not -- it doesn't behoove anybody to follow this approach. This is a voluntary initiative, and staff shouldn't be taking its resources to put together a voluntary initiative that nobody will follow. So we're both interested, both industry and the staff, of what the costs and benefits are. And the sooner we can get there, I think the better off we are.

And then, quickly, just one slide, George, on where we're going from here. We're continuing our efforts to review the NEI implementation guidance, and in that regard, developing guidance for review of the submittal, which would look at the categorization process and the PRA quality issues. We're continuing to observe pilots. We've observed two pilot plants to date, two pilot expert panels and two more are coming.

DR. APOSTOLAKIS: Yes. Tim, I had a question on that. Is the purpose of the pilots to observe the IDPs or to put the whole process under scrutiny? Because the reports that you got back from your colleagues, which I must admit I read very quickly, but the reports that you got back from the

two pilots were primarily dealing with the deliberations of the panel. Will there be any effort to see if this is how they did the categorization, they're calculating Fussell-Vesely correctly? In other words, the whole works, not just what questions the panel asks.

MR. REED: Well, clearly, the expert panel, in my mind, is the culmination of the process. They have all the information delivered to them. For example, the pilot I was involved with, observing Quad Cities, Quad Cities, basically, the BWR Owners Group gave them about a 300-plus page document that did the categorization, okay? And we got an opportunity to take a look at that. And then they additionally provided data sheets and what have you to help the panel do its job.

So, in a sense, you get to -- when you observe the IDP, you get to see the RAW information in addition to watching the panel perform. And so it's a good opportunity to interface with the pilots in an efficient manner with minimal interruption and still get an awful lot of feedback.

DR. APOSTOLAKIS: But are you going to question what's in the 350-page input to the panel?

MR. KELLY: I can speak about the two that

we already had. Generally, we didn't really get the information early enough ourselves to be able to do any kind of independent test. What we did do is, as Tim mentioned, is to observe the third part of the categorization process. We did not look at how they came up with defining the functions for each component. We did not look at how they did the Fussell-Vesely or RAW calculations for each component. Those, given that you have a PRA, are relatively simple calculations to set up. We were more concerned about that they had things such as had defined all the important functions for the components, had considered potential problems associated with failure of the components.

DR. APOSTOLAKIS: The statements in the NEI report, though, regarding common cause failures I must say I don't --

MR. KELLY: You have some issues. That's one of our issues.

DR. APOSTOLAKIS: I'd like to see a natural implementation of this and say, "This is what we did." For RAW it says -- I believe it says that you don't need a common cause failure.

MR. KELLY: Well, this is one of the --

DR. APOSTOLAKIS: It exists for a year,

and I'm trying to understand what that means.

MR. KELLY: Well, one of the problems associated with common cause failure is that I don't think in either one of the pilots that they understood what they were doing regarding common cause failure.

DR. APOSTOLAKIS: Other than that, did you like what they did?

MR. KELLY: Well, I mean this is one of our comments. We recognized that they didn't really understand that. And there were a number of things that they didn't understand, but this is a learning process for them also. As we had mentioned at the Subcommittee, generally they had about six or seven experts about various parts of the plant, one of which was generally a PRA expert, and he was generally the only person that had any clue about really what RAW and Fussell-Vesely or any of the PRA stuff meant. And that was a real limitation in how the IDPs were run. Hopefully, in the future, that part will be -- they'll be better educated in where the risks are, as defined by the PRAs and things like that. We did identify that in our comments that came out of the pilots. I think Mike has a comment.

MR. MARKLEY: I guess, for the record, I guess it's not that fair to say that they did not

understand common cause failures. I guess the understanding was different from what the staff would understand it to be. They, basically, did not account for the common cause failures in the calculations of importance measures. The staff position was that we have to account for it somehow, either through the random failure probability, such as the beta factors. We are still in the middle of discussions with NEI on that.

DR. APOSTOLAKIS: I expect that. I didn't name it that, by the way.

(Laughter.)

Don't look at me that way. Are you done, Tim?

MR. REED: Just about. Additionally, we'll continue issuing revisions of the draft rule language onto the web as they become available. Of course, we're going to meet with ACRS, as I point out here, in the February/March time frame, whatever we work out with Mike Markley. We have to start the regulatory analysis and of course develop the proposed rule package, which we've started on now.

DR. APOSTOLAKIS: Good.

MR. REED: So those are the tasks that we have to perform. Thanks.

DR. APOSTOLAKIS: Any comments, questions from the members? Well, thank you very much. And I must say I'm really happy to see that you're so willing to ask questions yourselves and learn from that what the Committee has to offer. That's very good. That's why I don't want to wait until February when perhaps you will start being more defensive.

(Laughter.)

So this is early in the process, and I'm really very happy to see that you have the right attitude. So thank you very much, appreciate it. You responded to the Subcommittee's request very well, even though you only had a day. So we'll meet again. And we'll discuss with Mr. Markley what the appropriate way would be to --

MR. ROSEN: Get comments in.

DR. APOSTOLAKIS: -- give you comments or maybe have another Subcommittee soon or somehow communicate with you.

DR. POWERS: If you're looking for input on that, I really grow nervous when members start offering comments outside of the normal processes of these meetings.

MR. REED: Maybe we'll have to have a meeting and round them up at that point.

DR. APOSTOLAKIS: Sure. That's part of the consideration of whether we send comments. Okay. Thank you very much. Now we have to work on our reports. I think we start at 5:30.

(Whereupon, at 5:09 p.m., the ACRS Advisory Committee Meeting was concluded.)

CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: ACRS 488th Meeting
Afternoon Session

Docket Number: (Not Applicable)

Location: Rockville, Maryland

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.

Rebecca Davis

Rebecca Davis
Official Reporter
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